



Nuclear Regulatory Commission
Exhibit # - NRC000087-MA-BD01
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Identified: 03/25/2009

Admitted: 03/25/2009
Rejected:

Withdrawn:
Stricken:

NRC000087

BRET ANDREW TEGELER, P.E.
NRO/DE/SEB1

EXPERIENCE

SENIOR STRUCTURAL ENGINEER, U.S. Nuclear Regulatory Commission, Office of New Reactors, Division of Engineering, (10/07-present)

Duties include reviewing seismic design parameters and seismic system analyses associated with applications for new reactor designs certifications and combined operating licenses. Current assignments include:

- Performing review of seismic design in the area soil-structure interaction and developing safety evaluations.
- Performing review of structural design in the area of foundation stability.
- Performing confirmatory soil-structure-interaction analyses.
- Evaluating industry guidance for aircraft impact assessments for new reactor designs.

SENIOR MECHANICAL ENGINEER, U.S. Nuclear Regulatory Commission, Office of Regulatory Research, Division of Engineering, (6/02-10/07 present)

Duties included providing technical guidance on subjects related to design, qualification, analysis, and fabrication, and testing of mechanical components/systems and structures. Accomplishments included:

- Technical lead on the structural and mechanical effects of aircraft impact into nuclear power plant structures.
- Technical lead on spent fuel pool vulnerability to terrorist attack.
- Supported RES Nuclear Power Plant Vulnerability Assessment Program with technical support in the areas of structural dynamics and equipment shock resulting from explosive blasts and mechanical impacts (i.e., terrorist attacks). In addition, investigated progressive collapse and thermal effects on structures and mechanical components.

SENIOR MATERIALS/STRUCTURES ENGINEER, U.S. Secret Service, Washington, D.C. (3/99-6/02)

Duties included serving as a technical expert in the areas of armor, blast, and physical security related design. Accomplishments included:

- Managed design, fabrication, and testing of armored vehicles.
- Performed research on advanced transparent and opaque armor materials.

- Developed methods for predicting response of structures from external/internal air blast.
- Designed experiment to validate a prototype armored vehicle and compared results with analytical predictions.
- Performed dynamic analysis of a vehicle gate barrier.

SENIOR STRUCTURAL ENGINEER, DDL OMNI ENGINEERING (formerly CASDE ENGINEERING), 8260 Greensboro Drive, Suite 600, McLean, VA, 22102 (7/97-3/99)

Duties included design and analysis of polymer composite and steel structures for the U.S. Navy and commercial aircraft manufacturers. Design challenges included shock and vibration design, fragment penetration, fluid-structure interaction, and weapons effects. Accomplishments included:

- Designed a composite, shock hardened, Towed Array Sensor Assembly for the U.S. Navy to replace an existing metallic assembly.
- Performed a detailed design-analysis of an experimental combatant ship deck structure, fabricated from multi-ply vinyl-ester fibers in an epoxy matrix.
- Investigated advanced submarine hull geometries for hydrostatic and dynamic collapse strength.
- Designed a test fixture to test advanced surface ship primary deck structure.

MECHANICAL ENGINEER, Carderock Division of the Naval Surface Warfare Center, 9500 MacArthur Boulevard, West Bethesda, MD, 20817 (7/91-7/97)

Duties included design and analysis of U.S. Navy surface ship and submarine structures to resist weapon(s) effects from airblast, underwater explosion, shock, fragmentation, and penetration. Accomplishments included:

- Performed static and dynamic design/analysis of New Attack Submarine pressure hull and propulsor using the explicit 3-D nonlinear finite-element code, LS-DYNA3D.
- Designed and supervised the construction of several large-scale welded structures for the testing and evaluation of advanced submarine hull concepts.
- Investigated ductile material failure (void nucleation and growth) in high-strength Naval steels.
- Developed polyurethane and syntactic foam material constitutive relationships for FEA model characterization.

EDUCATION/LICENSURE

Maryland Professional Engineer (1997).

MS Structural Engineering, George Washington University, Washington, D.C. (1994).

BS Mechanical Engineering, University of Maryland, College Park, MD (1991).