



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 WASHINGTON, D. C. 20555

February 21, 1984

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PRINCIPAL STAFF	
✓ Dir	DOE
VP	IE
VP	DOASIP
VP	DRMA
VP	DOCS
VP	HL
ENF	FTI

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MEMORANDUM FOR: Elinor Adensam, Chief
 Licensing Branch 4
 Office of Nuclear Reactor Regulation

FROM: James G. Partlow, Acting Director
 Division of Quality Assurance,
 Safeguards, and Inspection Programs, IE

SUBJECT: MIDLAND / IDCVP

REFERENCE: Memo, Richard C. DeYoung to Harold P. Denton, dated
 12/15/83, "IDVPs for Calendar Year 1984 Plants"

On January 12, 1984, DOASIP, IE (J. Milhoan) and NRR (D. Hood) had a general discussion concerning responsibility for the Midland / Independent Design and Construction Verification Program (IDCVP). It was agreed that IE would prepare a memo outlining responsibilities for the Midland / IDCVP. A draft of this memo has been discussed with the NRR Project Manager and Region III (J. Harrison). In general, the following agreements have been established:

1. IE will manage the design portion of the Midland / IDCVP program including report review, SER responsibility, etc.
2. Region III will manage the construction portion of the IDCVP.
3. NRR (Project Manager) will be the official point of contact between the applicant, including its contractors, and the NRC staff.
4. The current distribution list with the mail room established by the project manager will continue.
5. IE will need the technical support from NRR and Region III in reviewing the design portion of the IDCVP. IE will provide specific requests for such assistance and clear direction as to the extent of the review and time table.
6. Individual reviewers are provided copies of routine correspondence and TERA reports through the distribution list. If the staff of NRR and Region III find anything that is technically unsound or unjustified when reviewing this correspondence, they should call it to the attention of the NRR Project Manager and/or the IE contact.

FEB 23 1984

Elinor Adensam

- 2 -

February 21, 1984

For the IDCVP matters, the IE contact is H. Wang (x27226) and the Region III contact is J. Harrison (FTS 388-5635)

James G. Partlow, Acting Director
Division of Quality Assurance,
Safeguards, and Inspection Programs
Office of Inspection and Enforcement

Distribution:

J. G. Partlow, IE
E. L. Jordan, IE
D. G. Eisenhut, NRR
D. Hood, NRR
J. Harrison, RIII
G. T. Ankrum, IE
J. L. Milhoan, IE
H. Wang, IE
DCS
Div. Dir. Reading
QASIP Reading
QUAB Reading
HWang Reading

QUAB:QASIP:IE*
H Wang
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SEE PREVIOUS CONCURRENCES*
QUAB:QASIP:IE*
JL Milhoan
2/ /84
QUAB:QASIP:IE
GT Ankrum
2/17/84

AD:QASIP:IE
JG Partlow
2/18/84

TERA

February 10, 1984

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U.S. Nuclear Regulatory Commission
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Glen Ellyn, Illinois 60137

Mr. D. G. Eisenhut
Director, Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Docket Nos. 50-329 OM, OL and 50-330 OM, OL
Midland Nuclear Plant - Units 1 and 2
Independent Design and Construction Verification (IDCV) Program
Future Direction of the Midland IDCVP

Gentlemen:

The current status of the Midland project is a major factor affecting the planned progress of the IDCVP. A portion of the design and construction products originally selected within the IDCVP scope are still in process, impacting an expeditious completion of a "vertical slice" review of the Midland project considering the "quality of the end product." The existing IDCVP methodology has assumed that items within its scope are complete, placing emphasis on an evaluation of the quality of the end product rather than the process by which the items were designed and constructed. A thorough examination has been made to assess means by which the original stated goals of the IDCVP would be met without a needless delay for all Midland project design and construction activities to be completed. We have determined that a limited modification of the IDCVP methodology is required to accomplish these goals. Our modified approach includes:

- Maintaining the existing vertical slice approach to design verification by:
 - Reviewing end products for majority of sample;
 - Reviewing engineering procedures and action plans and their implementation for the remainder of the sample where items are not complete.

/PRINCIPAL STAFF			
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D/RA		DE	
A/RA		DRMSP	
RC		DRMA	
PAO		SCS	✓ orig+3
SGA		ML	
ENF		File	WCS

~~8402140194~~
FEB 13 1984

- Postponement of the construction verification until completion of Phase I of the Midland project Construction Completion Program (CCP), thus, taking advantage of the assemblage of relevant quality documentation by the Quality Verification Program (QVP). During the period of postponement, conduct a verification review of selected QVP documentation processes to allow expedited documentation and physical verification after Phase I of the CCP.
- Focused review of identified process-related issues resulting from existing Findings and ongoing work.

