REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8301310114 DOC.DATE: 83/01/13 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH.NAME AUTHOR AFFILIATION
BOUCHEY,G.D. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards resumes & independence review file,in response to NRC request for info on qualifications of engineers assigned to design verification reviews,Encl demonstrates util compliance w/reviewer independence criteria.

DISTRIBUTION CODE: ZZZZS COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 72
TITLE: * * * * * * SPECIAL DISTRIBUTION CODE * * * *

NOTES: Rec: R. Auluck

RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
LA LB#2	1	1	~~R.Vollmer~~	~~1~~	~~1~~
NRR/DL/ADL	1	1	D.Sternberg	1	1
BC LB#2	1	1	Reg File	1	1
PM-R. Auluck	1	1	NRC PDR	1	1
NRR/QAB-Chief	1	1	LPDR	1	1
~~NRR/HQ/B-Chief~~	~~1~~	~~1~~	NTIS	1	1
			NSIC	1	1

1 1
~~3~~ ~~3~~

TOTAL NUMBER OF COPIES REQUIRED: LTTR 9 ENCL 8

ACCESSION #:83051011A DOC.DATE: 83/01/13 NOTARIZED: NO DOCKET #
FACIL:50-335 Florida Power & Light Co., St. Lucie Plant, Unit 1, Florida P 05000335
AUTH.NAME AUTHOR AFFILIATION
DOOLEY,J.H. Vice President, Nuclear Energy
RECIP.NAME RECIPIENT AFFILIATION
SUBJECT: Forwards response to NRC Generic Letter 82-33 requesting additional information for Emergency Response Facilities.

DISTRIBUTION CODE: A002D COPIES RECEIVED:LTR ENCL SIZE:
TITLE: Emergency Response Facilities (NUREG-0737, Supplement 1)

NOTES:

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL

TOTAL NUMBER OF COPIES REQUIRED: LTTR ENCL

Pleas Use The Distribution Stated Below

Per: PM (R. Auluck)

	Ltr	Encl
LA LB #2	1	1
NRR/DL/ADL	1	1
BC LB #2	1	1
PM - R. Auluck	1	1
NRR/QAB - Chief	1	1
NRR/LQB - Chief	1	1
R. Vollmer	1	1
D. Sternberg - Region IV	1	1
Reg File	1	1
NRC PDR	1	1
LPDR	1	1
NTIS	1	1
NSIC	1	1

Washington Public Power Supply System
P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

Docket No. 50-397

January 13, 1983
G02-83-20

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
QUALIFICATIONS OF ENGINEERS ASSIGNED TO
THE WNP-2 DESIGN REVERIFICATION REVIEWS

Reference: G02-82-944, RL Ferguson to WJ Dircks,
"WNP-2 Plant Verification Program",
dated November 24, 1982

In response to your request for information on the qualifications of the engineers assigned to the WNP-2 Design Reverification Reviews, we have enclosed a complete set of resumes plus a copy of the independence review file which contains some additional work experience related information. The enclosed also demonstrates compliance to our reviewer independence criteria transmitted by the reference. The reviewing engineers have not been involved in the origination or checking of the design of WNP-2. As previously discussed, the subject reviews will better prepare the Supply System engineers to carry out their future role (after completion of construction) of design control for WNP-2.

You will note that we have augmented the Supply System staff assigned to the Design Reverification Program with three senior engineers from the Westinghouse Electric Corporation. We have taken this step to strengthen

ZZZZ - See Attached
Per: R. Auluck

the system design experience base of the reverification team in the electrical and I&C areas, to conduct the review in the equipment qualification area where Supply System personnel performed some of the original analyses and to resolve a temporary workload problem. The Westinghouse engineers will function as regular members of the reverification team.

If you have further questions on the WNP-2 Plant Verification Program, please contact Mr. John R. Honekamp on (509/372-5359).

Very truly yours,

G. D. Bouchey, Manager
Nuclear Safety & Regulatory Programs

JRH/sm

Enclosures

cc: R Auluck NRC
WS Chin BPA
RH Engelken NRC Region V
A Toth NRC Site

Attachment 1.

WNP-2 DESIGN REVERIFICATION TEAM ASSIGNMENTS

D. L. Whitcomb

Design Reverification
Program Leader

HPCS Review Team

P. J. MacBeth, Mech
(Team Lead)

T. H. Keheley, Mech

D. T. Thonn, Elect.

J. F. Gorman, I&C

A. B. Rafer, Eng Mech

J. R. Cole, Eng Mech

RHR Review Team

F. J. Markowski, Mech
(Team Lead)

J. T. Person, Elect.

W. I. Edwards, I&C
(Westinghouse)

M. A. Mihalic, Eng Mech

J. R. Cole, Eng Mech

RFW

R. L. Heid, Mech
(Team Lead)

C. C. Patel, Elect.

J. M. Curren, I&C

Special Reviews

J. R. Cooney (Westinghouse)

E. L. Vogeding (Westinghouse)

G. L. Waldkoeter

ATTACHMENT 2

RESUMES OF ENGINEERS ASSIGNED TO
THE WNP-2 DESIGN REVERIFICATION TEAM

DAVID L. WHITCOMB

Ph.D.; Ch.E.; B.S. Ch.E.; Registered Professional Engineer, State of Washington

Experience

February 1975 - Present - Washington Public Power Supply System

Lead Nuclear Systems Engineer - Provide technical direction on plant design and design changes, resolution of licensing issues, preparation of FSAR sections and responses to NRC questions. Review AE and NSSS design, provide technical recommendations to the plant project organizations, and support test and startup in resolving plant design problems.

Supervisor, Plant Engineering, WNP-2 - Provide engineering support to plant maintenance and operations, project engineering and test and startup organizations. Developed a welding program, inservice inspections program including IWV/IWP, preparation of plant technical specifications, resolving open SER and other licensing concerns, monitor compliance with NPDES Permit and provide technical and quality assurance support to the procurement of the plant equipment and spares.

Supervisor, Plant Technical, WNP-2 - Review plant design and make recommendations project engineering concerning licensability, maintainability and operability; develop and review plant administrative, maintenance and operating procedures; and support systems preoperational testing.

July 1968 - February 1975 - United Nuclear Industries

Special Assignment, Process Technology - Developed program to prepare technical specifications for the AEC owned N-Reactor. UNI received a commendation from AEC-RL upon program completion.

Supervisor, Core Technology - Technical Support to engineering projects, and analysis of routine reactor operating problems.

Supervisor, Thermal Hydraulics - Directed development of programs required for containment system analysis and related fog spray condensation models. Directed experimental programs supporting two-phase pressure drop and fuel temperature transient studies.

Senior Engineer, Thermal Hydraulics - Directed and assisted in analysis of loss-of-coolant accidents. Modified and updated computer codes used for predicting fuel assembly and reactor core temperature transients.

PAUL J. MACBETH

B.S. Physics, M.S. Nuclear Physics; Ph.D. course work completed; 10 years professional experience in nuclear industry.

Experience:

March 1982 to Present - Washington Public Power Supply System

Senior Engineer - Provide technical support and engineering design services in areas of radioactive waste treatment, shielding analysis fuel handling, air filtration, heat transfer and fluid dynamics.

July 1980 to March 1982 - Rogers and Associates Engineering Corp.

Principal Scientist - Technical direction of radioactive waste management programs, including waste handling systems and processes, risk management, environmental analysis and related areas. Performed conceptual design studies for EPRI, analyzing requirements and anticipated performance of low-level radioactive waste disposal operations. For Three Mile Island, prepared programmatic EIS sections on solid and liquid waste handling, including estimates of quantities, costs and alternative methods.

