REMARKS
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I am pleased to be a part of this session. Taking Integrated Safety Management (ISM) to its next higher level is indeed a worthy goal of the new administration of the Department of Energy (DOE). As safety advisors to DOE and strong advocates of this program, the Defense Nuclear Facilities Safety Board (Board) is very much supportive of efforts to improve and effectively apply ISM principles and concepts.

Recently, I had the opportunity to share some ideas[1] relative to this matter with both Under Secretary Robert Card and Deputy Secretary Francis Blake. Some of these ideas are pertinent to the Topics scheduled for discussion during the breakout sessions. I wish to share them with you in the spirit of free exchange that is needed if we are to be of help to DOE in continuing to improve this program.

In trying to sort through those elements that I perceive are today the most deserving of priority attention, I was reminded of a vignette I read some time ago about the literary character Sherlock Holmes. It went like this.

> A particularly difficult case had taken Holmes and Watson to the wilds and had forced them to camp out. Late one evening after they had retired, Holmes said to Watson, "What do you see?" Watson replied, "I see the moon, the milky way, and millions of stars." After a pause, Holmes asked, "and what does it make you think?" "It makes me think how small and insignificant we are," Watson replied. Another pause—"then, what do you see Holmes?" "I see the same things you do," said Holmes. "And what does it make you think," Watson asked? "Well," replied Holmes. "I think someone stole our tent!"

There are few of us who are as perceptive and deductive as the legendary Holmes and I make no claim to be one of them. Nonetheless, like Holmes, I can share with you some of the things I see relative to the current state of ISM and tell you what I think.

My observations and suggestions are offered with full recognition that there is no unique way to manage a complex as diversified as that of DOE. Alternatives other than those suggested may best fit the needs of DOE and the talent pool available or attractable to government service. The matter, as always, is open to dialogue with those within DOE and their contractors who seek to enhance the management of safety.

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[1] *Ideas for Improving Department of Energy's Safety Management of Nuclear Facilities*, a discussion paper by Joseph DiNunno, October 26, 2001,

The issues I will address briefly bear on the topics selected for special focus at this gathering, but range somewhat more broadly. Before talking to you about ideas for improving the ISM program, let me take a minute to comment on where I believe DOE is with ISM.

Current Status of ISM

From a slow beginning in 1996, the acceptance of its principles and the exercise of the five basic functions of ISM have steadily grown and are proving useful in the planning and performing of hazardous work. Important measures to require use of the concept were established by DOE Policy P 450.4 and changes to the Department of Energy's Acquisition Regulation (DEAR). The regulations provide for the establishment of requirements tailored to the hazards of work being performed A useful guide, DOE G 450.4-1B, has been issued by DOE. Verification reviews of program implementation have been conducted at all sites. Field Managers have certified that a basic ISM structure has been implemented. Authorization agreements setting forth the principal terms and conditions for conducting hazardous operations in high hazard facilities have been established.

The basic concept and framework of ISM is sound. ISM is providing a systematic and intellectual approach to satisfying the myriad of statutory requirements that have been enacted over the past decades for protection of the workers, the public, and the environment. ISM is gradually being adapted to safe management of both nuclear and non-nuclear hazardous and toxic chemicals. It is being applied in performing research and development work as well as in the design, construction, operation and decommissioning of contaminated facilities and sites. ISM is a nuclear safety program and more.

The Department of Energy senior management has maintained a constant course relative to ISM over the past five years. This has been sustained even though DOE experienced relatively frequent changes in top level administrators and contractors have changed during this period. The pace toward complex-wide implementation has significantly accelerated during the past several years by the commitment and various initiatives of DOE's top level management.

Near the end of the past administration, DOE's Deputy Secretary (T. J. Glauthier, September 28, 2000) identified key efforts needed for sustaining ISM Systems and integrating key DOE processes. These were:

1. Conduct effective line oversight and contract management.
2. Make annual ISM updates meaningful.
3. Strengthening activity-level work planning and worker involvement.
4. Continue independent oversight of ISM implementation.
5. Apply ISM throughout the facility life cycle.
6. Strengthen ISM in the budget process.
7. Improve use of feedback and improvement mechanisms.