*I think TERA
should look at
existing con. to now.
C*

Thus, the principal alteration involves verification of a limited portion of the design verification sample by reviewing engineering procedures and action plans and their implementation for items not currently completed. It is estimated that approximately 10 to 20 percent of our sample would be verified in this manner and that 80 to 90 percent of our sample will continue to be verified with emphasis on the quality of the end product. We believe that this approach is superior to the current IDCVP methodology since the results of the "end product" review will be combined with a review of the design programs to assure greater confidence in the conclusions reached.

The following paragraphs address issues relevant to the design and construction verification efforts and details of how our modified approach will be implemented. We anticipate that this approach would allow the design verification to be bifurcated from the construction verification. The design verification could be completed by July of 1984, at which time the results would be available to external parties and the physical verification may potentially re-commence consistent with the status of the CCP.

Design Verification

Although the design verification program is proceeding with its original plan of reviewing completed products, some design areas in our sample are currently incomplete or are being revised. Often there are sufficient sets of end products to allow adequate review to be made even though certain design areas are not yet complete. In other cases, it has been necessary to put verification work on "hold" pending further progress in design. We have made an assessment of the current status of the IDV program and the status of the plant design. Presented below is an outline of our recommendations for modification of the IDV program to accommodate the areas which are not currently complete.

At this time, IDV programs can be divided into two major subcomponents: the current program for the areas where sufficient end products exist to allow application of the current program and the proposed modifications for other



Mr. J. W. Cook
Mr. J. G. Keppler
Mr. D. G. Eisenhut

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February 10, 1984

design areas. The current program includes dispositioning of Findings and Confirmed Items as well as review of design aspects which are complete or substantially complete.

For design areas still in progress or in revision, we recommend that the review use available end products (or intermediate products) combined with a limited review of the engineering action plans and implementing processes by which the design effort will be completed. This would be accomplished by confirming the status of all design areas and dividing them into those which are substantially complete and those which are subject to the modified program. For each incomplete design area the revised program will require identification of the processes to be used to complete the design area. The processes thus identified will then be appropriately grouped and reviewed using available end or intermediate products as a means of verification of implementation. In concept, this approach represents only a small change from the current program. The current program already calls for review of processes where necessary to disposition Findings or Confirmed Items. Rather than limiting such an approach to Findings, we recommend using it to speed completion of our review of the Midland design and enhance our confidence in extrapolating results.

See also

Construction Verification

The ability to bring several aspects of the construction verification program to completion has been, and is in the near term, projected to be influenced by the status of the Midland project CCP. Physical verification reviews and reviews of construction/installation documentation have essentially been suspended or significantly narrowed in scope as a result of CCP status. For the near term, it is suggested that construction verification be suspended until such time as the CCP completes its Phase I activities on IDCVP-selected components and commodities. Proceeding in this fashion allows the CCP to perform the essential "stating" function and allows the Midland project QVP to assemble and verify pertinent documentation, thus enabling an efficient utilization of IDCVP resources when conducting future documentation and physical verification reviews. To date, significant IDCVP resources have been expended in assembling quality documentation which is used to verify the quality of installed and constructed items and support physical verification. Under the suggested approach, the quality data packages can be verified more efficiently, permitting less IDCVP resources to be devoted to this activity in the future by utilizing the documentation packages assembled by the QVP and focusing resources to end product confirmation. To effect this, we would selectively review the QVP documentation process to enhance verification of the quality of the documentation. This will also permit a more direct focus on the IDCVP physical verification.

The near-term focus of the construction verification review will be on further dispositioning of outstanding items and selective review of the QVP documentation process.



TERA CORPORATION

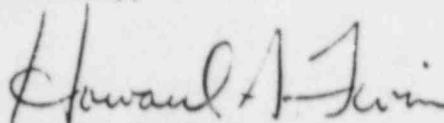
Mr. J. W. Cook
Mr. J. G. Keppler
Mr. D. G. Eisenhut

4

February 10, 1984

If desired, we will discuss the items presented herein during the next scheduled IDCVP Status Review Meeting to be held at Bechtel's Ann Arbor, Michigan offices on February 29, 1984.

