Docket Nos. 50-390
and 50-391

June 20, 1989

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Mr. Oliver D. Kingsley, Jr.
Senior Vice President, Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Place
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

SUBJECT: ALLEGATIONS REGARDING WATTS BAR NUCLEAR PLANT

The enclosures to this letter document information received during discussions and written correspondence between concerned individuals and the TVA Projects Division, Office of Nuclear Reactor Regulation. The NRC has not made an attempt to ascertain the accuracy of the information supplied by the individuals. You are requested to initiate a review of these concerns which are applicable to Watts Bar Nuclear Power Plant and provide us with your findings. Furthermore, we ask that you address any generic implications of these issues.

I suggest that your staff promptly discuss your schedule for responding to this letter. Should you have any questions on this matter, please refer them to P. Cortland (FTS 492-0754).

The reporting and/or record keeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Original signed by

B. D. Liaw, Director
TVA Projects Division
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

6/19/89

OFC	NRR:TVA/PM	NRR:TVA/AD/TP	NRR:TVA:AD/P	NRR:TVA:D
NAME	PCortland	RPierson	SBlack	BDLiaw
DATE	6/14/89	6/15/89	6/15/89	6/19/89

OFFICIAL RECORD COPY

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ENCLOSURE

ALLEGATIONS REGARDING WATTS BAR NUCLEAR POWER PLANT

INCLUDING THOSE GENERIC FROM OTHER TVA NUCLEAR POWER PLANTS

OSP-85-A-0001	The safety injection system instrument tubing inside containment is kinked and sloped improperly and not in accordance with 47W600-0-4.
OSP-85-A-0018	Environmental qualification of electrical equipment is inadequate.
OSP-85-A-0019	Thermal overload bypass and light indication problems with respect to Regulatory Guide 1.97.
OSP-85-A-0020	Cable problems: (A) ampacity derating not properly considered, (B) cable tray overfill, (C) fire retardant effects on load, (D) pull tension monitoring lax, (E) improper bend radii, (F) computer routing program inadequate, (G) megger readings not retained as QA records, (H) cabling routing outside trays, tied to trays, coiled outside trays, (I) cable tray wall penetrations not identified, and (J) calculated length and voltage drop not the same as installed.
OSP-85-A-0021	Electrical design criteria inadequate. Standards and guides are not incorporated in design criteria.
OSP-85-A-0022	Breaker overload protection unacceptably set.
OSP-85-A-0023	Lighting fixtures can become missiles during seismic events.
OSP-85-A-0026	Design/installation drawings do not represent or include design requirements. Drawings and documents do not exist.
OSP-85-A-0028	QA has not effectively audited the design and construction process. Quality is inspected into the plant, rather than designed and constructed into the plant.
OSP-85-A-0030	Structural steel welding: (A) inspection through carbo-zinc paint, (B) training and qualification of welding inspectors, (C) traceability of structural steel and welding rod, and (D) undocumented welds on systems 43 and 32.
OSP-85-A-0036	No accurate records of total loads on components, piping, supports or embeds.
OSP-85-A-0037	Cumulative effect of tolerances have not been factored into design and drawings related to hanger locations.

OSP-85-A-0039 Nonconformance reports are being closed on the promise of action vs. the completion of corrective action. Corrective action requests are being suppressed.

OSP-85-A-0040 10 CFR 50.55(e) issue on small bore piping welds. Reference: CDR dated February 20, 1980 and closed on February 5, 1982. NCR 2375R.

OSP-85-A-0041 Electrical and instrument and control regulations were ignored or violated.

OSP-85-A-0043 Problem with Unistrut nut design and testing with respect to torquing of bolts (CAR 83-07).

OSP-85-A-0046 Inadequate control of status of AC and DC electrical loads including diesel generator loads and load margins.

OSP-85-A-0047 General construction specifications are inadequate and incomplete.

OSP-85-A-0048 Electrical testing and planning is inadequate with respect to adequacy of testing and acceptance criteria.

OSP-85-A-0049 TVA commitments to NRC are not being met: (A) deviations of changes are not reported, (B) bad attitude, (C) EN DES tracking inadequate, (D) lack of good status systems, and (E) no action party and schedule.

OSP-85-A-0052 Office of Engineering is inadequate: (A) infrequent visits to site by designers, (B) poor communications with construction and operations, (C) lack of industry experience feedback into design process, (D) inadequate tracking of design changes, (E) design criteria reduced, (F) lack of coordination of design changes with all disciplines and site construction, (G) defensive attitude in admitting problems, (H) lack of knowledge of status of QCIR, IRNs and ECNs, (I) ECN closeouts not timely, (J) lack of configuration control, e.g. system interface control, (K)vendor requirements/instructions not included on as-built documents, and (L)designers do not use or use inadequate guides and standards.