January 1976 to July 1980 - Ford, Bacon & Davis

Senior Scientist/Manager of Nuclear Waste Management - Provide technical leadership in nuclear waste management and environmental assessment projects. Performed and directed studies on alternatives for disposal of low-level radioactive waste for the Hanford Reservation, including development of a radioactive waste disposal classification system for the NRC, and evaluation of existing commercial radioactive waste disposal sites. Provided consultation, management and technical support to EG&G Idaho's Waste Management Program, including design reviews, preparation of final environmental impact statements, defense waste documents, alternative studies, EIS supplements, and the National Low-Level Waste Management Program formulation.

March 1973 to January 1976 - Aeroject Nuclear Company

Physicist/Technical Staff - Evaluate adequacy of waste management practices and methods including: use of systems safety and reliability assessment techniques; assessment of personnel safety from radiation sources; nuclear criticality safety evaluations; preparation of environmental assessments and statements on INEL proposals; preparation of safety evaluations and reviews of the safety and adequacy of waste management practices, spent fuel storage and other proposed systems; and evaluation of technological alternatives for radioactive waste management systems.

THOMAS H. KEHELEY

BSME; four years professional level engineering experience, six years U. S. Navy nuclear submarine experience, including engine room supervisor and member of precommissioning crew.

Experience:

July 1981 to Present - Washington Public Power Supply System

Engineer I in Systems Design Engineering. Provided special design and analysis in the areas of thermal hydraulic transients. Performed safety analyses and prepared and/or approved revisions to FSAR for numerous sections. Provided the technical expertise for resolution of NRC concerns on numerous issues. Lead and resolved the issue of contractor design verification on WNP-2.

May 1980 to July 1981 - Ecodyne Corporation

Research and Development Engineer - Responsibilities included developing, testing, and analyzing new and complex heat exchanger design, directing and analyzing tests on current designs to confirm engineering capabilities in order to meet customer requirements, providing engineering analysis for use in developing up-to-date computer programs, and providing technical service and field support on design, installation, and performance programs.

March 1979 to May 1980 - Babcock & Wilcox Company

Associate Performance Engineer - Performed heat absorption and fluid flow calculations, analyzed water and steam circulation units, tube bank configurations, sizing for a combined cycle steam generator, tube bundle configuration, computer code documentation, use of computer codes for steady state and transient analysis support of mechanical design and documentation of calculations performed.

DAVID T. THONN

BSEE; 31 years professional experience; registered professional engineer in Washington.

Experience:

May 1973 to Present - Washington Public Power Supply System

Principal Engineer - Provide guidance and support to project assigned electrical engineers in the areas of procurement specification requirements for major equipment; auxiliary power systems arrangements, characteristics, requirements and protection. As engineer on WNP-3/5 Project, provided technical direction and review of AE designs, technical review of procurement specifications and vendor proposals for major electrical equipment. Prepared and reviewed A/E prepared portions of the electrical sections of Preliminary and Final Safety Analysis Report.

April 1968 to May 1973 - Atlantic Richfield Hanford Co.

Protective Relay Specialist - Responsible for operation and maintenance of plant electrical utility protective relaying, supervisory control, and telemetering systems.

June 1962 to April 1968 - General Electric Company/ITT Hanford Company

Utilities Engineer - Perform engineering assignments related to operation, maintenance, repair, and expansion of the Hanford Plant transmission and distribution systems.

July 1951 to June 1962 - General Electric Company/Hanford Atomic Products Operation

Design Engineer - Responsible for creation of plans and specifications for construction and modification of nuclear reactor plants and supporting facilities.

JOHN F. GORMAN

BSEE; 20.5 years professional experience; professional engineer - Washington state.

Experience:

October 1976 to Present - Washington Public Power Supply System

Senior Engineer - Review and approve I&C and associated emergency power system equipment and prepurchased equipment construction specifications for technical adequacy and compliance with design criteria and regulatory requirements. Review and approve design changes, drawings, test plans, and design documents for conformance to design criteria, commercial codes, and NRC requirements. Manage field I&C technical activities to support construction schedules within cost while maintaining quality and technical adequacy. Review and provide technical input to Safety Analysis Reports. Provide technical support for installation of instrument tubing and associated supports for technical adequacy to nuclear and non-nuclear requirements.

February 1967 to October 1976 - United Nuclear Industries

Senior Engineer - Technical support to plant operations for primary and secondary process control and monitoring systems for 860 MWe nuclear power plant. Analyze systems, recommend modifications, prepare design changes, develop cost estimate, follow procedurement, direct installation and test. Provide data acquisition system for special tests; perform circuit, logic and system design.

August 1962 - January 1967 - Boeing Aerospace Division

Research Engineer - Systems integration and equipment environmental tests at Minuteman ICBM plant/field test sites. Provide measurement systems for digital/analog electrical parameters, physical quantities of vibration, stress, flow, pressure, temperature, and position. Test engineer responsible for procedures, test conduct, data analysis, and reports in evaluating equipment performance during systems integration and electro-interference tests.

ADOLFO RAFER

BSCE; Professional Engineer State of Illinois, 20 years professional engineering experience.

Experience:

April 1982 - Present - Washington Public Power Supply System

Engineer - Review design of piping system and pipe supports. Perform optimization study of piping and pipe supports using HANGIT computer program. Currently undertaking design reverification of HPCS piping system and preparing acceptance criteria for thermal expansion and vibration test of piping systems.

January 1975 - May 1982 - Argonne National Laboratories

Engineering Specialist - Performed piping stress analysis of existing and proposed facility systems according to ASME Section III and ANSI B31.1 Power Piping Code. Designed pipe supports for re-routed pipe systems and proposed piping. Performed finite element analysis of nuclear components and structures using ANSYS, SAP6, STRUDL. Performed capacity checking of existing structures for new loading like seismic, tornado, impact. Structural analysis and design of laboratory plant facilities, e.g., building modification, steel tower for equipment and piping system, machine foundation, overhead crane supports, shielding facilities. Performed design review and quality inspection of civil and structural power plant conversion from gas to coal.

January 1974 to December 1974 - Pollak and Skan, Inc.

Structural Engineer - Performed structural design and design review of plant facilities. Prepared cost estimates, work specifications, quality inspections of civil/structural work. Performed pipe stress analysis and design of pipe supports.

August 1973 to December 1973 - Process Design Associates

Civil/Structural Engineer - Performed civil and structural designing.

1969 to 1973 - Erectors Company, General Contractors, Manila, Philippines

Project Manager (Civil Construction), Engineering Manager (Design, Drafting, Estimating

1963 to 1969 - Philippine Prestressed Concrete Company

Structural Designer (Design, Estimating), Project Engineer (Construction and Fabrication

1962 to 1963 - Atlantic, Gulf and Pacific Company

Engineer, Trainee/Draftsman

JACK R. COLE

BSME, Registered Professional Engineer, State of Washington, 11 years professional engineering experience.

Experience:

January 1981 - Present - Washington Public Power Supply System

Senior Engineer - Engineering Mechanics - Review Architect/Engineer's piping and pipe support design activities for technical adequacy, and complicance with ASME codes, project design specifications, and engineering procedures. Developed company piping design capability using HANGIT design optimization program and ADLPIPE analysis program.

March 1978 - November 1980 - Wright-Schuchart-Harbor

Senior Engineer - Equipment - Provided engineering direction to crafts for installation, testing and maintenance of nuclear power plant equipment, piping, and hangers. Redesigned small bore piping and pipe supports which could not be installed in the field.

February 1977 - March 1978 - Rockwell Hanford Operations

Engineer - Design, fabrication and testing of hardware to support conceptual design studies, including mock-up of hot cell to demonstrate remote welding, drop test of radioactive waste canister and design of remote grapple.

