Defense Nuclear Facilities Safety Board Public Meeting

Statement of Mr. Richard H. Lagdon, Jr.
Chief of Nuclear Safety
Office of the Under Secretary
Representing
Dr. Kristina Johnson
Under Secretary of Energy
U. S. Department of Energy

May 12, 2010

Mr. Chairman, members of the Board, I am pleased to be here today to discuss the initiatives that we have taken within the Office of the Under Secretary and, in particular, the Office of Environmental Management, to ensure effective oversight of our nuclear facilities. The Under Secretary sends her regards as she couldn't be here today. She has asked me, as her Chief of Nuclear Safety, to provide testimony for her, as I have worked closely with her in her role as Central Technical Authority. I will start by discussing initiatives taken by the Central Technical Authority and then will address the specific questions that you have posed.

With the formal creation of the Central Technical Authorities in 2005, a rigorous dimension was added to oversight of high-hazard nuclear operations. As the Central Technical Authority for Energy, Dr. Johnson maintains operational awareness of field activities in a manner that ensures a proper balance between programs and safety that complements the role of the Program Secretarial Offices and the independent oversight function of the Office of Health Safety and Security. The Central Technical Authorities, as line management executives, maintain operational awareness of DOE line oversight programs and contractor performance and assurance systems by monitoring, evaluating and participating in oversight activities. The Central Technical Authority for Energy is supported in these functions by me as the Chief of Nuclear Safety and my staff. The Chief of Nuclear Safety and staff work closely with federal line managers to assist in continuously improving the quality of the Department's technical safety management capability.

The Office of Environmental Management (EM) maintains a safety oversight office responsible for line oversight. The Chief of Nuclear Safety works with this line organization and associated field elements to ensure that a corporate approach to nuclear safety is maintained.

ORGANIZATION, FUNCTIONS AND RESPONSIBILITIES

First, it should be noted that there are approximately 130 nuclear facilities under the purview of the Chief of Nuclear Safety. In addition, there are a number of significant Environmental Management design and construction projects that require technical review and support. To meet the challenges posed by such facilities, the Department's leadership concluded that the Chief of Nuclear Safety should be a supported by a small group of recognized experts with diverse technical education and experience. This staff must be capable of providing operational awareness and technical nuclear safety advice to senior Energy line managers at headquarters and in the field. These Chief of Nuclear Safety support positions were fully staffed in September 2006. Currently, eight key technical positions are staffed that include: Chief of Nuclear Safety, Nuclear Engineer for Criticality, Mechanical Engineer/Acquisition Professional, Nuclear Safety and Operations Engineer, Seismic Engineer, Environmental Engineer, Quality Assurance Engineer, Software Quality Assurance Engineer, and Nuclear Engineer for Nuclear Materials.

All the planned positions on the staff of the Chief of Nuclear Safety were filled with permanent career Federal employees of the highest caliber. The Chief of Nuclear Safety and the technical lead positions have been designated as Senior Technical Safety Managers or subject area experts per the DOE technical qualification program except for the two Quality Assurance positions. Other training and qualifications completed by the Chief of Nuclear Safety and staff include: DOE Safety System Oversight Training; Nuclear Executive Leadership Training; and the Harvard Senior Executives Fellow Program.

Since being appointed as Chief of Nuclear Safety in January 2006, my staff and I have provided technical support to the Under Secretary. The Chief of Nuclear Safety and staff are positioned to support the Central Technical Authority through technical subject area expertise, assignment as site liaisons, and assignment to specific safety functions/program/subjects. Each staff member is assigned as liaison to a major site with nuclear facilities; Savannah River, Idaho, Richland Operations, Office of River Protection, Carlsbad, Oak Ridge and Portsmouth/Paducah. The staff interacts directly and regularly with senior site personnel responsible for nuclear safety,

oversight, technical authority, federal project direction, quality assurance, and project management.

Support to line oversight activities at nuclear facilities is the primary activity of the Chief of Nuclear Safety staff. The liaison function allows Chief of Nuclear Safety staff to provide subject matter experts and knowledgeable individuals to participate with facility representatives, field office staff, and headquarters assessment teams. These teams are structured to reinforce the line oversight function by supplementing the existing processes and reinforcing expected performance metrics, standards, and requirements. As such, the Chief of Nuclear Safety and staff work closely with federal line managers to improve and upgrade the quality of the Department's technical safety management capability.