OSP-85-A-0070 The small bore piping hangers have passed the stress test, but not the deflection test because the hangers were not at load for the length of the hanger. Forty-thousand hangers are involved.

OSP-85-A-0075 G-38 inspection for cable side wall pressure prematurely terminated. Appendix R evaluations incomplete.

OSP-85-A-0079	Faulty electrical work. Faulty non-spec work and damaged rebar in concrete. Wires pulled into kinks which in turn could break. Nonconformance wire in control rooms. Diodes and rectifiers not soldered. Overfilling of cable tray. Damaging of rebar in concrete by cutting without permission. Unqualified electrical workers at site. Thousands of second hand valves used throughout the plant. Unqualified welding inspectors.
OSP-86-A-0001	Lack of accountability and mismanagement of TVA is cause of degradation of quality of work and morale.
OSP-86-A-0002	TVA personnel are incompetent or inexperienced.
OSP-86-A-0003	Reorganizations are ineffective.
OSP-86-A-0004	Environmental and seismic equipment qualification problems.
OSP-86-A-0005	Safety and licensing evaluations are inadequate.
OSP-86-A-0007	Fuel onsite too early for fuel loading and not guarded properly. Examples of management incompetence.
OSP-86-A-0010	Human factors engineering reviews for the control room are not adequate to ensure the safe operation of a nuclear facility.
OSP-86-A-0012	Similarity of Sequoyah and Watts Bar designs caused continuation of design errors to Watts Bar.
OSP-86-A-0016	No system exists to ensure adequately documented calculations of process instrumentation accuracy, system safety limits and design input to technical specifications.
OSP-86-A-0021	Design modifications at TVA plants that may be inconsistent with the design basis have been established and maintained by the Office of Engineering.
OSP-86-A-0023	Independent design reviews are not performed internally.
OSP-86-A-0026	QA organization offsite and onsite lacks the independence required. QC is under construction at construction sites and is under the plant manager at operating sites.
OSP-86-A-0027	TVA is not committed to their QA program. QA personnel are reporting to the line organization, are counter productive and are not free to be objective or independent.
OSP-86-A-0038	Policies on nuclear safety are not implemented.
OSP-86-A-0039	TVA delays resolving problems.

OSP-86-A-0040 Major Electrical, Instrument and Control, and Diesel Generator calculation problems.

OSP-86-A-0041 TVA improperly defines "significance to safety" in design problem classification.

OSP-86-A-0042 TVA downgrades design requirements after failing to follow them, e.g., design standards are changed to design guides. TVA commits to certain design criteria and then inactivates them without providing a replacement or changing regulatory commitments.

OSP-86-A-0044 Personnel are not trained properly and are not informed of outside industry experience.

OSP-86-A-0046 TVA has difficulty in recognizing safety significance of noncompliances with NRC regulations.

OSP-86-A-0047 There are communication problems among design, construction and various power offices.

OSP-86-A-0048 Lack of adequate acceptance criteria for installation of electrical equipment. QC and traceability records need upgrading.

OSP-86-A-0049 Operability, maintainability and testability are not properly considered in design and construction requirements and practices.

OSP-86-A-0050 Inadequate design and construction criteria.

OSP-86-A-0051 Lack of design control of design documents.

OSP-86-A-0052 Lack of traceability of requirements within design offices.

OSP-86-A-0053 Procurement problems with material and equipment.

OSP-86-A-0054 Problems with the QC program.

OSP-86-A-0055 Lack of QA design audits to ensure procedures and requirements are followed.

OSP-86-A-0057 Untimely closeout of ECNs is a major problem.

OSP-86-A-0059 UNISTRUT material used for Category I supports is unacceptable and may fail and become missiles. This material is used throughout the plant and in the battery room.

OSP-86-A-0060 TVA has not followed NRC Regulatory Guides design criteria, EN DES design standards or guides in a number of areas. TVA does not meet FSAR commitments or report noncompliances properly.