March 1975 to February 1977 - Atlantic Richfield Hanford Company

Plant Engineer - Design of equipment for radioactive waste handling systems, including remotely operated hoist, update of old design for remote pipe connectors, radioactive waste sample heat treatment system, and sampling system for hot cell tank.

December 1971 to February 1975 - Warn Industries

Design Engineer - Responsible for design, performance testing, cost benefit analysis, and failure analysis of winch and hoist components..

FRANZ J. MARKOWSKI

ASME, MSME, 20 years engineering experience.

- o Thirteen years in safety and licensing analysis and plant system design analysis.
- o Four years in stress and hydraulic control system analysis.
- o Three years in measurement and analysis of vibrations on machine foundations and buildings.
- o Member of American Society of Mechanical Engineers, American Nuclear Society, and registered Professional Engineer, State of Pennsylvania.

Experience:

November 1979 to Present - Washington Public Power Supply System

Principal Engineer - On WNP-2, reviewed FSAR changes and design calculations, provided technical support in designated areas (ATWS, Station Blackout). Modeled plant control systems using RETRAN. Performed reliability analysis (fault tree approach) of heat removal systems. For WNP-3, reviewed process and instrumentation diagrams for selected plant systems, reviewed reliability evaluation for the auxiliary feedwater system. Participated in IEEE working group on the Probabilistic Safety Goal.

April 1977 to November 1979 - Exxon Nuclear Company

Senior Engineer in Plant Transient Analysis group. Performed Appendix K blowdown analysis on Big Rock Point with RECAP code. Performed plant transient analyses for various fuel reloads for PWR and BWR plants.

February 1970 to April 1977 - Westinghouse, Advanced Reactor Division

Senior Engineer in Safety Analysis Group - Performed plant transient analysis for licensing of the FFTF and CRBR. Analysis included CRBR steam generator models and sodium level control system for J-Module steam generators. Published papaers on modeling of CRBR pump variable speed fluid coupling and on FFTF plant response to primary loop pipe breaks. Contributed to development of thermal hydraulic modeling for FFTF plant mode. Performed some control system analysis, both time and frequency response (Bode Plot approach).

January 1968 to February 1970 -- Boeing, Commercial Airplane Division

Engineer in Mechanical Systems group - Performed analysis of landing gear walking vibrations. Modeled 747 and 737 hydraulic control systems on analog computer.

August 1965 to December 1967 - VFW-Fokker (airplane manufacturer) Bremen, W. Germany

Engineer in Structural Dynamics - Analyzed ground looping stability of VAK-161 (VSTOL fighter plane).

January 1962 to July 1965 - Institute for Mechanical Vibrations, Berlin, W. Germany

Graduate student at the Tech. University of Berlin, West Germany - As member of vibration measurement team, performed measurements and contributed to analysis for vibration abatement projects on machine foundations, industrial buildings and a church tower.

JEFFERSON TRAVIS PERSON

BSEE; EIT Washington; three years professional experience.

Experience:

July 1981 to Present - Washington Public Power Supply System

Engineer - One of a small group involved in producing Electrical Wiring Diagrams for WNP-2 systems using information from A/E and contractor construction drawings. Responsible to monitor the electrical design of 14 WNP-2 systems. Lead engineer for one WNP-2 system, responsible for coordinating other discipline engineers in the review of the systems design.

July 1979 to May 1981 - EG&G Idaho Inc.

Engineer - Redesigned motor systems of secondary acid pumps on a nuclear reactor after electricians found previous design faulty. Saved company $50,000 per day by having new system designed and operational by scheduled start-up date. Conducted study on 13.8 KV and 480 V system supplying power to a nuclear reactor to find out if the voltage transients observed on the power system were cause to delay a reactor test. Found that observed transients were normal to the system and the test was done on time. Found and corrected errors in the design of a glass forming pilot plant before construction began. Saved down time and operational problems that would have occurred if system had been built to original design.

W. I. EDWARDS

Twenty-four years of engineering and managerial experience in instrumentation and control engineering. Nine years of experience in pressurized water reactor instrumentation and control design experience.

- Registered professional engineer in California.
- Currently on Instrument Society of America Standards Review Board.

Experience:

March 1974 to Present - Westinghouse Offshore Power Systems

Manager of control systems engineering responsible for the design of instrumentation and control systems for floating nuclear power reactors. Senior engineer involved in electrical and control system design for offshore reactors.

October 1964 to March 1974 - Westinghouse Astronuclear Laboratory

Senior engineer and the manager for instrumentation, control, and data systems for the nuclear reactor propulsion experiments at the Nevada Test Site.

January 1959 to March 1974 - Lawrence Radiation Laboratory

Electronic control and analog systems for nuclear ram jet and nuclear reactor experiments.

MICHAEL A. MIHALIC

BSME, 14 years experience in structural engineering from initial design through final erection. Ten years experience as an engineer.

Experience:

May 1982 - Present - Washington Public Power Supply System

Senior Engineer - Current duties are design reverification of selected piping systems and components, design of new piping systems and standards development for Owner/AE transition and post turnover activites.

February 1979 - May 1982 - Pittsburgh-Des Moines Corporation

Engineer - Hired as a Project Engineer primarily for nuclear work (ASME Section III) involving containment vessels, containment liners, along with various other fabricated steel structures associated with nuclear power plants. Responsible for the preparation of all designs and design drawings, specifications, stress reports and the engineering follow-up of the fabrication and erection processes. Primary duty was in field at WNP-2 site at Hanford, Washington. Specific duties included responsibility for the engineering follow-up of the erection of the steel containment vessel and all attachments to it, along with fabrication and erection of steel structures and piping systems. Responsible for the design of field changes, resolution of problem areas, material control and customer interface. The duties required a working knowledge of steel and weld design, stress analysis, fabrication/erection techniques, and the ability to write material and process procedures. Promoted to Site Engineering Manager in April 1981, responsible for the activities of eight project engineers and five draftsmen at the WNP-2 site.

December 1972 to February 1979 - Westinghouse Electric

Engineer - Primary duties were the design, analysis, procurement, and field erection follow-up of structural steel supports and restraints for the Reactor Coolant System equipment in PWR nuclear plants. The duties required a working knowledge of steel design, analysis techniques, steel fabrication, and the ability to interface with steel fabricators (contract negotiations through final delivery), other Westinghouse groups plus the customer liaison. The design and analysis of the equipment supports and pipe whip restraints were done in accordance with ASME Section III, Subsection NF. Embedment design and analysis were also performed in most contracts. A detailed stress report was prepared upon finalization of the design and upon receipt of final loads. Experienced in the following computer languages and programs: FORTRAN, STRUDL, WECAN, NASTRAN and COGO. Initially hired as a technician, promoted to engineer in March 1975.

ROY L. HEID

BSME, 21 years experience in design analysis and test evaluation of fluid/mechanical systems in nuclear power plant projects.

Experience:

1974 to Present - Washington Public Power Supply System

Principal Engineer, Systems Engineering - Provide system design reviews, fluid/mechanical systems engineering, thermodynamic/hydralic analysis and licensing support to project engineering staff of the Supply System nuclear plants under construction.

1970 to 1974 - Westinghouse Electric Corporation

Senior Engineer, Systems Follow and Operation - Provide engineering and technical support required by customer utilities and their architect-engineers during the design, contruction and testing of emergency core cooling and reactor auxiliary systems. Also had complete responsibility for system field follow of the Westinghouse applied systems during construction of two 3250 MWT Westinghouse PWRs located at Zion, Illinois.

