

- Name:** Gordon Allen Aaker, Jr. P.E.
- Position:** Metallurgical Engineering Consultant
- Education:** Bachelor of Science in Metallurgical Engineering, University of Texas, El Paso, Texas, 1977
- Affiliations:** ASNT – American Society of Non Destructive Testing, Secretary and Education Chairman
 ASTM - American Society of Testing Materials
 SSPC - The Society for Protective Coatings
 ASME - American Society of Mechanical Engineers
 NACE - National Society of Corrosion Engineers
 AWS - American Welding Society, Education Chairman
 Odessa College Advisory Committee on Nondestructive Testing (1977 to 1985)
 Odessa College Advisory Committee on Welding (1977 to 1985)
- Experience:** **B. S. in Metallurgical Engineering and Registered Professional Engineer**
 Twenty-six years of experience as a Engineering Consultant, specializing in **material selection, welding, and corrosion** control with extensive experience in engineering design and construction of onshore/offshore projects for the oil, gas and petrochemical industry. Primary Expertise is pipelines.
Consulting in: Engineering design and construction codes for oil and gas facilities, petrochemical refineries, process equipment and pipelines projects. Perform failure analysis; establish material, welding, nondestructive testing and corrosion control (Cathodic Protection and Coating) requirements for oil and gas projects.
 Authority in pipeline welding and NDE inspection methods, including mechanized ultrasonic inspection.
 Performed research and development in material applications, welding, and advance NDE methods including metallurgically bonded pipe and fittings. Experienced in the design and Construction Management of metallurgical bonded pipe, overlays and claddings for sub sea systems.
Provided pipe, plate, and tubing mill audits, domestically and internationally. Including welded pipe from coils using a reduction mill.
 Testified at the United States International Trade Commission Hearings regarding the restricting of imported pipe and the effects on develop of deepwater production.
 Testified for the Department of Justice, Environmental Enforcement Division on pipeline failures.
Contributing author in “Failure Analysis Handbook” published by the American Society of Metals.
 Author and co-author of numerous papers presented at OTC and at the International Pipeline Conference.

Taught in industry and on the University level.

Held elected offices in various Professional Societies.

ESI, 1989 to Present

Engineering Consultant specializing in engineering design and construction codes for oil and gas facilities, petrochemical refineries, and process equipment and pipelines projects. Providing Metallurgical engineering and project management support while serving as the client's representative.

Recent pipeline projects include:

- 2003 Engineering Consultant KBR Trinidad Pipeline Project
- 2003 Engineering Consultant Modec CNC FPSO
- 2001 Engineering Consultant BP Thunder Horse Project
- 2001 Engineering Consultant Devils Tower Project
- 2000 Engineering Consultant Williams Boomvang
- 1999 Engineering Consultant BP Nile Project
- 1998 Engineering Consultant Hess Penn State
- 1997 Engineering Consultant BP Troika
- 1996 Engineering Consultant ENSERCH Garden Banks 254
- 1995 Engineering Consultant MOBIL Green Canyon 60
- 1996 Engineering Consultant FLEXTREND Ewing Banks 914
- 1996 Engineering Consultant ENSERCH Garden Banks 387
- 1993 Engineering Consultant AGIP Grand Isle 102
- 1992 Engineering Consultant ENSERCH Garden Banks 388
- 1991 Engineering Consultant ENSERCH Mississippi Canyon 441

Brown & Root, Inc., 2000 to 2001

Consultant- Provided a complete review of all the material selection criteria used for the selection of materials for the Hassi-Berkine Pipeline and Gathering System Project in Africa, a joint venture between Italian Oil Company and Anadarko Petroleum. Resolved technical differences between the client and Brown & Root, Inc., regarding material, fabrication, and inspection during installation. . Developed a complete corrosion protection system (Cathodic Protection) for all three phases of the project.

R J Brown Deepwater (Technip), 1999 to present

Consultant- Write, edit and review material and construction specifications for pipeline installed in the Gulf of Mexico. Perform audits of pipe mills, perform bid evaluation and provide recommendations to control corrosion. Provided failure analysis of materials and coatings system. Performed Quality Assurance audits of fabricators to assure quality of construction. Provided construction management support during fabrication of pipeline, sleds and related components.

RJ Brown (Kvaerner Company), 1991 to 1999

Consultant- Write, edit and review material and construction specifications for pipeline installed in the Gulf of Mexico. Perform audits of pipe mills, perform bid evaluation and provide recommendations to control corrosion. Provided failure analysis of materials and coatings system. Performed Quality Assurance audits of fabricators to assure quality of construction. Provided construction management support during fabrication of pipeline, sleds and related components. Developed procedures for autogenously welded duplex tubing on the Mississippi Canyon 441 project.

