ROBERTO M. SANABRIA
CIVIL/STRUCTURAL ENGINEER

1153 Edenbridge Way, Knoxville, TN 37923
Telephone: (865) 405-2449 [cell]

setup423@aol.com

QUALIFICATIONS

Over 40 years of design and engineering accomplishments supported by outstanding skills in: (a) coordinating aspects of simultaneous construction projects, (b) analyzing production and scheduling adjustments required to prevent time/cost overruns, (c) developing projects from conceptual studies utilizing related computer applications to enhance quality of work and productivity, (d) implementing structural analysis methods with related techniques and applications, (e) maintaining key leadership roles in design and construction through interacting with project managers to assure high quality standards.

EDUCATION

UNIVERSITY OF MASSACHUSETTS/AMHERST: B.S.C.E. [1978]
PROFESSIONAL ENGINEER: Tennessee #21248 [1990], New York #071844 [1994]

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers: Associate Member (1978), Member (1990)

EXPERIENCE

US ITER
1055 Commerce Park Drive
Oak Ridge National Laboratory

NATIONAL RESOURCE MANAGEMENT, LLC
Knoxville, Tennessee
July 5, 2011 – Present

Structural Analyst III – Subject Matter Expert charged with structural analysis and seismic qualification of platforms, supports and other structures in support of the ion and electron cyclotron transmission systems that provide heating and current drive to burning plasma in the ITER Tokamak, being built in Cadarache, France. Attend regularly scheduled weekly and monthly international meetings hosted by Technical Responsible Officers of vacuum piping and transmission line systems in France. Create, review and track documentation, such as load or technical specifications and calculations, required for design reviews held in France. Participate in design reviews in the US and in France, providing presentations showing work status, challenges, and solutions. Answer chits from these reviews and address findings from QA audits related to structures or materials. Interface with building engineers in France to provide transmission line system loads on building features and obtain solutions to interferences and other problems. Coordinate design, analysis and testing efforts in support of component deliveries to ITER. Provide engineering support for the procurement of materials and services. Perform stress analysis in STAAD.Pro, Mathcad, Excel, Autocad. Obtain engineering data from analyses performed in Caesar-II and ANSYS, and from 3D models created in CATIA and Pro/ENGINEER. Implement requirements from American standards and codes, such as ASME B31.3, as well as Eurocodes, such as EN 1993-1-1 and RCC-MRx (afcen).

Reactor Core Removal Project (RCRP)
Interim Safe Storage (ISS)

CH2M Hill PLATEAU REMEDIATION COMPANY
Richland, Washington
February 28, 2011 – May 20, 2011

Structural Engineer – Provide reviews and commentary on project documents as a Subject Matter Expert (SME) on structural engineering aspects of decontamination and decommissioning (D&D) efforts at the 105 KE shut-down graphite nuclear reactor, with a natural phenomena hazards (NPH) emphasis, located in DOE's Hanford nuclear reservation. Worked as an independent contractor (1099) under contract with **BNL Technical Services**, itself a subcontractor to **CHPRC**, to provide engineering services.

Brookhaven National Laboratory (BNL), DOE
High Flux Isotope Reactor (HFIR), ORNL/DOE
Spallation Neutron Source (SNS), ORNL/DOE
Y-12 Weapons Production Site, ONRL/DOE

NATIONAL RESOURCE MANAGEMENT, LLC
Knoxville, Tennessee
June 18, 2006 – February 10, 2011

Structural Engineer – Steel and concrete design of shielding blocks (Beamlines), beam stops, platforms and other structures for the Target Building at SNS, to DOE-STD-1020 NPH PC-2 and PC-3 levels. Lifting analysis of high density neutron shielding blocks per DOE-STD-1090. Wind and seismic qualification of commercial metal buildings and platforms at HFIR's Cold Source area, upgraded to PC-2 level. Crushing load qualification of radioactive waste containers at BNL (Container F). Structural inspection of old buildings slated for demolition at Y-12 (Sub-Part F Reports). Used STAAD.Pro, Pro/ENGINEER, Mathcad, Excel, Autocad. Worked to ACI, AISC, IBC, ASCE 7 & others

CUSTOMERS: Pro2Serve and Alstom
Spallation Neutron Source, ORNL/DOE (Pro2Serve)

LAMBERT ENGINEERS, INC (thru CDI, Oak Ridge)
Knoxville, Tennessee

Spurlock, KY; Coleto Creek, TX (Alstom) March 1, 2006 – June 15, 2006
Structural Engineer – Design of steel and concrete platforms (mezzanine connector) for the Target Building at SNS. Design of very large, round and rectangular, hot gas ductwork and supports for air pollution control systems in fossil power plants. Used STAAD.Pro, Mathcad, Excel, Autocad.