The Chief of Nuclear Safety and staff also maintain operational awareness of field activities through participation in the field and headquarters assessments. Typical topics of the assessments include safety basis implementation, nuclear start-ups and restarts, personnel training and qualification, maintenance, criticality safety, conduct of operations, and radiation protection. Most recently, participation in the new EM Construction Project Reviews has provided a direct path for Chief of Nuclear Safety staff involvement in construction project technical issues.

The Chief of Nuclear Safety and staff maintain awareness of production decisions so that the Central Technical Authority can fulfill her role to ensure that the desire to meet programmatic commitments is properly balanced with safety. Note that the operational awareness role is not intended to duplicate the independent oversight function.

Each staff member also has specific safety function and program responsibilities. These safety management functions are broad, impact Department-wide policy and initiatives, and contribute to national and international efforts supporting nuclear safety. The Chief of Nuclear Safety and staff are a sought-after resource to these organizations. Some of the safety management functions and organizations include: the Safety System Oversight/Safety System Engineer program; Criticality Safety Committee; Directives Review Board; EM Technical Authority

Board; Federal Technical Capability Panel; Seismic Lessons Learned Panel; Safety Software Support Group; Operating Experience Committee; EM Quality Assurance Board; and, various national and international standards organizations, including the American Society of Mechanical Engineers Committee on Nuclear Quality Assurance.

The Department has responsibility as owner and regulator of most of its nuclear facilities to establish regulations and requirements to protect the public, workers and the environment. The Office of Health, Safety and Security is tasked with developing nuclear safety rules and directives, using groups of experts, including Chief of Nuclear Safety staff. The Central Technical Authority is responsible to then ensure that these rules and directives are appropriately and consistently promulgated and implemented. As a natural part of transition, under this Administration and the leadership of Secretary Chu, the Department is undertaking an evaluation of the directives program, including nuclear safety policy, requirements and guides. The Chief of Nuclear Safety and staff are devoting resources to ensure that any changes to these directives either maintain or enhance our nuclear safety efforts.

SAFETY ACTIVITIES SUPPORTING ACHIEVEMENT OF NUCLEAR SAFETY

The Chief of Nuclear Safety has been actively involved in identifying safety areas across the Energy complex where technical expertise needs to be strengthened. For example, the Chief of Nuclear Safety identified a lack of adequate numbers of quality assurance personnel supporting the Waste Treatment Plant project and worked with the Office of River Protection to strengthen this area. The Chief of Nuclear Safety continues to work with EM on this specific issue, recommending potential means of increasing numbers of technically competent personnel to support high-risk nuclear activities.

The effectiveness of the small Chief of Nuclear Safety expert staff is derived from its ability to prioritize on a risk basis across the Energy complex, and its flexibility in addressing such priorities, both planned and unplanned. Between 2006 and 2010, a significant number of reviews have been conducted by staff relating to commissioning, conduct of operations, construction projects, contract requirements, criticality safety, deactivation and

decommissioning, directives, authorization basis, facility startup and Integrated Safety Management.

The Chief of Nuclear Safety and staff have also provided leadership in establishing EM corporate Construction Project Reviews. These reviews were instituted to assess the progress of each EM capital project and provide proactive recommendations for achieving its next critical decision stage within the approved cost and schedule. The first round of Construction Project Reviews was completed in 2009. Construction Project Review Committees evaluate project progress in areas such as technical execution; cost, schedule, risk, and contracts; management and prior reviews; environment, safety, and health; quality assurance; and commissioning.

CHIEF OF NUCLEAR SAFETY NUCLEAR SAFETY FOCUS AREAS

In addition to supporting line oversight of defense nuclear facilities, other efforts to improve technical capability include the following focus areas: (1) Strengthening Nuclear Safety Federal Oversight; (2) Promoting Technical Execution of Projects and Programs; and (3) Sponsoring Cross-cutting Nuclear Safety Initiatives.

1. Strengthening Nuclear Safety Federal Oversight

Nuclear Criticality Oversight: EM conducted programmatic assessments of its Federal Integrated Safety Management programs and multiple assessments of its 1) contractors, to ensure that work is conducted within appropriate controls; and 2) field elements, to ensure the adequacy of their oversight programs. The Chief of Nuclear Safety is working with EM to supplement existing oversight processes to ensure that the information needed for the annual criticality safety report to the Defense Nuclear Facilities Safety Board is being collected. The Chief of Nuclear Safety and EM finalized a risk-based review schedule in December 2007. Areas subject to review include recent criticality safety evaluations and nonconformance reports, control implementation, corrective actions, and management processes associated with criticality safety.