Enserch Exploration Inc., 1991 to 1996

Consultant- Provided metallurgical and construction support in the design and fabrication of the sub sea template, trees, free standing riser and SWF on MC441 and GB387. Provided technical and administrative assistance as the assistant Pipeline Manager on MC441, GB387 and GB388 pipelines. Represented Enserch at the offices' of the engineering and construction subcontractors, providing engineering surveillance and metallurgical support. Provided total surveillance responsibility of pipe mills during production at Lone Star steel and Dalmine (Italy), beginning with technical evaluation of the bid and negotiation of the technical requirements at preproduction meetings.

Flextrend Development, 1995 to present

Consultant- Provided total surveillance responsibility of pipe mills during production, beginning with technical evaluation of the bid and negotiation of the technical requirements at reproduction meetings. Provided metallurgical assistance to resolve problems in the manufacturing of sub sea trees.

Kvaerner FSSL, 1995 to present

Consultant- Provided material selection, fabrication and welding assistance for termination sleds for the Shell Mensca project. Provided solutions to fabrication problems and performed failure analysis of duplex umbilical provide on the Mobil's Green Canyon 60.

CBS Engineering, 1995 to present (Technip Company)

Consultant- Provided a CO₂ pipeline corrosion model for the Qatar Pipeline Project to estimate the anticipated corrosion rate. Developed a material selection Guide for materials used in H₂S service. Provided support in fabrication, construction & construction material, inspection, and testing.

Kvaerner Energy, 1996

Consultant- Provided solution to welding and fabrication problems with duplex umbilical tubing used on the Mobil Green Canyon 60 Project.

Sonsub, Inc., 1994 to present

Consultant- Provided engineering design and construction assistance on DOT projects and offshore projects, including design, fabrication, inspection welding and material selection. Wrote material and construction specification for numerous onshore and offshore projects.

Responsible for the material used in the BP Troika production riser including specifying the pipe , mill audits and mill surveillance during pipe production in Mexico and Argentina.

Stone and Webster Engineering Corporation, 1988 to 1993

Consultant- Performed material selection and review welding specification for Vista Chemical's ethylene plant expansion in Lake Charles, Louisiana.

Vista Chemical Company, 1993 to present

Consultant - Perform studies in corrosion control and edited engineering design and construction specifications. Provided litigation support. Continue to provide Metallurgical support as required.

Petrochem Field Services, Inc., 1990 to 1994

Consultant- Provided engineering design and construction management support for turn arounds performed at Mobil - Torrance, Mobil - Joliet, Mobil - Chalmette, Mobil - Beaumont, Mobil - Paulsboro, Citgo - Houston, Enterprise Product - Mt Blew, Unocal - Rodeo Ca., Exxon - Baytown, Texaco - Long Beach, Ca., Dupont - Orange, Tex., Chevron- Richmond, Ca. Developed emergency repair procedures for process equipment, including engineering requirements and fabrication methods.

Aaker Metallurgical Associates, 1986 to 1989***Principal/Metallurgical Consultant***

Consultant in engineering design and construction codes. Performed metallurgical failure analysis and useful life studies. Develop welding procedures and NDE specifications. Establish "Written Practice" for training, testing, and certification of Non-Destructive Examination personnel. Provide inspection services as an extension of owner's project management team.

Stone and Webster Engineering Corporation, 1989

Consultant- Performed a Corrosion Survey in Egypt for GUPCO. Recommendations included material selection, design and fabrication techniques to control corrosion in pipeline and related facilities, onshore and offshore.

Brown & Root International, Inc., Marine Division, 3/85 to 5/86***Senior Metallurgical Engineering Consultant***

Provided metallurgical engineering support in the design and construction of the Exxon Santa Ynew project. Research and Development in advanced welding technology, improved pipeline welding methods and material evaluation.

SIVALLS, INC., 1/78 to 3/85***Metallurgical/Project Engineer***

Reviewed customer's process equipment specification for metallurgical consideration (i.e., testing, welding, materials, and coating systems). Develop welding specification for ferrous and non-ferrous materials. Develop NDE specifications. Establish quality control system in adherence to ASME Code for the design, fabrication, testing, and inspection of code equipment.

UNIVERSITY OF TEXAS OF THE PERMIAN BASIN (Part-Time), 1/78 to 5/83***Instructor***

Taught accredited evening courses in Metallurgy, Mechanics of Materials, and Thermodynamics.

Odessa College (part-time), 1/78 to 5/83

Instructor

Taught Adult Continuing Education courses for AWS and ASNT. Courses included: Welding Metallurgy, Hardenability of Steel, AWS Inspector Certification, Mechanics of Testing, and Ultrasonics.