These targets for sustaining and improving ISM are still appropriate.

If this assessment of ISM status is correct then what do we need to do to take it to a higher level? I believe that some re-structuring of the requirements framework may be in order but much of those existing are based upon statutory requirements and are not discretionary. How one complies may offer opportunities for more cost effective methods for compliance.

I believe taking ISM to the next level higher will require DOE and its contractors to address the human resources problem more than the basic framework. The technical capabilities brought to this effort and the way they are organized and deployed are to me the keys to forward advance.

I think the human resources challenges to ISM are:

1. The maintenance of momentum and continuity in direction given the frequent changeover of top level management, both in DOE and its contractors.

2. Bringing cohesiveness to a DOE organizational structure that is highly compartmentalized.

3. Elimination of duplicative and interference patterns in deployment of existing ES&H resources.

4. The attraction and retention of people of exceptional skills.

5. Coupling of responsibility and accountability in a more effective way.

Let me talk to these.

Top Level Leadership

<u>What do I See</u>

The safety management organization within DOE is much like that of a multi-product industrial firm, wherein corporate-level management is provided from a head office, with responsibility for each main product line delegated to a corporate line officer. All product lines are expected to operate under corporate-wide policies and practices to the extent applicable, and with the clearly established understanding that line corporate offices have the primary responsibility for ensuring safety in the performance of their assigned missions. (The term "safety" is used herein in the context of protection of the public, workers, and the environment.) Commonly, a corporate office, independent of the line, is

used by corporate senior management to assess periodically the safety programs of the line organizations and to recommend upgrade actions.

The major differences between this model and DOE is that virtually all of DOE's hazardous work is done by contractors. The model still holds if contractor line management is regarded as an extension of the DOE corporate line, with safety responsibilities delegated through contact terms and conditions.

What do I Think

If DOE 's basic safety management structure is not unlike commercial counterparts, why does DOE appear to be less successful in its administration and execution? The following thoughts are offered:

- Effective safety management programs for organizations with multiple product lines must be driven from the top through common goals and objectives, upper management's personal involvement, and upper management holding line mangers accountable for performance of their delegated responsibilities. The frequent changeover of senior administrators, a common phenomenon in government, has little parallel in the private sector. With all due respect to our political system, rapid turnover of top-level DOE administrators, some of whom have had little familiarity with the work of DOE and remain for relatively short terms of service, hardly makes for stability or consistency in direction. Administrators in the private sector have much more authority to institute change. In government, even the most able of administrators on short tours find it difficult to effect substantive change in organizations and safety cultures that have evolved over many years.

- DOE operates under a highly compartmentalized organizational structure and an approach in which it is stressed that safety is a responsibility all line operational units must ensure in carrying out their individual missions. All operational units are constrained to operate within bounds defined by statutes, corporate policies, requirements, and practices, and are subject to independent oversight on behalf of corporate management. This classic arrangement works well if the two main organizational elements—and corporate line management and independent oversight—work closely together. Too often, however, this has not happened. Why not?

In my view, reasons for this are:

a. A fundamental requisite for any independent oversight group is technical expertise that matches or exceed those whose work is being reviewed. When expertise is perceived as lacking by those being reviewed, findings are not taken seriously.

b. Tensions inevitably result when one group is chartered to appraise and critique the performance of another. A system that holds the line primarily responsible for safety but uses an internal unit to assess and report to top management on the performance of that line must have in place a management arrangement for resolving differences when they arise and for structuring a path forward. Moreover, the path forward must be appropriately resource loaded if line managers are to be held accountable for the execution of corrective action plans. Historically, these conditions too often have not been present.

c. The DOE complex is mainly an aged one. The need for safety upgrades as revealed by both the Board and DOE's internal assessments is often perceived by the line as a money absorber that has not been budgeted and hence diverts from planned programmatic expenditures. Resistance to improvements recommended for safety reasons appears to be proportional to the perceived diversion from funds already programmed for other purposes. This situation is particularly evident for any major cross-cutting issue when multiple program offices are involved. The ISM concept that work planning and safety planning must proceed as integral functions is a major step forward. However, this concept has yet to be made a universal reality within DOE.

d. The effectiveness of the independent internal auditing and appraisal function within DOE has historically been quite limited because there has never consistently been a strong decision-making, action-forcing authority within DOE to see that such appraisals are given their just due. The Board's Recommendation 98-1 resulted in an upgraded corrective actions program with mandatory tracking of actions to be responsive to the internal auditing functions of the independent oversight group. However, this upgraded CAT program will be only as effective as the line Program Secretarial Offices (PSOs) exercise it.