1969 to 1970 - Douglas United Nuclear, Inc.

Engineer, N-Reactor Mechanical Engineering - Provide engineering and technical support required for maintenance, operation and modifications of N-Reactor auxiliary system.

1961 to 1969 - General Electric Company/Douglas United Nuclear

Engineer, Testing and Irradiation Services Engineering - Responsible for the design, installation, modification and technical support of in-reactor test facilities used to provide special irradiation services, water treatment and corrosion studies for government, educational institutions and private industry.

C. C. PATEL

BSEE; 15 years professional experience.

Experience:

March 1982 to Present - Washington Public Power Supply System

Engineer - Provide electrical input to system engineers in taking over WNP-2 systems from Burns and Roe. Provide design input to the draftsman for preparation of electrical wiring diagrams.

October 1980 to March 1982 - General Electric Nuclear Energy Business Operation

Engineer - Processed and reviewed all Chapter 7 and 8 NRC/Customer questions/ response for Grand Gulf, LaSalle, Kuo Shen, Clinton, Laguna Verde, Susquehanna, Hanford, Perry and River Bend Projects. Developed new instrumentation and control concepts including equipment qualification in support of new NRC customer requirements per IEEE-323, 344 and NUREG-0588. Completed the PGCC NEDO-10466-A, Addenda 2 which was issued to NRC in time.

October 1979 to September 1980 - Quadrex Corporation (NSC)

Engineer - Reviewed the Control and Instrumentation of General Electric BWR 4/5/6 projects; Reactor Protection System, AC and DC Power Systems, Electrical Auxiliary Systems; using various IEE's, NRC Regulatory Guides and the Code of Federal Regulations (10CFR, etc.). Updated the Quality Assurance procedures for the LaSalle Project. Prepared the "Licensing Commitment Tracking System" for Palo Verde, Perry, and Grand Gulf Nuclear Power Stations.

February 1968 to September 1979 - State Electricity Board - Orissa, India

Engineer - Designed and analyzed electrical power distribution systems. Developed schematic diagrams for major power distribution systems. Coordinated, characterized and tested relays used in power distribution systems. Specified and selected electric motors, transformers and generators.

JAMES MICHAEL CURREN

BSEE; MBA; EIT Washington; seven years professional experience.

Experience:

November 1981 - Present - Washington Public Power Supply System

Engineer - Perform I&C systems design review and technical turn-oyer documentation for WNP-1/4, 2, and 3/5. Presently inyolyed in preparing power ascention test procedures for WNP-2.

February 1976 - November 1981 - Atlantic Richfield Hanford/Rockwell Hanford Operations

Design and Installation Engineer - Responsible for the complete electrical and instrument installation design for the entire sub-critical California Multiplier Reactor Core and delayed neutron counter laboratory analysis system project. Tasks included design and installation of the computer and data analysis system, computer automated measurement and control (CAMAC) instrumentation, nuclear reactor radiation detection and core control systems, pneumatic transfer system, process instrumentation, power and miscellaneous electrical control, safety and security systems.

Plant and Facilities Design and Installation Engineer - Installation designs of new power, facilities instrumentation and process control, interlock, safety, lighting, and security systems in the Rockwell Hanford area nuclear waste management facilities. Extensive use of the Nation Electrical Code, and various IEEE electrical, electronic, CAMAC, and instrumentation codes.

March 1979 to September 1979 - Power Engineering Company/Nuclear Technical Services

Engineer on Assignment to Bangor Naval Submarine Base - Electrical engineering design of power systems instrumentation, area power systems, building fire protection and control systems, lightning protection, and procedural-operational-electrical analysis on very large machinery cranes.

May 1975 - February 1979 - Self Employed - Non-Technical

November 1973 - April 1975 - Boeing Aerospace Company

Engineer - Responsible for all data analysis performance testing and trouble shooting on the AWACS electrical power system mock-up, also included testing and design work with the power systems control and protection circuits.

A total of thirty-two years of electric power, instrumentation and control experience in the electrical utility industry.

- Registered professional engineer in New York, New Jersey, and Florida.
- Served for six years on IEEE nuclear power engineering standards committee and currently a working group chairman of subcommittee 4 of that committee.

Experience:

August 1972 to Present - Westinghouse Offshore Power Systems

Chief Engineer-Electrical and Control Engineering - Responsible for managing the design of all electrical, instrumentation and control systems for the floating nuclear power plant. Duties also involved interacting with the Nuclear Regulatory Commission and the U. S. Coast Guard in preparation of licensing documentation for the floating nuclear plant application. Served as a technical witness on several items raised by intervenor groups in the floating nuclear plant application ASLB public hearings.

June 1964 to August 1972 - Westinghouse Electric Corp. Atomic Power Department (Presently, Water Reactor Divisons)

Senior Engineer and subsequently manager of Electrical Control Systems for Westinghouse pressurized water reactors. Was responsible for electric power systems design for all Westinghouse turnkey plants (Ginna, Indian Point, H. B. Robinson, Point Beach, etc.) and was responsible for power and control systems including process computer systems for Westinghouse nuclear steam supply systems during this period.

June 1950 to June 1964 - Ebasco Services, Inc.

Served in various positions including principal electrical engineer involved in design of fossil-fired generating stations and associated switchyards. Duties in this time period also included approximately four years of startup testing of electrical and instrumentation systems at generating sites during the later stages of construction.

E. L. VOGEDING

Twenty-eight years of experience in nuclear reactor control and protection systems engineering and seismic qualification; BSEE.

o Registered professional engineer in Pennsylvania.

Experience:

December 1979 to Present - Westinghouse Electric Corporation, Water Reactor Divisions

Lead engineer responsibility for equipment seismic qualification effort of group including formulation of test plans, placing purchase orders for seismic tests, scheduling of tests, reviewing seismic test data, and writing of qualification test reports. Also responsible for all environmental qualification effort on solid state protection system, switchgear, and control-board mounted components.

November 1976 to December 1979 - Westinghouse Electric Corporation

Lead engineer in the I&C group for the SCE Seismic Requalification Program. Had lead engineer responsibility for all seismic testing of Class 1E electrical equipment for NSSS. Also had lead engineer responsibility for procurement of Solid State Protection Systems and Nuclear Instrumentation Systems.

February 1969 to November 1976 - Westinghouse Electric Corporation

Responsible for procurement of part length and full length Rod Control Systems, Solid State Protection Systems, and Rod Position Indication Systems. Also had lead engineer responsibility for all seismic testing of Class 1E safety-related electrical equipment.

November 1965 to February 1969 - Westinghouse Electric Corporation

Responsible for the design, development, and procurement of Rod Control and Rod Position Indication Systems and Radiation Monitoring Systems.

GENE L. WALDKOETTER

Thirty years of instrumentation experience in the nuclear industry, including 15 years of I&C design activities on nuclear reactor projects, familiar with R.G.s, NUREGS and IEEE standards, and registered professional engineer (electrical) in Washington state.

Experience:

October 1973 to Present - Washington Public Power Supply System

Principal Engineer - Responsible for broad range of I&C design activites for plant instrumentation on WNP-1/4. Scope involves control room panel design with all human factors and operational considerations, computer systems, safety systems, radiation monitoring, as well as the more traditional measurement and control hardware. Provided technical support to licensing activities during both PSAR and FSAR reviews, and by affecting design changes to conform to regulatory changes, especially post-TMI upgrades. Served for one year as contract administrator for the NSSS contract (B&W) concurrent with I&C assignments.

June 1966 to September 1973 - Westinghouse/Battelle-Northwest

Senior Engineer - Responsible for conceptual design of control room and plant computer systems on FFTF. Participated in task force efforts to establish overall instrumentation requirements for the FFTF and provided cost estimates for all instrumentation. Provided technical direction of a project team to buy and program the plant computer system.

