

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Docketed 10/25/04

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
DUKE ENERGY CORPORATION	)	Docket Nos. 50-413-OLA
	)	50-414-OLA
	)	
(Catawba Nuclear Station	)	
Units 1 and 2)	)	

NRC STAFF'S SUPPLEMENTAL RESPONSE TO THE "BLUE RIDGE ENVIRONMENTAL  
DEFENSE LEAGUE'S SECOND SET OF DISCOVERY REQUESTS TO NRC STAFF  
REGARDING SECURITY PLAN SUBMITTAL"

INTRODUCTION

On September 20, 2004, the Blue Ridge Environmental Defense League (BREDL) filed "[BREDL's] Second Set of Discovery Requests to NRC Staff Regarding Security Plan Submittal" (Request) in the above-captioned matter. In its Request, BREDL filed one general interrogatory, one general request for document production, eight specific interrogatories, and two specific document requests. The NRC Staff (Staff) filed its objections to BREDL's Request on September 24, 2004. On September 28, 2004, the Board presiding over the instant case held a closed session, wherein argument on the Staff's objections was heard. Subsequently, the Board issued an order requiring the Staff to respond to BREDL Specific Interrogatory 2.<sup>1</sup> See October 1, 2004 Order at 6-10. Therefore, pursuant to the Board's October 1, 2004 Order, the Staff herein provides a supplemental response to BREDL Specific Interrogatory 2. Additionally, the Staff herein supplements its response to BREDL General Interrogatory 2 and 3 from BREDL's First Set of Discovery Requests.

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<sup>1</sup>Notably, the Board's order required the Staff to respond only to the question of "whether a decision has been made to revise the DBT for Catawba with regard to theft of SSNM." October 1, 2004 Order at 10 (emphasis in original).

SUPPLEMENTAL RESPONSE

I. SPECIFIC DISCOVERY

SPECIFIC INTERROGATORY NO. 2: Please describe any proposals or plans by the NRC Staff to revise the Design Basis Threat for theft of strategic special nuclear materials from the Catawba nuclear power plant, including the content of any such proposals and the existing or proposed schedule for implementation.

STAFF RESPONSE:

The Staff has not decided to revise the DBT for Catawba with regard to theft of SSNM.

II. GENERAL DISCOVERY

GENERAL INTERROGATORY NO. 2: Give the name, address, profession, employer, area of professional expertise, and educational and scientific experience of each person whom the Staff expects to call as a fact or expert witness at the hearing regarding Contention 5. For expert witnesses, provide a list of all publications authored by the witness within the preceding ten years and a listing of any other cases in which the witness has provided fact and/or expert testimony and/or submitted affidavit(s) or declaration(s) within the preceding four years. For purposes of answering this interrogatory, the educational and scientific experience of expected witnesses may be provided by a resume of the person attached to the response. Fact and expert witnesses should be distinguished.

The staff does not intend to call any fact witnesses. The following individuals may be called as expert witnesses testifying on the topics indicated. All other information on the witnesses can be found in their attached resumes.<sup>2</sup> If, as the Staff completes its testimony on Contention 5, additional potential witnesses are identified, the Staff will supplement its Response.

1. John McKirgan may be called to testify on matters regarding the use of explosives.
2. R. John Vanden Berghe may be called to testify regarding BREDL's proposed scenario.

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<sup>2</sup> The resumes are found in Attachment B, "Professional Qualifications of Staff Witnesses and in Support of Affidavits."

3. Michael R. Burrell may be called to testify on the Staff's review of Duke's Security Plan Submittal.

GENERAL INTERROGATORY NO. 3: For each witness identified in response to General Interrogatory No. 2 above, describe the facts and opinions to which each witness is expected to testify, including a summary of the grounds for each opinion, and identify the documents (including all pertinent pages or parts thereof), data or other information which each witness has reviewed and considered, or is expected to consider or rely on for his or her testimony.