I do not believe that any of these defects are fatal flaws. I believe they are being addressed by senior management of DOE as evident by this gathering.

Maintaining Momentum and Continuity

<u>What Do I Think</u>

With respect to maintaining momentum and continuity, the establishment with contractors of the general requirements under which work is to be done and authorization agreements that capture specifics for high hazards facilities go a long way to ensuring momentum and continuity. For the federal workforce, DOE has yet to deal effectively with the organization and deployment of the career staff that must maintain continuity through administration changes. Each new administration is faced with organizational units seeking to maintain existing functions or acquiring more. The lines between DOE Headquarters and the field constantly shift. The use and empowerment of corporate resources in Quality Assurance (QA) and independent ES&H assessments wax and wane. The situation calls for a systematic DOE-wide assessment of the safety-related functions of its staff and the restructuring of its resources to best satisfy those functions. In so doing, there should be clear visibility as to how and by whom each PSO will satisfy his/her safety responsibilities, and to whom the National Nuclear Security Administration (NNSA), the Deputy Secretary and Under Secretary, will look to fulfill theirs. In my view, DOE's internal safety management program would benefit from designation of a senior executive with recognized safety and mission expertise to oversee each PSO's safety programs. This cadre of experts could do much to provide the continuity for the DOE program. For the longer term, I would like to see DOE home-grow a senior executive to support DOE's Chief Operation Officer (COO) as its Chief Safety Officer (CSO).

Deployment of ES&H Resources

What Do I See

I see a great deal of duplication of ES&H resources and a need to realign them to perform in a more cohesive and effective way.

The Department of Energy's ES&H program is the outgrowth of years of change in the nature of its missions and in the statutory framework within which it must satisfy those missions. Unfortunately, in government, organizations change much more slowly than missions, even though able administrators attempt to effect change. I see an ES&H organizational structure in DOE that is more a vestige of the past than an effective means for taking ISM into the future. The functions required for an effective program are administered as disconnected parts by individual organizational units rather than a cohesive whole.

DOE's hierarchal structure, operating under the well-accepted concept that line management has primary responsibility for safety, has led to a proliferation of ES&H groups within the line at DOE Headquarters. Although a few years ago, most ES&H functions were delegated to the Field Managers, a substantial number of DOE Headquarters ES&H staff has been retained. The end result is that, today, there appears to be an imbalance of resources between the field and DOE Headquarters and between line and line "independent oversight."

DOE Headquarters ES&H resources exist in pods supporting each PSO and a large centralized group in EH serving an eclectic set of non-line functions. Historically, EH has served as a pooled resource of ES&H expertise available to assist those with mission responsibilities. However, the use by program offices of EH resources has decreased substantially over the years as the program and field offices have been able to acquire their own expertise. This trend accelerated even more so after EH was assigned a few years ago the independent review of operations and Price-Anderson enforcement functions.

I know from discussion with Under Secretary Card and Deputy Secretary Blake that a relook at the deployment of ES&H resources is well underway. This meeting will focus on some key issues the Department of Energy seeks to address. In performing this relook, it is important to benefit from lessons learned from similar exercises in the past. Two key ones I would stress are:

1. Keep separate the ES&H organizational units that perform line functions from those performing independent assessments and Price-Anderson enforcement.

2. Encourage and support effective contractor self-assessments and line management oversight of them but maintain some independent oversight capabilities.

To these, I would add several more:

3. Tailor frequency and scope of independent safety reviews to the performance record of the contractor as evidenced by results of line and self-assessments and results of external reviewers (Environmental Protection Agency, States, Defense Nuclear Facilities Safety Board, and the Inspector General).