OSP-86-A-0061	Too many crafts on site.
OSP-86-A-0062	Electrical and cabling design and construction problems.
OSP-86-A-0063	As-built configuration does not conform to design configuration.
OSP-86-A-0064	Design personnel had limited electrical experience, lacked knowledge of wiring and control techniques, standards and regulations.
OSP-86-A-0067	Lack of management control of status lists and tracking systems.
OSP-86-A-0086	Construction workers ordered by supervision to destroy equipment to make work.
OSP-86-A-0106	Records for issuing a torque wrench.
OSP-86-A-0128	Lack of verification of input to a computer database for electrical design calculations.
OSP-86-A-0138	Inadequate acceptance criteria and documentation requirements for surveillance testing and preventive maintenance.
OSP-86-A-0161	TVA did not implement their quality assurance program.
OSP-87-A-0017	EG&G review of QA program procedures and welding evaluation program not in accordance with Appendix B.
OSP-87-A-0028	Analytical tool to evaluate seismic response spectra had been changed from a TVA generated product to a commercially available product named Stardyne. For the same input, these programs produce an output difference of up to 30%.
OSP-87-A-0043	There is no indication that TVA is considering the impact of a non-safety system failure on a safety-related system.
OSP-87-A-0045	TVA has inadequate control of interfaces between plant systems and the current program is not effective.
OSP-87-A-0061	Systems have been transferred from construction to modifications prior to system completion. Work done after the transfer was performed under ASME Section XI and these modifications nullified the previous work. Hydrostatic testing is an example. QC inspections are not Section XI requirements.
OSP-87-A-0076	The alleger felt unqualified for inspections he was required to perform and requested OJT which had previously been waived. During the OJT, the assigned inspector accepted torquing methods which were not in accordance with procedures. Independent inspection by the crafts is not done properly.

OSP-87-A-0108 Degradation of piping audit procedures.

OSP-88-A-0001 Piping support fillet weld inspections performed by uncertified personnel.

OSP-88-A-0015 Improper installation of the Ice Condenser Door Seals.

OSP-88-A-0033 Heat treatment procedure CEP-4.09 allows thermocouples to be attached using bands, instead of by welding.

OSP-88-A-0035 Management practices as related to security personnel.

OSP-88-A-0036 The alleger said that you cannot get a CAQR through the system. TVA documents were submitted to show that the Director of Nuclear Quality Assurance has to approve the listing of a condition adverse to quality report.

OSP-88-A-0045 10 CFR 50.59s are inadequate because the reviewers do not have the broad experience necessary to determine the effect of one system on another. The reviewers cannot determine if a modification involving one area of engineering will have an effect on another area.

OSP-88-A-0046 Bad wire, bad splice and ungrounded conduit. Specific knowledge claimed of Watts Bar defects. Issues about misuse of TVA property - lumber and telephone.

OSP-88-A-0049 Six thousand field hanger drawings were destroyed on orders from TVA. Installation of Phillips Red Head Anchor Bolt Shields continued even though the manufacturer wrote that the bolts did not meet nuclear specifications. After the installation was stopped and the bolts segregated, they were taken from stores and installed anyway. Hanger installation contest among foremen.

OSP-88-A-0065 TVA resolves issues incorrectly. TVA does not identify generic safety concerns. TVA closed NRC violations without performing the promised work.

OSP-88-A-0068 Inspection of snubbers inadequate - stroking is not required. Non-code repairs made to ERCW system. TVA misidentifies breaking parts as other than "service-induced flaws" and does not regard them as generic.

OSP-88-A-0070 Nonconforming material lost in warehouse and later found to have been installed in plant. Guyon Alloys pipe failed PT because of linear indications, but stocked as Level 1. Fasteners had wrong TIIC and did not meet specifications. Items are not returned to stores for revalidation.

OSP-88-A-0089 TVA makes no effort in performing a technical review of the scoping documents generated by contractors. No TVA involvement of any degree in reviewing the document. This can compromise configuration control.

OSP-88-A-0093 CAQR identifying discrepancy was held by supervisor until work was completed.

OSP-88-A-0099 Uncertified material was shipped from Hartsville to all sites and material control procedures were not followed.

OSP-88-A-0107 The quality of the Sargent & Lundy review is inadequate.

OSP-89-A-0027 Lost job as a result of raising concerns about flow balances in ERCW system. Testing is inadequate. TVA knew about errors, but did not correct them.

OSP-89-A-0030 EG&G weld evaluation project: (A) distorted conclusions, (B) differences in acceptance criteria not defined, (C) welds were not in compliance with FSAR, (D) improper classification of acceptable welds, and (E) conclusions incorrectly imply NRC approval via FSAR changes.

OSP-89-A-0034 The alleger is concerned with TVA's use of sampling processes dependent on performance indicators rather than 100% inspections.

OSP-89-A-0039 Concerning long term layup, TVA implemented operational ANSI N18.7 into their program as opposed to the construction ANSI N45.2 standard that was committed to in the Topical Report.

OSP-89-A-0040 Administrative Instruction 6.1 has been changed to delete QA inspection of completed surveillance data packages. Graded QC requirements are being implemented prior to the NQAM being approved with the required waiting period being waived.