STAFF RESPONSE:

1. If he testifies, John McKirgan will testify to the Staff's assessment of the use of explosives in BREDL's proposed scenario. Mr. McKirgan has not yet assessed BREDL's proposed scenario; therefore, he has not yet framed an opinion on the issue or identified what he expects to rely on in drafting his testimony.
2. If he testifies, R. John Vanden Berghe will testify to the Staff's assessment of BREDL's proposed scenario. Mr. Vanden Berghe has not yet assessed BREDL's proposed scenario; therefore, he has not yet framed an opinion on the issue or identified what he expects to rely on in drafting his testimony.
3. If he testifies, Michael R. Burrell will testify to the Staff's evaluation of Duke's Security Plan Submittal and the Staff's conclusion that the proposed revisions in the Security Plan Submittal and the exemptions to NRC regulations requested by Duke provide adequate physical security for the MOX fuel. The grounds for his opinions are contained in the Staff's Safety Evaluation.

Respectfully submitted,

  
Antonio Fernández  
Counsel for NRC Staff

Dated at Rockville, Maryland  
this 22d day of October, 2004

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SUPPLEMENTAL AFFIDAVIT OF SHERRI L CROSS

COUNTY OF MONTGOMERY )  
 ) SS:  
STATE OF MARYLAND )

Sherri L. Cross, having first been duly sworn, does hereby state as follows:

1. I am employed as a Senior Safeguards Technical Analyst in the Fuel Cycle and Special Security Programs Section, Division of Nuclear Security, Office of Nuclear Security and Incident Response, U.S. Nuclear Regulatory Commission in Rockville Maryland. A statement of my professional qualifications was previously provided in the above-captioned proceeding.

2. I have reviewed the foregoing "NRC Staff's Supplemental Response to the 'Blue Ridge Environmental Defense League's Second Set of Discovery Requests to NRC Staff Regarding Security Plan Submittal,'" as it pertains to BREDL Specific Interrogatory No. 2, and verify that the response is true and correct to the best of my information and belief.

  
\_\_\_\_\_  
Sherri L. Cross

Sworn to before me this  
22d day of October, 2004

Notary Public   
My commission expires: \_\_\_\_\_

**Elva Bowden Berry**  
**NOTARY PUBLIC**  
**Montgomery County, Maryland**  
**My Commission Expires 12/1/07**

# Michael R. Burrell

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## Experience

2001-2004 U. S. Nuclear Regulatory Commission

### **Senior Security Specialist**

- Access Authorization Program Lead
- Research, plan and coordinate activities associated with implementation of programmatic requirements for access authorization, fitness for duty, and physical security for a wide variety of NRC licensed activities.

1989-2001 Baltimore Gas & Electric  
Calvert Cliffs Nuclear Power Plant Lusby, Md.

### **Supervisor - Security Screening, Training & Support**

- Oversight of the Access Authorization Program and its necessary integration with the Fitness for Duty Program.
- Oversight of all security related program development and regulated security procedures.
- Oversight of Security Training Program.
- Oversight of all criminal investigations and liaison with local law enforcement agencies.
- Oversight of Security Section automation and systems integration with allied disciplines.
- Oversight of discipline integration and work schedule management for outage staffing.

1988-1989 Baltimore Gas & Electric  
Calvert Cliffs Nuclear Power Plant Lusby, Md.

### **Business Function Analyst**

- Researched, planned, developed, installed and implemented a site wide Document Management Imaging System.
- Provided training and support to all site user personnel for the Document Management Imaging System.
- Provided automation consultative services to Nuclear Maintenance and Support disciplines.

1985-1988 Baltimore Gas & Electric  
Calvert Cliffs Nuclear Power Plant Lusby, Md.

### **Supervisor, Mechanical Maintenance Procedure Development**

- Oversight of mechanical maintenance, surveillance test and preventive maintenance procedures.



# John Brian McKirgan

115 South Adams St.  
Rockville, MD 20850  
(301)762-1879

**EDUCATION** M.S Mechanical Engineering  
University of Maryland, College Park, 1990  
B.S. Mechanical Engineering  
University of Maryland, College Park, 1988  
B.S. Astronomy  
University of Maryland, College Park, 1988

## EXPERIENCE

### NUCLEAR REGULATORY COMMISSION Jan. 2004-PRESENT

Program Manager

Nuclear Security and Incident Response, Division of Nuclear Security, Vulnerability Assessment and Integrated Response Section

- Perform and review Vulnerability Assessments of NRC Licensed Facilities and activities.
- Manage various programs related to explosive blast effects on NRC licensed facilities.
- Coordinate VA activities among various offices.