Chief of Nuclear Safety staff has conducted criticality safety reviews at Hanford, Savannah River, Oak Ridge, Portsmouth and Paducah, Idaho, Pacific Northwest National Laboratory, and New Brunswick National Laboratory.

Nuclear Facility Startup: Chief of Nuclear Safety staff has been working with the Depleted Uranium Hexafluoride (DUF_6) Facilities at Portsmouth and Paducah to develop a Qualification Plan for critical federal positions in preparation for commencement of hot operations. Chief of Nuclear Safety staff has also participated in Operational Readiness Reviews for legacy fuel processing at the Hanford K West Basin; the Remote-Handled Transuranic Waste Processing Facility at Oak Ridge National Laboratory; and other DOE facilities.

Waste Treatment Plant Oversight: Chief of Nuclear Safety staff conducted numerous oversight visits to the Waste Treatment Plant, covering topics such as construction, resolving deficiencies in the commercial-grade dedication process, "black cell" piping issues, the Nuclear Regulatory Commission report on DOE regulatory processes for the Waste Treatment Plant, the contract with Bechtel, and implementation of DOE Order 410.1, *Central Technical Authority Responsibilities Regarding Nuclear Safety Requirements.* The Office of River Protection management requested Chief of Nuclear Safety support with review of the emergency diesel generator procurement. Specifically, Chief of Nuclear Safety staff evaluated the safety functions, design inputs, and initial supplier proposals. The staff was requested to identify alternatives for the contractor to investigate that would meet safety requirements at a lower cost. The staff has also recently been involved in overseeing the severity-level assessment calculations used in the Waste Treatment Plant Material at Risk Accident Analysis Update Plan, particularly with respect to deposition velocity values, and in the use of site-specific ground motion spectra in the design of equipment and components.

2. Promoting Technical Execution of Projects and Programs

Technical Authority: The term "Technical Authority" refers to a focused, relational framework and processes that have been successfully implemented by the Department of the Navy to facilitate a pedigreed technical and safety decision-making process that supports project and

programmatic decisions which impact project safety, cost, and schedule. It is a simple but formal process for effectively managing technical and safety issues and risks in a forward-looking manner. The Technical Authority process includes the assignment of specific duties to designated, qualified individuals who facilitate the process. While Technical Authority remains a process goal, the Chief of Nuclear Safety staff has worked with EM to develop and implement its Technical Authority Board to serve as an advisory body to integrate certain functional responsibilities within EM such as design, engineering, technology, and safety. The Technical Authority Board has oversight authority across the entire EM portfolio, providing particular focus on projects identified to have significant technical issues or risks.

Chief of Nuclear Safety-Sponsored Training: Chief of Nuclear Safety is sponsoring a series of training courses using recognized experts from established training programs (e.g., the Safety Basis Academy, the American Society of Mechanical Engineers) to strengthen fundamental knowledge in needed technical areas. The first training session was on *General Safety Basis,* and was held at DOE Headquarters in Germantown in December 2009. In February 2010, the Chief of Nuclear Safety sponsored a three-day course on *Environmental Restoration and Deactivation and Decommissioning Safety Basis*. Upcoming training being offered includes American Society of Mechanical Engineers *Design of Nuclear Facility Components,* scheduled for June 2010, and *Seismic Design*, scheduled for September 2010. The Chief of Nuclear Safety also provided *American Society of Mechanical Engineers Nuclear Quality Assurance-1 (NQA-1) Lead Auditor Training* to all staff and support contractor personnel. Several staff members were certified as Lead Auditors to enhance their value in support of field and headquarters assessment teams.

Construction Project Reviews: Under Secretary Chu's leadership, the Office of Environmental Management is implementing Construction Project Reviews as one means of instituting improvements in the major projects. Chief of Nuclear Safety staff worked with the Office of Science to evaluate how their capital project reviews could be implemented within EM to enhance project performance. The Chief of Nuclear Safety has provided leadership and significant resources for Construction Project Reviews, personally leading Construction Project Reviews of the DUF_6 Conversion Facility Project at Portsmouth and of the Salt Waste Processing Facility at Savannah River. In addition, a senior staff member led Construction

Project Reviews of the U-233 Downblending and Disposition Project at Oak Ridge National Laboratory, which also included a full-scale 60 percent design review; and of the Sodium-Bearing Waste Treatment Facility at Idaho National Laboratory. As the process continues to mature within EM, I expect to see significant improvement in project performance.