MOX Fuel Fabrication Facility **SHAW ENVIRONMENTAL, INC**
DUKE, COGEMA, STONE & WEBSTER (DCS) Aiken, South Carolina
Department of Energy July 21, 2003 – February 24, 2006
Structural Engineer – Direct position with Shaw, a DCS partner. Analysis of plutonium gloveboxes, design of seismically qualified steel supports for equipment inside the gloveboxes per ANSI, ASCE, UBC, OSHA criteria in a nuclear fuel processing plant used to convert weapons-grade plutonium into enriched uranium fuel. Load drop qualification of containers/gloveboxes. Used ANSYS 7.1, Mathcad 2000, Excel (Office 2000), AutoCAD and other similar engineering programs.

Alstom Power (formerly ABB) **SCIENCE APPLICATIONS INTERNATIONAL CORP**
Environmental Systems Division Knoxville, Tennessee
Knoxville, Tennessee January 2, 2001 – March 31, 2003
Structural Engineer – Staff augmentation position at Alstom through direct employment with S.A.I.C. Analysis & design of heavy steel supports and platforms for large SCR hot duct per UBC, IBC, ASCE 7, OSHA criteria in FOSSIL power plants used to remove excess SOx and NOx from flue gas. Used STAAD-Pro, Mathcad 2001, Excel (Office 2000), AutoCAD & other app's. Projects: TVA/Paradise & Kingston & Colbert, AEP/Modular WFGD, SCE&G/Williams & Wateree, HMP&L/Station 2.

Savannah River Site **LOCKWOOD GREENE TECHNOLOGIES, INC**
Aiken, South Carolina Augusta, Georgia
Department of Energy November 29, 1999 – December 21, 2000
Contract Engineer – Analysis and design of equipment supports and steel platforms per natural phenomena hazard design criteria in Performance Category 2 and 3 structures used for remote processing of radioactive materials at a DOE weapons production site. Construction specifications writing. Used GT-STRUDL, Mathcad 2000, Microstation LE, M/S Office, etc.

Bridgestone/Firestone South Carolina **GRESHAM, SMITH & PARTNERS**
Aiken, South Carolina Nashville, Tennessee
Other regional & national projects July 12, 1999 – August 26, 1999
Contract Engineer – Analysis and design of seismic or wind-resistant frames and steel platforms for heavy equipment in plant expansion/upgrade using STAAD-III. Equipment supported includes dust collectors, festoon & mill vent fans, etc. Design of roofs, rigid frames and other structural features in commercial structures per Standard Building Code.

(various projects) **LISEGA, INC**
(continental and Newport, Tennessee
overseas clients) February 3, 1997 – April 16, 1999
Corporate Registered P. E. - Certification of Design Reports/Design Report Summaries/Load Capacity Data Sheets.
Project Engineer - Responsible for design and engineering of component standard supports and associated supplementary steel required for process piping in fossil and nuclear power plants. Work includes calculations, support details, drafting supervision. Used LICAD (Lisega's), STAAD-III (32-bit), AutoCAD Rel 14, Mathcad 8, Office 97 (Excel, Word), Windows 98 and others. Code work per ASME B&PV Section III-NF, B31.1, B31.3; MSS SP-58, -69 & -89; UBC; SBCC; BOCA.

OTHER ASSIGNMENTS, IN CHRONOLOGICAL ORDER…

Florida Power Corporation **PARSONS POWER GROUP, INC**
Crystal River, Unit 3 Crystal River, Florida
Crystal River, Florida November 1996 - January 1997
Contract Engineer - performed site surveys, layout, structural design and analyses on electrical systems supports at Crystal River Unit 3 Nuclear Power Plant.

Idaho National Engineering Laboratory **MERRICK & COMPANY**
PIT-9 Los Alamos, NM/Denver, CO
Idaho Falls, Idaho December 1995 - July 1996
Contract Engineer/Lead Structural - performed layout, structural design and analysis of systems supports including piping, HVAC, cable tray and electrical conduit at the Idaho National Engineering Laboratory PIT-9 facility for processing radioactive

dirt. Worked to ASME B31.3, SMACNA and MSS SP-58, SP-69 and SP-89.

Watts Bar Nuclear Plant **RAYTHEON ENGINEERS & CONSTRUCTORS**
Tennessee Valley Authority Spring City, TN
Spring City, Tennessee March 1995 - October 1995
Technical Screener – performed data scrubbing and updating of the Master Tracking System open documents database, used to publish and implement the Plan of the Day (POD) during construction, start-up and turnover of critical systems at the Watts Bar Nuclear Plant.

Watts Bar Nuclear Plant (continued employment) **RAYTHEON ENGINEERS & CONSTRUCTORS**
(Field Support/Site Engineering) Dec. 1994 - March 1995
Senior Design Engineer (E-II) – qualified electrical conduit supports for increased weights from ThermoLag insulation.