Sincerely,



Howard A. Levin
Project Manager
Midland IDCVP

cc: L. Gibson, CPC
R. J. Erhardt, CPC
D. Budzik, CPC
D. Quammy, CPC (site)
R. Whitaker, CPC (site)
J. Taylor, NRC, I&E HQ
D. Hood, NRC
T. Ankrum, NRC, I&E HQ
J. Karr, S&W
J. Milhoan, I&E HQ
Midland IDCVP Service List

Attachments

HAL/djb



TERA CORPORATION

SERVICE LIST FOR MIDLAND INDEPENDENT DESIGN
AND CONSTRUCTION VERIFICATION PROGRAM

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Mr. Paul Rau
Midland Daily News
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Midland, Michigan 48640

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February 10, 1984

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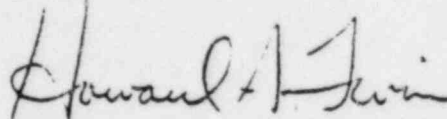
Mr. J. W. Cook
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Mr. D. G. Eisenhut

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February 10, 1984

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Sincerely,



Howard A. Levin
Project Manager
Midland IDCVP

cc: L. Gibson, CPC
R. J. Erhardt, CPC
D. Budzik, CPC
D. Quammy, CPC (site)
R. Whitaker, CPC (site)
J. Taylor, NRC, I&E HQ
D. Hood, NRC
T. Ankrum, NRC, I&E HQ
J. Karr, S&W
J. Milhoan, I&E HQ
Midland IDCVP Service List

Attachments

HAL/djb



TEPA CORPORATION

SERVICE LIST FOR MIDLAND INDEPENDENT DESIGN
AND CONSTRUCTION VERIFICATION PROGRAM

cc: Harold R. Denton, Director
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UNITED STATES
 NUCLEAR REGULATORY COMMISSION
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October 5, 1983

Docket Nos.: 50-329
 and 50-330 OM, OL

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 Consumers Power Company
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Mr. Howard A. Levin, Project Manager
 TERA Corporation
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Subject: Selection of IDCV Program Modifications Associated with the
 Ford Amendment

Mr. H. Levin's letter of August 15, 1983 discussed four options for modification of the independent design and construction verification (IDCV) program with respect to initiatives associated with Section 13 of Public Law 97-415 (Ford Amendment). The conceptual options identified would add an Independent Quality Verification program to the Midland IDCV program to selectively evaluate the implementation of the design control, construction control and QA/QC processes. The NRC staff has reviewed the four options and has had the benefit of discussions during the August 26, 1983, IDCV program meeting.

Option 1 is an integral part of the existing IDCV program since as specific design- or construction-related deficiencies are identified, process-related questions are potentially raised as part of the evaluations associated with root cause determination. The IDCV program provides that decisions may be made at any time to initiate focused reviews as circumstances warrant. Option 1, therefore, retains this element of the existing IDCV program and would wait until later stages of the program to make decisions relative to the need for expansion of scope to systematically review process-related issues. The NRC would be a party in such decisions. Option 1 is also understood to be compatible with existing IDCV program schedules.

After consideration of the alternatives important to our needs under the Ford Amendment, we find Option 1 to be acceptable.

Sincerely,

Thomas M. Novak, Assistant Director
 for Licensing
 Division of Licensing

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A/RA	PAO
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OL	FILE

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cc: See next page

OCT 12 1983

MIDLAND

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Mr. J. W. Cook

- 3 -

cc: Commander, Naval Surface Weapons Center
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September 30, 1983

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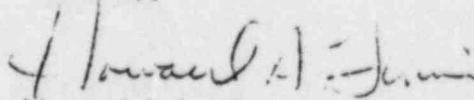
Mr. D. G. Eisenhut
Director, Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Docket Nos. 50-329 OM, OL and ⁵⁰⁻³³⁰~~50-330~~ OM, OL
Midland Nuclear Plant - Units 1 and 2
Independent Design and Construction Verification (IDCV) Program
Transmittal of Resumes

In accordance with Melanie Miller's request of September 27, 1983, resumes are being submitted for John Richardson, Robert Phillips, William Capps, and David Rummill. These resumes should be inserted in the Midland Project Quality Assurance Program, Appendix C. -

Please contact me if you should require clarification or further information.

Sincerely,



Howard A. Levin
Project Manager
Midland IDCVP Program

cc: L. Gibson, CPC
F. Buckman, CPC
D. Miller, CPC (site)
B. Palmer, CPC (site)
J. Taylor, NRC, I&E HQ
D. Hood, NRC
P. Keshishian, NRC, I&E HQ
G. Gower, NRC, I&E HQ
Midland IDCVP Service List.