Code of Record for EM Nuclear Facilities: Chief of Nuclear Safety staff drafted a Code of Record Interim Policy for the Principal Deputy Assistant Secretary for EM. A code of record is the body of requirements, including Federal and state laws, as defined in contracts and Standards or Requirements Identification Documents or their equivalent, that are in effect at the time a facility or item of equipment was designed and accepted by DOE. The code of record includes those requirements invoked during the design phase and later used to initiate operations to ensure they are available to all responsible parties during each lifecycle, organizational, and mission change. The code of record is crucial in controlling design inputs and costs while ensuring a reasonably conservative approach to safety.

Standard Review Plan: In March 2010, EM issued the second edition of its Standard Review Plan, which was developed as a collaborative effort between EM and the Chief of Nuclear Safety. The Standard Review Plan is designed to improve project performance by strengthening and formalizing the technical basis for evaluating the readiness of EM capital and major operating projects. The technical basis and foundation for the Standard Review Plan are centered on project expectations and requirements defined in DOE O 413.3A, Change 1, *Program and Project Management for the Acquisition of Capital Assets;* DOE-STD-1189-2008, *Integration of Safety into the Design Process;* and EM's internal business management practices. The Standard Review Plan also leverages the best practices and lessons learned from across the Department. It consists of 28 standalone Review Modules and Topical Reports that provide a set of core performance objectives and criteria in addressing specific project review areas tailored to each critical decision phase.

3. Sponsoring Crosscutting Nuclear Safety Initiatives

Natural Phenomena Hazard Assessment and Design: The Chief of Nuclear Safety established a Seismic Lessons-Learned Panel to review the seismic hazard assessments and designs at projects across DOE. This group of internationally recognized experts, many of whom are directly involved in one or more DOE projects, meets approximately twice per year. The group, which includes Defense Nuclear Facilities Safety Board staff, has worked to improve DOE's guidance and standards for seismic hazard assessment and design.

Seismic Hazard Characterization at Paducah: Chief of Nuclear Safety staff continued supporting an independent team chartered by the EM Deputy Assistant Secretary for Safety Management and Operations to review the seismic hazard characterization at DOE's Paducah site. The Portsmouth and Paducah Project Office sought this review to aid its decision on whether to build an onsite disposal cell for Comprehensive Environmental Response, Compensation, and Liability Act waste generated from future decommissioning activities. The review found that the current seismic characterization is adequate to proceed with a decision, but additional site-specific data must be collected if the Portsmouth and Paducah Project Office opts to construct a cell. Some risk remains that further analysis would find a waste cell at the Paducah site to be technically unsuitable, but the review team believed this risk is small. The team shared its recommendations with Portsmouth and Paducah Project Office staff, contractors, and Kentucky regulators in June 2009.

Hanford Probabilistic Seismic Hazard Assessment: Chief of Nuclear Safety staff is assisting the Hanford field offices in interpreting the impact of the July 2009 draft report *Probabilistic Seismic Hazard Analyses Project for the Mid-Columbia Dams,* which reported a significantly higher hazard from several seismic sources near the Hanford Site, and providing expertise as the Richland Operations Office and Office of River Protection move to update the Hanford seismic hazard assessment.

Central and Eastern United States Seismic Source Characterization Project: The Characterization Project is a major effort that supports the Chief of Nuclear Safety's goal of improving DOE performance regarding natural phenomena hazards. The Characterization

Project will create a model reflecting current understanding of seismic sources in the Central and Eastern United States, which has improved significantly since the last model was created approximately 20 years ago. The model will be generically applicable to nuclear facilities in the Central and Eastern United States, so it will benefit both DOE and the commercial nuclear industry. It will provide a modern characterization of seismic hazards at DOE facilities, and it will reduce uncertainty and multiple interpretations during adjudication of new and renewed reactor licenses. The project is funded by the Electric Power Research Institute, the Chief of Nuclear Safety, and the Office of Nuclear Energy, with additional scope items supported by the Nuclear Regulatory Commission.