October 1964 to May 1966 - Battelle-Northwest/General Electric

Engineer - Completed design, purchase and checkout of a computer system to control a dual-stage mass spectrometer. Also completed design and construction of a multiplexer system to support a Reactor Containment Systems Experiment project.

August 1956 to September 1964 - General Electric Company

Engineer - Completed variety of nondestructive testing assignments involving the application of ultrasonic and Eddy Current systems to nuclear fuel production. Project team leader for several systems, wrote maintenance manuals and conducted craft training.

October 1951 - July 1956 - General Electric

Engineer/Craftsman - General instrument maintenance - both laboratory and process. One year as engineer and four years as craftsman.

ATTACHMENT 3

INDEPENDENCE REVIEW FILE

SDE-DLW-82-07

INTEROFFICE MEMORANDUM

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Distribution:
- ☐ EDC WNP-1/4
- ☒ EDC WNP-2 917B
- ☐ EDC WNP-3/5
- ☐ Admin File

GL Gelhaus GLG
RB Glascock 280
LT Harrold 570
PK Shen 580
DC Timmons 901A
YM Yatabe 410
DLW/File/1b

Date: August 26, 1982

To: J. R. Honekamp, Technical Specialist (387)

From: D. L. Whitcomb, Technology (420)
D. L. Whitcomb

Subject: CONFIRMATION OF THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 REVERIFICATION REVIEWS

Reference: IOM, J. R. Honekamp to L. T. Harrold and G. L. Gelhaus, Criteria for Assessing the Independence of the Technical Personnel Assigned to the WNP-2 Reverification Reviews, dated June 30, 1982.

The referenced memo requested that personnel involved in design reverification reviews confirm in writing that each individual meets the independence criteria established for this activity. Attachment 1 is a list of names of the personnel presently assigned to this activity. A copy of the confirmations signed by each of the persons presently assigned to the review activities, Attachment 2, is enclosed for your review. You should note that each signed confirmation signifies whether a backup resumé was required to support the confirmation statement.

Attachment 3 is provided as supporting information regarding each individual's work experience and background. This information was reviewed and the need for a backup resumé was identified for two of the fourteen individuals assigned to the design reverification program. The resumés for these two individuals are attached to their statements.

I will retain the original copy of the confirmation statements, resumés and other backup information in my file for audit purposes. Attachments 1, 2 and 3 will be revised if personnel assignments are changed. Accordingly, you will be kept informed.

DLW/arg

Attachments: 1) Design Reverification Team Members
2) Confirmation Statements and Resumés
3) Experience and Background Summary

SDE-DLW-82-08

INTEROFFICE MEMORANDUM

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Distribution:
- ☐ EDC WNP-1/4
- ☒ EDC WNP-2 917Y
- ☐ EDC WNP-3/5
- ☐ Admin File

GL Gelhaus
RB Glasscock 280
LT Harrold 570
PK Shen 580
DC Timmins 901A
JM Yatabe 410
DLW/file/lb

Date: September 10, 1982

To: J. R. Honekamp, Technical Specialist (387)

From: D. L. Whitcomb, Technology (420)
D. L. Whitcomb

Subject: CONFIRMATION OF THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 REVERIFICATION REVIEWS--REVISION 1

Reference: IOM, SDE-DLW-82-07, D. L. Whitcomb to J. R. Honekamp, Rev. 0 same subject, dated August 26, 1982.

Attached are three (3) memos clarifying the work experience summaries for J. R. Cole, C. C. Patel, and D. T. Thonn transmitted to you via the reference IOM. In addition, attached are 1) a revised Team Member List, 2) an independency statement, and 3) an update of the Experience and Background Summary Information, which adds J. F. Gorman to the reverification effort. J. F. Gorman will replace M. R. Compton as the I&C member to the HPCS team.

The information enclosed with this IOM should replace and/or be added to the information provided in the reference IOM. The clarification statements should be attached to the independency statements for each individual.

If you have any questions, please let me know.

DLW/arg

Attachments:
1) Clarification Memos (3)
2) Revised Team Member List (1)
3) Independency Statement (1)
4) Revised Experience and Background Summary Information (1)

Attachment 1

DESIGN REVERIFICATION TEAM MEMBERS

Name
J. R. Cole
M. R. Compton
J. M. Curren
R. L. Heid
J. M. Henderson
T. H. Keheley
P. J. Macbeth
F. J. Markowski
M. A. Mihalic
C. C. Patel
J. T. Person
A. B. Rafer
D. T. Thonn
D. L. Whitcomb

Attachment 1, Rev. 1

DESIGN REVERIFICATION TEAM MEMBERS

Name
J. R. Cole
M. R. Compton (Terminated 9/17/82)
J. M. Curren
J. F. Gorman
R. L. Heid
J. M. Henderson
T. H. Keheley
P. J. Macbeth
F. J. Markowski
M. A. Mihalic
C. C. Patel
J. T. Person
A. B. Rafer
D. T. Thonn
D. L. Whitcomb

Attachment 2

CONFIRMATION STATEMENTS AND RESUMES

Jack R. Cole

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above: In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

Jack L Cole — 7/30/82
J.R. Cole (Date)

G L Gelhaus — 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: X (yes) ___ (no)

RESUME

JACK R. COLE

Experience

January 1981 - Present

Washington Public Power Supply System Nuclear Projects WNP-1, 2, and 3
Corporate Engineering, Richland Office

Senior Engineer - Engineering Mechanics Group

Responsible for review of Architect/Engineers (AE's) piping and pipe support design activities for technical adequacy, and compliance with ASME codes, project design specifications, and engineering procedures. Developed company piping design capability using HANGIT design optimization program and ADLPIPE analysis program. Optimized AE piping designs using HANGIT program and demonstrated to AE's the application of the program to company projects for cost savings.

March 1978 - November 1980

Wright-Schuchart-Harbor, Richland, Washington
Nuclear Project WNP-2

Senior Engineer - Equipment

Responsible for providing engineering direction to craft for installation, testing and maintenance of nuclear power plant equipment, piping, and hangers. Redesigned small bore piping and pipe supports using project approved methods. Provided detailed instruction to craft for installation and testing of equipment per the contract specifictions and manufacturer's instructions.

February 1977 - March 1978

Rockwell Hanford Operations, Richland Washington (formerly Atlantic Richfield Hanford Company)

Engineer

Responsible for design, fabrication and testing of hardware to support conceptual design studies. Tasks included mock-up of hot cell to demonstrate remote welding, drop test of radioactive waste canister and design of remote grapple.

March 1975 - February 1977

Atlantic Richfield Hanford Company, Richland, Washington

Plant Engineer

Responsible for design of equipment for radioactive waste handling systems. Designs included remotely operated hoist, update of old design for remote pipe connectors, radioactive waste sample-heat treatment system, and sampling system for hot cell tank.

December 1971 - February 1975

WARN Industries, Milwaukie, Oregon

Design Engineer

Responsible for design, performance testing, cost benefit analysis, and failure analysis of winch and hoist components.

Education:

B.S. Mechanical Engineering
Oregon State University, August 1971

Graduate Studies--Business Administration
University of Washington, September 1976 to June 1978

Professional Licenses:

Registered Professional Engineer
State of Washington

Clearances:

DOE Q Inactive

RESUME

JACK R. COLE

The purpose of this paragraph is to explain my role in the WNP-2 design during my tenure with Wright-Schuchart-Harbor.