### NAVAL SURFACE WARFARE CENTER 1997- 2004

Mechanical Engineer

U.S. Department of Navy, Carderock, MD

- Completed One Year Detail to Los Alamos National Laboratory performing research on high strain rate large deformation material behavior.
- Managed 5 year Task of International Project on Development of Advanced Hydrocodes for response of Naval Structures to near-by explosions. Managed a team of 12 scientists and engineers in four locations performing an array of theoretical, computational, and experimental efforts to predict ductile failure of metals and response of structures subjected to explosive effects.
- Managed Task of International program on development of Advanced Steel Technology – Underwater Explosions Computational Analysis. Performed experimental and computational analysis over a broad range of strain rates and service temperatures to characterize high strength steels for submarine applications.
- Managed Materials Survivability/Lethality Task Area of the Seaborne Structural Materials Program. This ongoing research program has the objective of conducting research to enable the assessment of advanced materials for improved survivability of US Naval systems and to increase the lethality of US weapons. This effort included extensive experimental and computational efforts on the effects of explosives and high rate kinetic energy devices on Navy structures.
- Review and made recommendations on research proposals on various experimental and computational efforts related to material modeling. Provide guidance and recommendations on acquisition of computer and networking facilities.

### NAVAL SURFACE WARFARE CENTER 1990 - 1997

U.S. Department of Navy, White Oak, MD

- Performed Warhead Lethality Predictions of various Naval Weapon Systems.
- Managed Seaborne Weapons Materials Project
- Performed underwater and air-based explosive testing and analysis.
- Performed Dynamic Transient Analysis of Tomahawk and SM-2 Missiles
- Constructed models and performed shock and vibration analysis of DDG and AOE class ships.
- Performed Shock and Vibration testing of various Navy systems and components.
- Managed small teams of engineers and technicians.

## COMPUTER SKILLS

- PRONTO, CTH, EPIC, MSC/NASTRAN, MSC/PATRAN, DYNA, HKS/ABAQUS (Standard and Explicit), ANSYS, Patran, Mathcad, Mathematica, MS Project, WARP3D.
- UNIX System Administration

## **PUBLICATIONS**

- “Coupled Hydrocode Prediction of Benchmark Tests” Proceedings 70th Shock and Vibration Symposium, Albuquerque, NM, 1999.
- “Characterization of German 1.3964 Stainless Steel Weldment for UNDEX Analysis” NSWCCD-TR-2000-13.
- “Ductile Damage Evolution and Experimental Simulation Under High Rates of Strain in 10100 Copper” Proceedings of the International Journal of Plasticity, Aruba, 2002.

**REFERENCES** Available upon Request



## **R. John Vanden Berghe**

### **WORK EXPERIENCE**

**June 2002 - Present**  
**Reactor Security Specialist**  
**U.S. Nuclear Regulatory Commission**  
**Washington, DC 20555**

- Currently acting as a team leader for transition force-on-force exercises at nuclear power plants. Duties include: supervising team members, ensuring that program objectives are met, coordinating activities with NRC regional offices and industry representatives, developing and implementing force-on-force process improvements, and reviewing exercise results. To date, I have led NRC teams during force-on-force exercises at three licensee sites.

- Serve as the explosive advisor for the Security Performance Evaluation Section, providing expertise on explosive applications and effects.

- Served as a member of teams which conducted expanded table top drills at five nuclear power plants and pilot force-on-force exercises at seven nuclear power plants. Conducted drills, analyzed and recorded results and prepared reports. Applied tactical experience to enhance drill realism. Provided input on process improvements. Briefed commissioners, senior managers, and industry representatives on drill results. Coordinated U.S. Marine Corps participation in drills.

- Revised and edited Delay Barrier Penetration Manual. Prepared NRC Regulatory Issue Summary for publication of the Delay Barrier Penetration Manual.

- Prepared materials for management briefs to senior managers and the Commission.

- Briefed senior managers, individual commissioners and the Commission.

- Prepared standard agency responses to inquiries concerning Operational Safeguards Response Evaluations and the Pilot Force-on-Force Program.

- Reviewed nuclear power plant security plans for compliance with regulations.