Quality Assurance and Software Quality Assurance Training: Chief of Nuclear Safety staff continued to provide necessary training to the Department's employees for qualification as nuclear quality assurance Lead Auditors. The training was developed by Chief of Nuclear Safety staff and presented by officers of the American Society of Mechanical Engineers Committee on Nuclear Quality Assurance, who have extensive experience in auditing, laboratory operations, and nuclear facility operations. The training was developed and targeted for the federal staff to increase their ability to oversee contractors required to implement American Society of Mechanical Engineers *Nuclear Quality Assurance-1* standard for compliance with 10 C.F.R. Part 830, *Nuclear Safety Management*. The *American Society of Mechanical Engineers Nuclear Quality Assurance-1 Lead Auditor Training* is a five-day course that meets the requirements of the national standard *American Society of Mechanical Engineers Nuclear Quality Assurance-1-*2008, *Quality Assurance Requirements for Nuclear Facility Applications* for training prospective lead auditors. Over 150 people, primarily federal employees, have taken this training over the last two years. *American Society of Mechanical Engineers Nuclear Quality Assurance-1 Applied to Software for DOE Federal Staff* is a three-day course that provides a detailed review of *American Society of Mechanical Engineers Nuclear Quality Assurance-1* Parts I, II, and IV applied to software development and acquisition. More than 60 federal and contractor personnel have taken this class over the past two years.

Energy and Science Software Quality Assurance Support Group: The Offices of Environmental Management, Nuclear Energy, and Science formed, and the Chief of Nuclear

Safety sponsors, the EM - Nuclear Energy - Science Software Quality Assurance Support Group. This group provides a mechanism for Federal quality assurance professionals to serve as technical resources, promote consistent line software quality assurance oversight, and assist in field implementation of DOE software quality assurance requirements. The most recent Annual Face-to-Face and Continuing Education Meeting was held in September 2009 in Washington, DC. The meeting included presentations to share site-specific software quality assurance needs, lessons learned, Headquarters initiatives, and training related to instrumentation and control and general software quality assurance. Site needs related to software quality assurance were prioritized and approaches developed to satisfy those needs. The Software Quality Assurance Support Group also issues technical reports, including one on minimum core attributes for use in safety software inventories.

Safety Directives Reviews: Chief of Nuclear Safety staff members serve on review teams to resolve comments on new or revised directives important to nuclear safety. A Chief of Nuclear Safety staff member continues to work on the comment resolution team on the significant revision to DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*, to ensure that nuclear safety is adequately addressed in the current revision, which takes a major step forward by addressing lessons learned from past issues. Other examples include DOE Order 425.1D, *Verification of Readiness to Startup or Restart Nuclear Facilities*; DOE Order 422.X, *Conduct of Operations;* DOE Order 426.1, *Federal Technical Capability;* DOE Order 414.1C, *Quality Assurance;* DOE Order 433.1B, *Maintenance Management Program for DOE Nuclear Facilities;* DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities;* DOE-STD-1189-2008, *Integration of Safety into the Design Process;* and DOE-HDBK-1129-2008, *Tritium Handling and Safe Storage*.

DNFSB Recommendation 2007-1, Safety Related In Situ Nondestructive Assay of Radioactive Material: The Chief of Nuclear Safety is the Department's responsible manager for execution of DOE's Implementation Plan. The most recent briefing to the Board on the status of that Recommendation in April 2010 indicated that progress is being made on the deliverables required in the Implementation Plan.

Now, addressing your specific questions at hand:

1. ***Provide your assessment of the effectiveness of your oversight programs.***

Oversight programs have been established at three organizational levels for the Under Secretary for Energy including: (1) site offices; (2) the headquarters program secretarial office; and (3) Central Technical Authority/Chief of Nuclear Safety. For the purposes of this meeting, I am focusing my comments on oversight of defense nuclear facilities under the control of the Under Secretary's Office and EM. The oversight program is established, maturing and effective as evidenced by the contributions described above.

The first and most important level of our oversight program is our site offices. The site offices provide comprehensive and direct oversight of contractor activities affecting safety and mission. The Site Office Manager and Federal Project Directors evaluate the contractors' current and near-term activities and associated hazards, complexity, recent DOE and contractor assessments, past performance, and external events/issues affecting other nuclear facilities. Using that information, a plan is prepared which identifies targeted activities to be assessed and the relative priority of each assessment. A schedule is developed from the planning phase that details assessment topics, dates, duration, and responsible staff. Planning and scheduling efforts also indentify resources needed to accomplish the assessments. While each site office has dedicated staff to manage and implement assessments, they also supplement their assessment teams with federal staff from other site offices and headquarters, including the Chief of Nuclear Safety staff; consultants; national labs; and occasionally from external organizations such as the U.S. Army Corps of Engineers.