Squibb Pharmaceutical **RAYTHEON ENGINEERS & CONSTRUCTORS**
Humacao, Puerto Rico San Juan, PR
September 1994 - December 1994
Senior Design Engineer (E-II) – performed cost estimates, field surveys, analysis and design of steel, concrete and FRP structures at chemical and petrochemical processing facilities, including foundations and subterranean concrete vault buoyancy calculations for 100 year floods.

Watts Bar Nuclear Plant **RAYTHEON ENGINEERS & CONSTRUCTORS**
Tennessee Valley Authority Spring City, TN
Spring City, Tennessee July 1990 - April 1994
Senior Design Engineer – performed closure of open nonconformance reports and design change notices affecting electrical conduit and other system supports, providing technical guidance to about a dozen engineers. Developed guidelines and standards to be followed in a cookbook approach to allow closure of thousands of open construction documents. Contributed estimates of computing equipment to be used by various sub-task groups in a civil engineering department numbering over 160 engineers. Developed work-off curves and pareto charts for the Lead Civil Engineer (Mohammed Naseem).

Sequoyah Nuclear Plant **GILBERT/COMMONWEALTH, INC**
Tennessee Valley Authority Knoxville, TN
Chattanooga, Tennessee March 1990 - June 1990
Contract Engineer – performed modifications to existing systems supports, including small and large bore piping, during a refueling outage at the Sequoyah NPP, while providing technical guidance to a crew of five engineers.

Watts Bar Nuclear Plant **EBASCO SERVICES, INC**
Tennessee Valley Authority Knoxville, TN
Spring City, Tennessee February 1988 - February 1990
Engineer – performed analysis and design of various steel and concrete structures at the Watts Bar Nuclear Power Plant, including a finite element seismic analysis of soil-supported electrical duct banks between buildings, design of snubbers supporting the 36" diameter Main Steam pipe line to accommodate large deflections between buildings (~10" expansion/contraction), and other challenging and varied assignments.

Summit Hill Bldg (staff augmentation) **UNITED ENGINEERS & CONSTRUCTORS**
Tennessee Valley Authority Knoxville, TN
Knoxville, Tennessee April 1986 - January 1988
Engineer III – participated in the Sequoyah NPP accelerated pipe support calculation regeneration program under the leadership of TVA's Roy Hoekstra.

Seabrook Nuclear Generating Station **UNITED ENGINEERS & CONSTRUCTORS**
Public Service of New Hampshire Seabrook, NH
Seabrook, New Hampshire March 1983 - April 1986
Engineer III – performed field surveys, analysis and design of pipe supports during the construction of Seabrook Nuclear Station that included monitoring of pipe and large equipment movements (eg, steam generators) during Cold Hydro testing. Conducted visual "construction confirmation" of thousands of pipe supports to QA-certified standards.

City of Providence **UNIVERSAL ENGINEERING CORP**
Narragansett Bay Water Commission Boston, MA
Boston, Massachusetts March 1982 - December 1982

ROBERTO M. SANABRIA
CIVIL/STRUCTURAL ENGINEER
1153 Edenbridge Way, Knoxville, TN 37923
Telephone: (865) 405-2449 [cell]

Contract Engineer – analysis and design of steel, concrete and masonry structures for water treatment plants, using allowable stress concrete design methods.

J. A. Fitzpatrick Nuclear Plant (PASNY)
Public Authority of the State of New York
Turkey Point N.P.P.
Florida Power & Light
Waltham, Massachusetts (Teledyne Office)

TELEDYNE ENGINEERING SERVICES
Waltham, MA
May 1981 - January 1982

Contract Engineer – analysis and design of pipe supports in various nuclear power plants, using STAAD-III.

Numerous chemical process projects
Cambridge, Massachusetts

BADGER AMERICA, INC
Cambridge, MA
September 1980 - April 1981

Design Engineer – analysis and design of steel and concrete structures in petrochemical and chemical processing plants, including foundations.

Salem Nuclear Plant
Public Service Electric & Gas Co. (NJ)
Paoli, Pennsylvania (Target Tech Office)
J. A. Fitzpatrick Nuclear Plant
Public Authority of the State of New York, Oswego, New York (FIELD ASSIGNMENT)

TARGET TECHNOLOGY, LTD
Paoli, PA
March 1980 - August 1980

Staff Engineer – analysis and design of pipe supports to satisfy NRC Bulletins 79-02 and 79-14.

Perry Nuclear Power Plants 1 & 2
Cleveland Electric & Illuminating (OH)
V.C. Summer Nuclear Plant
South Carolina Electric Company
Crystal River Nuclear Plant, Florida Power & Light

GILBERT ASSOCIATES, INC
Reading, PA
September 1978 - February 1980

Structural Engineer – analysis and design of systems supports, including new supports and qualifications of existing installations per NRC Bulletins, using McAuto STRUDL and other programs.