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11

Attachments

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OCT 21 1983

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JOHN D. RICHARDSON
Project Manager

Education

M.B.A. Business Administration, Mississippi College
B.S. Electrical Engineering, Louisiana State University
Graduate Studies Electrical Engineering, Arizona State University

Summary of Experience

Mr. Richardson has over ten years of diverse engineering and engineering management experience. He has supervised nuclear power plant operations and training at a naval prototype and a commercial nuclear power plant. He also has extensive utility management experience in licensing, safety and engineering analysis, corporate health physics, emergency planning, and environmental programs.

1983 - Present Principal Nuclear Engineer, TERA Corporation.

1976-1983 Manager of Nuclear Safety and Licensing, Mississippi Power and Light Company. Responsible for all licensing and permitting activities with regulatory agencies, including safety and engineering analysis to support resolution of licensing issues. In addition, responsible for corporate health physics, emergency planning, and environmental programs. Utility representative on several industry sponsored owners groups, and functioned as Chairman of the Mark III Hydrogen Control Owners Group and Chairman of the Mark III Containment Issues Owners Group.

Operations Supervisor, Mississippi Power and Light Company. Responsible for the initial staffing and training of the Operations Section and the development of the operations program for twin 1250 Boiling Water Reactor Plants. Overall management of Operations Section concerning all matters of plant operation during initial preoperational testing.

Assistant Operations Supervisor, Mississippi Power and Light Company. Scheduled and coordinated operations activities including preparation and review of procedures, technical specifications, and software prepared to support start-up, licensing and plant operations. Participated in the SRO cold license operator training program and was certified SRO at the Morris, Illinois, Dresden Simulator.

Shift Supervisor, Mississippi Power and Light Company. Supervised and trained operators in preparation for NRC licensing. Performed operations review of plant systems and licensing issues. Prepared software to support startup, licensing and plant operations, including system descriptions and lesson plans used in licensed operator training.

1974-1976 Nuclear Plant Engineer/Acting Shift Supervisor, Westinghouse Electric Corporation. Qualified Engineering Officer of the Watch (EOOW), Nuclear Plant Engineer, and Shift Supervisor at a dual reactor naval prototype (AIW). Supervised plant operation and training of naval and civilian personnel.



1973-1974 Electronic Design Engineer, Motorola, Inc. Design, fabrication and testing of state-of-the-art satellite communications systems.

Professional Registration and Affiliations

Registered Professional Engineer, Mississippi
Institute of Electrical and Electronic Engineers
National Society of Professional Engineers

ROBERT D. PHILLIPS
Associate Welding Engineer

Education

B.S. Chemistry, St. Bernard College, Cullman, Alabama

Additional Training Courses in Industrial Radiography (Radiological Safety Gamma Industries, Inc.), Basic Ultrasonic Testing (Krautkramer Corporation), Weld Inspection (Krautkramer Corporation), and completion of Non-Destructive Training Program (Law Engineering Testing Company).

Summary of Experience

Mr. Phillips has 25 years of project experience in structural shop fabrication, bridge shop fabrication, and shop fabrication of pressure vessels and nuclear containment vessels. He has participated in the shop fabrication projects (structural) of the Atlanta Stadium, General Electric Company, Georgia Power Company, Cincinnati Sports Stadium, Republic Steel Corporation, General Motors Corporation, Birmingham-Jefferson Civic Center, University of Kentucky Stadium, and the Redstone Arsenal. His involvement pertaining to shop fabrication related to bridges extended to the Illinois Highway Department, Commonwealth of Kentucky, Florida Highway Department, Iowa Highway Department, Arkansas Highway Department and the Alabama Highway Department. His shop fabrication experience with regard to pressure vessels and nuclear containment vessels was gained through projects with the Florida Power & Light Company, Bechtel Corporation, MISCOA, Arkansas Power & Light Company, and Kaiser Aluminum & Chemical Company.

Present Associate Welding Engineer, TERA Corporation.

1958- Present Law Engineering Testing Company, Birmingham, Alabama. At present, acts as Chief Metals Technician, Radiological Safety Officer, ASNT Level III for Metals Inspection Services.

1957-1958 Red Hat Feed Mills, Decatur, Alabama. Involved in chemical quality control.