The next level of our oversight program is at EM Headquarters. Headquarters oversight includes evaluation of the implementation of programmatic initiatives including quality assurance, project management and operations. For these initiatives, EM Headquarters, through the efforts of the Safety & Security Program and their Offices of Safety Operations Assurance, and Standards and Quality Assurance, takes an approach similar to the sites' in

planning, scheduling and execution of programmatic and site-specific assessments. In these instances, the schedule and scope are tailored to needs, as determined by a variety of means. These include daily site safety performance, as reported through existing Departmental mechanisms, such as the Occurrence Reporting and Processing System and the Computerized Accident/Incident Reporting System; periodic headquarters project reviews; corrective actions and corrective action effectiveness from previous assessments; and, most recently, the increase in activity associated with the American Recovery and Reinvestment Act being undertaken at EM sites. In addition, Headquarters staff members are often assigned to support the previously identified site assessments in an effort to provide an EM complex-wide perspective to activities in the field.

Finally, the Central Technical Authority/Chief of Nuclear Safety provides a third and distinct level of safety oversight as previously described.

2. ***Identify what you believe to be strengths and weaknesses of oversight processes in your area of responsibility.***

The Central Technical Authority's program's greatest strength is maintaining the focus on site oversight programs, where they have the daily pulse of activities. By overseeing the activities of the site programs, and assisting wherever necessary on a risk-based priority basis, we are able to keep the onus for day-to-day oversight on the field. The expertise of Chief of Nuclear Safety staff has proved to be an invaluable resource in this regard.

Strengths of the oversight program also include the variety of assessment types we perform, the assessment protocols, qualified assessment staff and the improvements yielded.

One fine example of assessment protocols is the EM Standard Review Plan (SRP), which was developed under the leadership of the Chief of Nuclear Safety and EM. The SRP provides expectations to both Headquarters' and field federal and contractor staff for capital projects.

Our greatest challenge is to maintain adequate numbers of qualified people in critical areas, such as quality assurance and engineering. As you know, it takes time to get personnel properly trained and qualified so that when we identify a need, there may be a lag in addressing the need. However, as in the case of identifying a lack of qualified quality assurance personnel, EM and the Chief of Nuclear Safety have taken action to train over 100 EM personnel in quality assurance and over 50 personnel in software quality assurance.

We also need to improve the technical performance on some of our major construction projects. The Secretary and Deputy Secretary of Energy are committed to the success of these projects, and resources are being aligned to provide more support for these significant projects. As the Construction Project Review process matures, better technical support will be provided. That will continue to remain a focus of the management team.

3. ***For proposed changes to current oversight programs, identify the specific issues driving the perceived need for change.***

The only changes to nuclear safety-related oversight under my purview pertain to minimizing redundancy and maximizing the effectiveness of oversight. As technical advisor, the Chief of Nuclear Safety keeps the Central Technical Authority aware of any significant weaknesses in oversight of nuclear facilities under the purview of the Office of the Under Secretary of Energy and directs assistance to site and other Headquarter oversight activities on a risk-based priority basis.

4. ***Describe what metrics are applied as a tool for balancing priorities between missions and safety.***

Priorities are set based on life cycle status and critical functional areas, such as quality assurance, design engineering, construction, procurement, testing, and operations. When it comes to safety, I have an absolute metric: safety is not compromised. As you know, a body of regulations and directives has been developed over the years which codify expectations for safety. Unfortunately, many were developed, through lessons learned the hard way. Though

sometimes interpretations of this body may differ, my standing rule is to ensure adequate safety – safety which is reasonably conservative – to the public, to the worker – at all times.

5. ***Provide your assessment on the adequacy of Central Technical Authority support staffing to assure the robust execution of the Central Technical Authority function.***

   My support staffing is appropriate for the current scope of activities under my purview. I believe they are performing effectively and have maintained high standards.

6. ***Provide your assessment of the differences of oversight approach for nuclear and non-nuclear activities.***

   The same overall integrated and graded approach is applied to nuclear and non-nuclear activities. Differences can be found in the areas of assessment frequency, depth, planning, significance of the impacts, formality of reporting and improvement processes and assessor training and qualifications. This integrated and graded approach is driven by the Department's primary requirements relating to oversight and assessment. DOE Order 414.1C, *Quality Assurance*; DOE Order 226.1A, *Implementation of Department of Energy Oversight Policy*; and DOE Manual 450.4-1, *Integrated Safety Management System Manual*; and associated guidance describe the types of assessments and responsibilities for them; topics to be assessed; planning and conduct; reporting and follow-up of results; and qualifications. The Central Technical Authority's focus, however, remains on applying rigorous oversight on a frequency to ensure that Headquarters and field offices are conducting their oversight duties and that nuclear safety is preserved.