During my work as a field piping engineer (March 1978 to September 1979) it was my responsibility to assist the craft in installation of small bore piping designs. Part of this task required me to revise piping and support designs which could not be installed in the field. To accomplish this task, I used the project approved small bore design guide and standard support designs. My design work originally was to have been verified by the company office design group. Due to changes in the 215 contract, design verification became the responsibility of Gilbert Commonwealth.

INTEROFFICE MEMORANDUM

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Distribution:
- ☐ EDC WNP-1/4
- ☐ EDC WNP-2
- ☐ EDC WNP-3/5
- ☐ Admin File

Date: September 3, 1982

To: Dave Whitcomb

From: Jack Cole

Subject: DESIGN REVERIFICATION OF WNP-2

G Gelhaus
*DM Bosi 9/3/82
JR Cole.
AF Kupinski
JRC/lb
RSS Chrono File

Reference: None

The purpose of this memo is to further clarify my role at Wright-Schuchart-Harbor during the period from March 1978 to September 1979.

The role of field engineer, on the 215 contract, was to take designs from the small bore design organization and assist in the installation of the original design. If field interferences were encountered the field engineer would modify the original design to fit field conditions. The purpose of the field revisions was to speed installation of small pipe. Design modifications were then transmitted to the small bore design group for approval/revision of field modifications and design calculations.

Prior to as building of most small bore piping Gilbert Commonwealth was assigned the responsibility for design/verification of all small bore designs that had been generated by the 215 contract small pipe group. Therefore, generation of design calculations for field engineering changes became Gilbert/Commonwealth responsibility for the purpose of design re-verification.

I was not responsible for design calculations on the original 215 small pipe design and I played no part in determining if the installed piping had adequate design margin.

JRC:jpt

* Note: My one-over-one approval does not constitute a judgement that Jack is a suitable candidate for reverification activities. This judgement is yours.

Dave Bosi 9/3

WP-102 R2

M.R. Compton

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function; report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

M. R. Compton

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

Myron R. Compton — 7/30/82
M.R. Compton (Date)

G L Gelhaus — 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

M.J. Curren

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

James Michael Curren 7/27/82
M.J. Curren (Date)

G.L. Gelhaus 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

R.L. Heid

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

R. L. Heinf 8/6/82
(Date)

G.L. Gelhaus 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

T. H. Keheley

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

Thomas H. Keheley — 8/31/82
T.H. Keheley (Date)

G.L. Gelhaus — 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

J. F. Gorman

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

J F Forman 9/1/82
(Date)

_____ __/__/__
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

J. M. Henderson

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above: In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

J.M. Henderson — 7/27/82 (Date)

G.L. Gelhaus — 8/10/82 (Date)

Back up Resume Required: ___(yes) X (no)

P.J. Macbeth

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

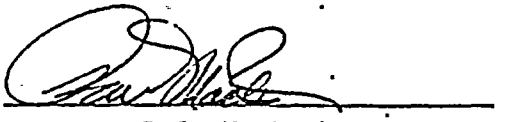
   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

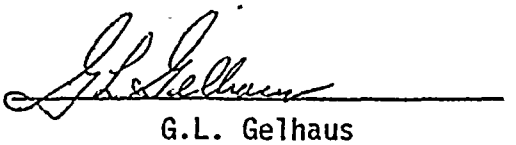
3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above: In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.



P.J. Macbeth — 7/26/82 (Date)



G.L. Gelhaus — 8/10/82 (Date)

Back up Resume Required: ___(yes) X (no)

T. J. MarKowski

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

F.J. Markowski — 28 JUL 82
F.J. Markowski (Date)

G.L. Gelhaus — 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function; report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

M. A. Mihalic — 7/30/82
M. Mihalic (Date)

G. L. Gelhaus — 8/2/82
G.L. Gelhaus (Date)

Back up Resume Required: X (yes) ___ (no)

RESUME

MICHAEL A. MIHALIC

4370 Norris St.
Richland, WA 99352

(509) 627-5163

Age:	Forty (40)	Years Experience:	14
Birth Date:	March 11, 1942	Marital Status:	Married
Social Security No.:	211-30-6520	Health:	Excellent

Military Record: U.S.A.F., April 1962 to April 1966, Honorable Discharge

Education: B.S. Mechanical Engineering, University of Pittsburgh (Attended college while working, graduated May 1978)

Employer Record:

May 1982 - Present
Washington Public Power Supply System
3000 George Washington Way
Richland, WA 99352

Feb. 1979 - May 1982
PDM Corporation
Neville Island
Pittsburgh, PA.

Dec. 1972 - Feb. 1979
Westinghouse Electric
Nuclear Energy Systems
Monroeville, PA

Dec. 1967 - Dec. 1972
Green Engineering Co.
Sewickley, PA

April 1966 - Dec. 1967
Bethlehem Steel Company
Leetsdale, PA

Summary of Work Experience: Work experience has been in the structural engineering field from initial design through final erection.

Current Employer:

May 1982 - Present: Senior Engineer with Washington Public Power Supply System (Utility for nuclear power plants WNP-1 thru WNP-5). Current duties are design reverification of selected piping systems and components, design of new piping systems and standards development for Owner/AE transistation and post turnover activities.

Past Employers:

Feb. 1979 to May 1982	Project Engineer with Pittsburgh-Des Moines Corporation. Hired as a Project Engineer primarily for nuclear work (ASME Sect. III) involving containment vessels, containment liners, along with various other fabricated steel structures associated with nuclear power plants. Responsible for the preparation of all designs and design drawings, specifications, stress reports and the engineering follow of the fabrication and erection processes. Primary duty was in the field at WNP-2 site in Hanford, Washington. Specific duties included responsibility for the engineering follow-up of the erection of the steel containment vessel and all attachments to it, along with fabrication and erection of steel structures and piping systems. Responsible for the design of field changes, resolution of problem areas, material control and customer interface. The duties required a working knowledge of steel and weld design, stress analysis, fabrication/erection techniques, and the ability to write material and process procedures. Title was Site Engineering Manager, responsible for activities of eight Project Engineers and five draftsmen.
Dec. 1972 to Feb. 1979 *	Engineer with Westinghouse Electric Company, Nuclear Energy System. Primary duties were the design, analysis, procurement, and field erection follow of structural steel supports and restraints for the Reactor Coolant System equipment in PWR nuclear plants. The duties required a working knowledge of steel design, analysis techniques, steel fabrication, and the ability to interface with steel fabricators (contract negotiations through final delivery), other Westinghouse groups, plus customer liason. The design and analysis of the equipment supports and pipe whip restraints were done in accordance with ASME Section III, subsection NF. Embedment design and analysis were also performed in most contracts. A detailed stress report was prepared upon finalization of the design and upon receipt of final loads. Experienced in the following computer languages and programs: FORTRAN, STRUDL, WECAN, NASTRAN and COGO.
Dec. 1967 to Dec. 1972	Worked as a Technician/Draftsman with Green Engineering Co. Primary duties were the preparation of design drawings for bridges and commercial buildings. The period also included 18 months spent in the field performing in-depth inspections of bridges.
April 1966 to Dec. 1967	Draftsman with Bethlehem Steel Company. Primary duties were as a structural steel detailer, preparing geometric calculations and layouts for steel transmission towers.
(*)	Initially hired as a technician, promoted to engineer in March, 1975.