4. DOE contractors should consider the development of a self-assessment/self-improvement program comparable to that of the Institute for Nuclear Power Operations or the Center for Chemical Process Safety. The common use by DOE's contractors of such a center of excellence to promote programs and practices for protection of the public, workers, and the environment could go a long way toward achieving uniformly high standards of excellence in carrying out DOE's diverse missions. A major step forward in this direction was made by DOE contractors in setting up the Energy Facilities Contractors Group (EFCOG). This positive initiative merits more active encouragement and recognition of senior safety officials in line management of DOE.

5. By DOE Policy 450.5, on line ES&H oversight, DOE has made strong contractor self-assessment programs the mainstay of its ES&H implementation program. DOE should act aggressively to ensure that its contractors perform this function. The potential

concern about Price-Anderson civil penalties for self-assessment findings needs to be addressed.

Responsibility/Accountability

What Do I See

Responsibilities for which federal employees are accountable are defined primarily in position descriptions and terms accepted as conditions of employment. For contractors, responsibilities are established by the terms and conditions of contracts and statutes. The major functions of the DOE workforce are seeing that (1) terms and conditions of contracts, including the availability of requisite funding, are sufficiently encompassing to ensure that DOE's mission will be accomplished safely and effectively; (2) such terms and conditions are satisfied; and (3) deviations from agreed-upon terms and conditions are subject to enforcement provisions, including penalties when appropriate.

While progress is being made in better defining specific terms and conditions, there is less evidence that measures to hold those thus committed accountable for compliance are keeping pace. Enforcement measures are fairly well established for situations that reflect willful neglect or inept implementation of good safety practices defined in regulations, i.e., the EH-10 Price-Anderson enforcement program. However, most safety requirements are established through contract terms and conditions, and the practices for achieving accountability through contract provisions are not so well established or executed.

Contracting and contract administration have been done largely in the field, with no apparent uniformity in specified measures for linking the achievement of safety objectives and contract performance ratings and awards. Contract administration has historically given greater emphasis to tracking dollars (costs and schedules) than to ensuring that safety-related terms and conditions are satisfied. While a major step forward was taken a few years ago to tie award fees to specified performance goals, this means of defining safety-related expectations and establishing a basis for accountability is new. Its effectiveness will depend greatly on how well DOE's site contracting officers enforce these safety-related provisions.

What do I think

Responsibility and accountability are frequently treated as companion functions and rightfully so, but only if responsibility is accompanied by the requisite authority and resources. Where responsibilities and authorities are poorly defined and requisite resources are not provided to fulfill responsibilities, accountability is difficult to establish. Where responsibility is assigned to all, no one feels uniquely responsible. To address this issue, I think DOE should:

- Reinvigorate efforts to (1) establish and maintain the currency of a Functions, Responsibilities and Authorities Manual for the federal workforce, and (2) ensure that position descriptions and associated annual performance appraisals of senior personnel with substantive responsibilities for safety functions reflect those responsibilities.

- Establish the specific terms and conditions that result from implementation of the ISM concept as the primary frame of reference for contractor accountability.

- Include in Price-Anderson Act investigations of unusual occurrences or general appraisals of safety performance an examination of the "accountability network," including both contractor and federal workforces. Where contractor penalties result from such inquires, consideration should also be given to whether the responsible federal office should also be subject to disciplinary actions. A poor performing contractor is indicative of a poor performing federal oversight office. The emphasis in all cases should be on determination of the root causes of unacceptable performance to enable the development of corrective actions and thereby avoid repetition. The objective of enforcement should be corrective, not punitive.

- Establish a fee-award and Price-Anderson enforcement program that is perceived and executed as a cohesive whole, even though its enforcement authorities stem from different sources, and enforcement actions are executed by different DOE entities.

For my last remark, let me say that the commitment and support of the high-level officials of both the government and contractors are truly necessary for taking ISM to the next level but not sufficient. Worker involvement and commitment is absolutely essential if this program is to succeed. I suggest that the next summit session of this type focus on taking this bottoms-up effort to the next higher level.