**May 1982 - May 2002**  
**Commissioned Officer**  
**U.S. Marine Corps**

- Directly supervised an 80 member security force for a nuclear weapons storage facility and subsequently supervised operations and training of a 250 member security force. Trained members in physical security, risk management, force protection, anti-terrorism, use of deadly force and non-lethal weapons, integrated security systems, and asset protection methods. Conducted threat and vulnerability assessments. Implemented procedures to counter threats and reduce vulnerabilities. Coordinated and trained with law enforcement agencies. Trained as a member of protective unit for individuals at high risk. Met all requirements and improved procedures resulting in higher evaluation ratings for the organization.

- Commanded a 200 member infantry company as part of a special operations capable Marine Expeditionary Unit (MEU). Integrated a subordinate unit as the security element for the MEU's Maritime Special Purpose Force tasked with conducting in extremis hostage rescues, direct action assaults, gas and oil platform seizures, and other special operations. Planned, supervised, and evaluated training for the unit. Deployed with that unit to the Mediterranean theater as a crisis response force.
- Served as the operations officer and executive officer for 1,400 member infantry battalions assigned as the ground combat elements of two different MEUs. Managed training programs to ensure that those units were certified as special operations capable. Prepared units for employment in contingencies including the evacuation of U.S. embassies.
- Managed security programs for a 1,200 member organization. Supervised classified material accountability, force protection programs, and anti-terrorism training. Ensured compliance with directives and regulations.
- Developed response plans for various incidents including radioactive contamination of a naval base, evacuations of four U.S. embassies, and mass casualty events. Served as the security advisor in the incident command post during crisis response drills at a nuclear weapon storage facility.
- Conducted operational, security and crisis response training for organizations ranging from 30 to 200 people. Developed and executed training plans. Taught classes, conducted practical applications, supervised firearms qualifications, and evaluated trainees mastery of material. Planned, executed, and evaluated force-on-force exercises.
- Established and managed training programs for 250 to 1,400 member organizations. Scheduled training facilities, assigned instructors, monitored training events, evaluated and reported effectiveness. Ensured all required qualifications were met and achieved challenging training goals.
- Directed a 16 member staff and supervised daily administrative, operations, training, supply, maintenance, transport, and health services functions of a 1,200 member organization. Supervised management and distribution of operational equipment including a fleet of 40 motor vehicles.
- Developed and implemented plans for assigning 115 executives and senior managers within a 19,000 member organization. Supervised 3 subordinate staff sections responsible for the organization's administrative functions. Wrote and implemented policies and procedures.
- Directed 12 managers responsible for staffing more than 200 distinct organizations while managing the assignments and transfers of 55,000 personnel. Analyzed and interpreted data to ensure that individual skills and experience levels matched organizational requirements. Conducted briefings for general officers including the Commandant of the Marine Corps. Exceeded all position requirements.

- Directed retention efforts during a period of personnel reductions. Applied policies and directives to ensure that the most qualified members were retained across a wide spectrum of occupational fields and skill levels. Developed methods for tracking the success of retention programs. Reduced administrative processing time of reenlistment requests by 30%. Achieved 100% of personnel goals.

## **EDUCATION**

Bachelor of Science, Resources Management  
U.S. Naval Academy, Annapolis, Maryland  
May 1982

## **OTHER**

- Member, American Society for Industrial Security
- Qualified as an explosive breacher
- Co-author, "Marines in West Africa", the official Marine Corps history of evacuations from the U.S. embassies in Monrovia, Liberia and Bangui, Central African Republic in 1991 and 1996.

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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S SUPPLEMENTAL RESPONSE TO THE 'BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE'S SECOND SET OF DISCOVERY REQUESTS TO NRC STAFF REGARDING SECURITY PLAN SUBMITTAL'" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class; or as indicated by an asterisk (\*), by deposit in the Nuclear Regulatory Commission's internal mail system; and by e-mail as indicated by a double asterisk (\*\*), this 22d day of October, 2004.

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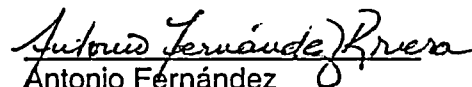
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Antonio Fernández  
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