M.A. Mihalic

SDE-MAM-82-01

INTEROFFICE MEMORANDUM

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Distribution:
- ☐ EDC WNP-1/4
- ☐ EDC WNP-2
- ☐ EDC WNP-3/5
- ☐ Admin File

GL Gelhaus
MAM/lb

Date: July 30, 1982

To: D.L. Whitcomb

From: M.A. Mihalic M.A. Mihalic 7.30.82

Subject: CONFIRMING INDEPENDENCE FOR WNP-2 REVERIFICATION REVIEW

Reference: Interoffice memo, dated 07/23/82, D.L. Whitcomb to Design Reverification Team Members

In addition to Attachment 1 (signed Independency Statement) and Attachment 2 (Current Resume) the following is added for clarification due to my being employed by the Pittsburgh-Des Moines Corporation (PDM):

1. PDM's design responsibility for the system I am involved with (RHR-Suppression Pool Cooling Mode) is limited to design and analysis of the Primary Containment Shell penetrations and stiffening (x32, x35, x47 and x48). While I was involved on a limited basis, in their analysis, they are part of the Primary Containment Shell and are not associated with the analysis of the RHR system (other than transferring loads to the shell). PDM also has design responsibilities for the three (3) RHR Spray Headers; but I was not involved in their design nor are they part of the RHR System being reverified.

2. My responsibilities at WNP-2, as PDM Site Engineering Manager, were limited to fabrication, erection and suggested design changes where PDM had design authority. PDM fabricated and erected the suction and discharge piping for the RHR Suppression Pool Cooling Mode but Burns and Roe had design responsibility.

Should you require additional information or clarification, please advise.

MAM:jpt

Attachments x 2

Concurrence: G L Gelhaus 8/2/82
(G. L. Gelhaus) (Date)

CHETA C. PATEL

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

Cheta C. Patel 7/27/82
C.C. Patel (Date)

G.L. Gelhaus 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

SDE-CCP-82-02

INTEROFFICE MEMORANDUM

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Distribution:
- ☐ EDC WNP-1/4
- ☐ EDC WNP-2
- ☐ EDC WNP-3/5
- ☐ Admin File

M Basu
GL Gelhaus
Chrono/File
CCP/1b

Date: September 1, 1982

To: D. L. Whitcomb

From: C. C. Patel (Chetn Patel).

Subject: CLARIFICATION OF BACKGROUND EXPERIENCE

Reference: None.

This is to inform you that:

(a) With my last employer, GE, San Jose, I was the Licensing Lead Chapter Engineer for Chapters 7 (I&C) and 8 (Electrical Power) during the period October 1980 to March 1982. I was responsible for reviewing these chapters from licensing aspects, including NRC questions and responses, for all GE projects including WNP-2; and

(b) I was not involved in design of WNP-2 NSSS or any other system.

CPP/arg

J.T. Person

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

J.T. Person — 7/27/82 (Date)

G.L. Gelhaus — 8/10/82 (Date)

Back up Resume Required: ___(yes) X (no)

A. Rafer

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

Adolfo Rafer — 7/29/82
A. Rafer — (Date)

G.L. Gelhaus — 8/10/82
G.L. Gelhaus — (Date)

Back up Resume Required: ___(yes) X (no)

D.T. Thonn

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

David A. Thorn 8/6/82
(Date)

G. L. Gelhaus 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

SDE-DTT-82-09

INTEROFFICE MEMORANDUM

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Distribution:
- ☐ EDC WNP-1/4
- ☐ EDC WNP-2
- ☐ EDC WNP-3/5
- ☐ Admin File

M Basu/
GL Gelhaus
Chrono
DTT/lb

Date: September 2, 1982

To: D. L. Whitcomb

From: D. T. Thonn

Subject: DESIGN VERIFICATION PROGRAM
INDEPENDENCE OF TECHNICAL PERSONNEL STATEMENT

Reference: None.

My nuclear plant design experience with the General Electric Company (GE) occured prior to 1966 when GE was the prime contractor for design and operation of the AEC Plutonium production plants at Hanford. The division of GE which performed the AEC Prime Contract at Hanford was entirely separate from the division which designs and supplies commercial nuclear power plants.

DTT/arg

D.L Whitcomb

CRITERIA FOR ASSESSING THE INDEPENDENCE OF THE TECHNICAL PERSONNEL ASSIGNED TO THE WNP-2 DESIGN REVERIFICATION REVIEWS

The technical personnel assigned to direct, perform the design reviews, or process the findings from the reviews (Lead Engineer, Review Team Leaders, Review Team members, and Findings Review Committee members) shall meet the following criteria:

1. Present Employment

   Employee of the Supply System or an organization that has not had responsibility for the design of WNP-2 facilities, systems, or components. Technical personnel assigned to directing and performing the design reviews (Lead Engineer, Review Team Leader, Review Team members) shall, for the purpose of the design review function, report to Technology.

2. Previous Employment

   If previous employment included job assignments with a firm that did have design responsibility for WNP-2 facilities, components, or systems, the individual's prior employment shall satisfy the following criteria:

   a. Not employed by the firm in question during the time period when that firm performed design work for WNP-2; or

   b. The scope of the design to be reviewed by the individual does not include any design work performed by the firm in question; or

   c. If the individual will be reviewing any design work performed by the firm in question during the period when he was employed by that firm, a written evaluation shall be prepared by the individual and his supervisor for the Design Reverification Review which confirms for the work being reviewed that the individual

      - did not perform the original design work;
      - was not the immediate supervisor of the person who did perform the original design work;
      - did not establish the detailed design inputs for the original design work; and
      - was not the "in-process" checker or reviewer of the original design work (participation in "other" reviews which are not part of the required "in-process" check/review by the responsible design organization will not disqualify the individual for the reverification reviews).

3. Prior Involvement by Supply System Employees in the Development of the WNP-2 Design

The Supply System involvement in the development of the WNP-2 design has been primarily in the areas of program management, specification of owner requirements, participation in owner groups, technical reviews of design documents, QA reviews and audits, and preparation of licensing documents. In almost all cases, the responsibility for performing the original design work including development of the detailed design inputs and design verification has been delegated to the A-E, NSSS vendor, component vendors, and site contractors. However, in a few cases and/or for limited time periods, some Supply System personnel were directly involved in elements of the design of WNP-2. Therefore, all Supply System personnel assigned to the reverification reviews as Lead Engineer, Review Team Leader, Review Team member, or Findings Review Committee member shall review their prior involvement in the development of the WNP-2 design and provide a written confirmation that their prior involvement does not conflict with the four criteria listed under 2.c., above. In this context, prior involvement in specifying owner requirements in broad areas such as ALARA, ISI, Maintenance, Quality Level and Fire Protection classification schemes, etc., is not considered to be "establishing the detailed design inputs."

I have read the above statements and confirm that I meet the independency criteria stated and as a Supply System Employee any prior involvement does not conflict with paragraph 2.C.

D.L. Whitcomb — 7/26/82
D.L. Whitcomb (Date)

G.L. Gelhaus — 8/10/82
G.L. Gelhaus (Date)

Back up Resume Required: ___(yes) X (no)

Attachment 3

EXPERIENCE AND BACKGROUND SUMMARY INFORMATION

Name	Education	Employers	Years	Nature of Work
Roy Heid *	BSME	WPPSS	8	System performance and componer evaluation and design, applica-tion of components, preparatior of specifications.
		Westinghouse	4	Thermal hydraulic system desigr and performance analyzsis, engr troubleshooting of Westinghouse systems on PWR's.
		UNI	9	Same as Westinghouse
Bill Kelso	BSME	WPPSS	4	Field design modifications (fue racks), refueling floor comple-tion, HVAC design.
		ARCHO Hanford	4	Mechanical nuclear design, full scope.
		GE	14	Mechanical system design, full scope.
Tom Keheley *	BME	WPPSS	1	Mechanical system review, per-formance evaluation, design, licensing.
		Ecodyne	1 1/2	Heat exchanger design.
		Babcock & Wilson	1 1/2	Steam generator design.
		U.S. Navy	8	Lead ELT - Operations in Nuclea Navy. Water Chemistry, health physics, criticality testing an startup testing.
Bill Roberts	BS Ch E	WPPSS	6	Water chemistry, corrosion, coatings, system, performance evaluation.
		ARCHO	4	Water chemistry, corrosion, coatings, etc.
		Westinghouse	4	Same as ARCHO.
Dennis Myers	BS Eng. Phys	WPPSS	3	System performance evaluation, system design, licensing, TWG representative.
	M.S. N.E	Ford Bacon Davis (A/E)	3	Radiation exposure and health effects evaluation, cooling water system design and testing.
	PhD NE*	Bechtel (SFPD)	4	System design safety analysis, testing.
		Sandia Corp.	2	Enviromental testing.
Karin Pickett	BS NE	WPPSS	1	Licensing, system analysis, steam cycle evaluation, engr. resolution of construction problems.