Certifications

ASNT Level III, Radiographic, Magnetic Particle, Ultrasonic and Penetrant Testing

AWS Certified Welding Inspector

Professional Associations

American Welding Society
American Society for Non-Destructive Testing



WILLIAM MARCUS CAPPS
Associate Metallurgical Engineer

Education

M.B.A. Business Administration, University of Alabama at Birmingham

B.S. Metallurgical Engineering, University of Alabama

Summary of Experience

Mr. Capps has extensive experience in metallurgy and in both the managing and technical aspects of manufacturing services, specifically in the fabrication of products made from rolled and welded plate.

Present Associate Metallurgical Engineer, TERA Corporation.

1981- Present Metallurgical Engineer, Metals Branch, Law Engineering Testing Company, Birmingham, Alabama.

1979-1981 Advanced Manufacturing Engineer, Pullman Standard, Bessemer, Alabama.

1973-1979 Manager of Manufacturing Services, Goslin-Birmingham Inc., Birmingham, Alabama. Responsible for technical support to all manufacturing operations in the fabrication of products made from rolled and welded plate.

1973-1975 Part-Time Instructor in Management and Business Administration at Jefferson State Junior College, Birmingham, Alabama.

1970-1973 Research Engineer, American Cast Iron Pipe Company, Birmingham, Alabama. Responsibilities included metallography, physical testing, and experimental research in areas such as effect of alloying elements on physical properties of pipe, internal coatings of pipe, and investment castings.

1967-1970 Quality Control Engineer, Newport News Shipbuilding and Dry Dock Company, Newport News, Virginia.

Registration

Professional Engineer - Alabama

Professional Associations

American Society for Metals

American Society for Non-Destructive Testing - former member and publicity chairman

American Welding Society

Society of Manufacturing Engineering

Materials Handling Institute



DAVID A. RUMRILL
Associate Construction Engineer

Education

B.A.E. Aerospace Engineering, Georgia Institute of Technology

Additional Training Courses in the TRUMP Program (Training in Radiography, Ultrasonics, Magnetic Particle and Penetrants) - Law Engineering Testing Company; Basic Ultrasonic Testing and Ultrasonic Weld Inspection - Krautkramer-Branson, Inc.; Radiographic Testing and Film Interpretation - Law Engineering Testing Company; Magnetic Particle and Penetrant Inspections - Magnaflux Corporation; Testing and Inspection of Welds and Structural Welding Code - American Welding Society; and Leak Testing - American Society of Non-Destructive Testing.

Summary of Experience

Mr. Rumrill has extensive experience in the management and technical aspects of construction inspection and materials testing, including non-destructive testing. He has been responsible for the supervision of graduate engineers, engineering technicians and staff engineers involved in field and laboratory testing, and is certified in non-destructive testing methods as prescribed by ASNT Recommended Practice ASNT-TC-1A.

Present Associate Construction Engineer, TERA Corporation.

1980-
Present Construction Services Manager, Law Engineering Testing Company, Atlanta, Georgia. Responsible for the management and coordination of construction inspection and materials testing services. Such services are provided by several departments consisting of graduate engineers and engineering technicians engaged in field and laboratory inspection, and testing of foundation installation, earthen structures, soil, concrete and structural steel as related to construction as well as non-destructive testing and evaluation.

1974-1980 Manager, Non-Destructive Testing Department, Law Engineering Testing Company, Atlanta, Georgia. Responsible for the total management, administrative and technical, of a department consisting of staff engineers and engineering technicians engaged in field and laboratory testing, including structural steel inspection, non-destructive testing, weld testing, materials quality testing and evaluation.

1973-1974 Materials Engineer, Non-Destructive Testing, Law Engineering Testing Company, Atlanta, Georgia. Supervised and coordinated activities of non-destructive testing technicians. Certified in non-destructive testing methods (radiography, ultrasonic, magnetic particle and liquid penetrants) as prescribed by ASNT Recommended Practice ASNT-TC-1A.

1969-1973 Laboratory Engineer, General Engineering Laboratories, McDonnell-Douglas Corporation, St. Louis, Missouri. Engaged in fatigue testing of aircraft and subassemblies in the Structures and Dynamics Lab; involved in testing, data processing and computer programming at the Wind Tunnel; and coordinated flight tests, data, and reports in the Flight Test Division.



Certification/Registrations

Professional Engineer, Civil Engineering, State of Georgia

AWS Certified Welding Inspector per AWS QC-I Standard

ASNT Level III (National Exams) R.T., M.T., P.T., U.T., and L.T.

Professional Associations

American Society of Non-Destructive Testing
(Atlanta Section Chairman - 1979/1980; National Director - 1980/1985)

American Welding Society (Atlanta Chapter Chairman - 1980/1981)

Georgia Society of Professional Engineers

American Institute of Concrete