* Design Reverification Team Member

Name	Education	Employers	Years	Nature of Work
Ben Ngo	BSME	WPPSS	1	Licensing system analysis, HVAC system resolution of construction problems.
Frank Owen - Certified Health Physicist	B.S. Ch E	WPPSS	9	Shielding, monitoring system design, dose calculations, radiological programs.
		UNI	8	Health physics shielding, radiation effects, dose calculations, release evaluation standard and procedures preparation.
		GE	17	Same as UNI (Government Contractor change).
Franz Markowski * (PE. Penn)	BSME	WPPSS	2	Reliability and availability evaluation, system evaluation, licensing.
	MSME	Exxon	2 1/2	Plant technical analysis on PWR and BWR (FSAR Ch 15).
		Westinghouse	7 1/2	Plant transiant and system design analysis.
		Boeing	2 1/2	Design of hydraulic control systems on aircraft.
		VFW (Germany)	2 1/2	System stability analysis for aircraft.
Paul Macbeth *	B.S Physics	WPPSS	3 mos.	Radioactive waste system design and evaluation, conceptial design of alt. methods.
	M.S. Nuc Phys.	Ford Bacon & Davis (A/E)	6	Conceptial design of alternate methods of nuclear waste treatment and handling.
	PhD N.E. *	INEL	3	Engineering support of waste management operations, licensing and vendor qualification.
David Whitcomb * (PE, Wash)	BS Ch E	WPPSS	7	Plant operations technical specification preparation system design evaluation, licensing plant operating procedures, program manager technical support center.
	PhD Ch E	DUN/UNI	7	Heat transfer, fluid flow, LOCA analysis, ECCS testing, plant operations technical specification director, design analysis.

* Design Reverification Team Member

Name	Education	Employers	Years	Nature of Work
Myron Compton *	B.S. Physics Grad. Study - Comp. Sci.	WPPSS	6	Conceptual design and specification of Emergency Data System. Specification, design review, design problem resolution, acceptance testing, and startup of WNP-1 Training Simulator Program. Specification of WNP-1 Plant Process Computer. Specification of Supply System Power Plant Operating Information Data base.
		Battelle-Northwest	8½	Design, testing and startup of hardware and software for computer based data acquisition display, and control systems.
		Battelle-Northwest	2½	Technical editor and proposal writer.
Mark Henderson * (PE)	B.S. N.E.	WPPSS	1	I&C Design Engineer.
		Westinghouse-Hanford Co.	5	Lead Test Engineer, Sodium Loop Safety Facility. Prepared detailed test and design requirements for in-reactor test program; directed irradiation and post-test examination work.
Michael Curren *	BSEE Power & Controls. MBA; Finance Quantitative Methods, International Business	WPPSS	6 mos.	I&C Design Engineer.
		Rockwell Hanford/Atlantic Richfield Hanford Co.	4	Security enhancement; complete electrical and instrument installation design for sub-critical Californium Multiplier Reactor core and delayed neutron counter laboratory analysis system project. Plant & Facilities Design and Installation Engineer.
		Power Engineering Company	6 mos.	Electrical engineering design of power systems instrumentation, area power systems, building fire protection and control systems.
		Boeing Aerospace Company	1½	Control System projects and electrical power systems.
Daljit Mand	BSEE	Supply System	2 mos.	Electrical Wiring Diagram and electrical design modification.
		DCM (India)	2	Fault calculations, modificatio design for electrical systems.
		PSEB (India)	1½	Design modifications, substation & transmission lines.

* Design Reverification Team Member

Name	Education	Employers	Years	Nature of Work
Cheta Patel *	BSEE	Supply System	2 mos.	Electrical Wiring Diagram and Electrical Design Modification
		GE	11/2yr	Review licensing issues and formulate position.
		Quadrex	1 yr	Design of electrical systems for nuclear plants.
		State Electricity Board, India	10 yrs	Design of electrical systems for power plants.
Adolfo Rafer * (PE)	BSME	Supply System	1 mo.	
		Argonne Nat. Lab	7 yrs.	ASME code design of Nuclear Equi ment
		Philippine Nat. Ind.	13 yrs	Process facility civis/structura design
Michael Mihalic *	BSME	Supply System	1 mo.	
		PDM	3 yrs.	Site engineering manager for containment modifications.
		Westinghouse	6 yrs.	Piping support design for Westinghouse PWR's.
Doug Scott	BSME	Supply System	2 yrs.	Pipe support design and evaluati
		Wright, Schuchart, Harbor	3 yrs.	Piping and hanger design for Trojan Nuclear Station.
Jack Cole *	BSME	Supply System	2 yrs.	Piping and hanger design and evaluation.
		Warn Industries	3 yrs.	Winch product design.
		Rockwell	3 yrs.	Research engineer
		Wright, Schuhart Harbor	3 yrs.	Nuclear piping design.

* Design Reverification Team Member

Name	Education	Employers	Years	Nature of Work
Dave Thonn *	BSEE	Supply System	9	Technical evaluation of A/E electrical system design, tech. consultant to projects, broad scope A/E Design review.
		ARHCO	2	Engineering for operations of power supply systems for nuclear power plants designed modification.
		ITT/Hanford	5	Same as ARHCO
		GE	15	Design of electrical systems for nuclear plants and related facilities.
Jeff Person * (E.I.T. Wash)	BSEE	Supply System	1	Electrical wiring diagram and electrical system design modification.
		EG&G Idaho	2	Design of systems for low and medium voltage distribution power apparatus control, voltage transient studies, load studies.
Moy Basu (PE, Wash. & NY)	MSEE MBA (in progress; degree expected Summer 82)	Supply System	2	Design review of A/E electrical system design; technical consultant to projects, lead technical reviewer for assigned Chapter 8 sections for Licensing issues. Recent increase in responsibility includes supervision of other engineers in EE/I&C groups.
		Ebasco	6	System design of WNP-3 electrical systems. Preparation of specifiction, bid evaluation and administration of contracts.
		Kuljian	2½	System design of power plants (electrical)
		Bridge & Roof, India	1½	Same as Kuljian
		MAMC, India	1	Same as Kuljian
J. Frank Gorman (PE, Wash.)	BSEE - 1962	Supply System	6	Technical evaluation and approval of A/E prepared equipment and construction specifications. Technical support for construction and test and Startup.
		Associated Engineers	1	Design, technical assistance for backfit installation and testing oil fired boiler or lightoff system.

* Design Reverification Team Member

Name	Education	Employers	Years	Nature of Work
J. Frank Gorman		UNI, Inc.	1½	Technical support to plant operations, design modifications, design data acquisition systems and circuit design.
		Boeing Aerospace	4½	Data acquisition system design, operation, test engineer.