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PRINCIPLES AND PRACTICES OF SAFETY OVERSIGHT

I welcome the opportunity to meet with this group, all members of DOE's independent, internal safety oversight organization. You have an important mission, namely, that of protecting public health and safety. I'm confident that you view your responsibility in this way, less confident that others accord the function the stature it merits. You can change that and you must.

It is my intent today to define the objective of internal oversight, to describe what it takes to make it effective, and to discuss some of the measures which experience has shown to be either beneficial or detrimental.

The organizations directly responsible for safety are those of the line. The job of internal oversight is different; it is to confirm independently that the line is discharging its responsibilities. The objective of such oversight is to provide independent confirmation that safety requirements have been met, and are being met, at the facility or activity for which such oversight is provided. To the extent that you are effective in meeting this challenge, you will encounter increasingly fewer deficiencies over time. But I must add that no independent oversight organization has managed to work itself out of a job yet.

So much for independent oversight responsibility within DOE. But outside DOE lies another independent safety oversight group, the Defense Nuclear Facilities Safety Board (Board). The Board is responsible for providing external oversight of the defense nuclear facilities of the department so as to assure that public health and safety are protected. In doing so, the Board must evaluate the performance of line organizations in DOE and also evaluate internal oversight

performance, both in relation to the line and other organizations. It should be obvious from this
that there is a sense in which one could say that your task is to make the Board redundant. The
Board would like nothing so much as to see the line in DOE performing exceptionally well and to
know that they were being held to this high level by the effective work of internal oversight. To
the extent that you do this, you will help establish the rational state of equilibrium that should
obtain among line, internal oversight and external oversight.

I have said what your responsibility is and what responsibility resides with the Board; now let me
tell you--as emphatically as I can--what it is not. You do not have the responsibility for safety,
but rather for confirming that the line is discharging its responsibility for safety effectively. Any
action by you which operates to weaken the line is inimical to safety. This cannot be said often
enough. You will of course assert that you would never want to do this. But let me suggest a
few ways in which many do so, perhaps unwittingly. We all fall into these traps at one time or
another. The worst thing is to do it and not know you're doing it.

The first way to transgress in the above manner is to assist the line out of its difficulties. Now I
am not talking about your proper activities, which are to observe accurately and report what you
see objectively. Everything you do in this respect is of assistance to the line. This should be self-
evident. What is to be deplored is your observing a problem being encountered by the line and
then offering a solution. This is emphatically not your job. It can have deleterious effects like the
following:

- It can deprive line management of the opportunity to fix a problem which they have been apprised of and which they--not you--have the responsibility to correct. Line management may understand that the problem is more far reaching than you do. Don't deprive them of the opportunity to address it in a systematic manner and then to remove its root causes.

- It involves you in a conflict of interest, especially if the solution doesn't work. You may subsequently be tempted not to report it objectively.

All too frequently, those in an oversight role are tempted to demonstrate their knowledge by
offering neat solutions to the problems of others. If you can't resist this tendency--and many
can't--then ask for reassignment to a line job. Otherwise you'll be hurting the line and

compromising the safety effectiveness of your own organization as regards safety. Also to be deplored is observing a problem and not reporting it because you have been given informal assurance of prompt line action. This happens far more frequently than we like to think.

Another way in which you can transgress is perhaps more subtle and is highly personal. It lies in purporting to provide oversight where you do not have the appropriate technical and other qualifications to do so. You may find yourself overseeing operations or activities of which you have deficient understanding. For example, you may be observing an evolution where you have not taken sufficient care to acquire knowledge of the pertinent technical specifications and procedures. In these circumstances, you may find yourself failing to observe situations in which procedures or safety limits are being violated without your knowing it. By appearing to countenance these violations you will have sent a clear signal to operating personnel, one that is destructive of your own stature and reputation and inimical to safety.

The foregoing admonition against internal safety oversight engaging in activities to assist the line is based on sound safety principles. It is also to be recognized that it is proscribed by legislation, by the statute known as the Cohen amendment. The department believes that it has erected barriers to insulate oversight from such assistance. This should strengthen your determination not to challenge those barriers.

It is pertinent at this point to cite a fundamental principle of effective oversight, namely, that no one ought to presume that he or she can provide it unless at least equal in competence to those over whom it is being exercised. This principle has been at the heart of the considerable attention Board Members have given to the selection of its staff and their continuing educational and other professional development. Commitment to this principle can and should be an objective of your organization; but it can be realized only if each of you makes the commitment a personal one.

A most important requirement is to decide how to assign priorities to the tasks that confront you. Taken in their entirety they will appear daunting in complexity, both technically and administratively. Determine to cut through the mass and concentrate on first principles, on the three pillars of safety: personnel, standards, and organization. The reason is simple; any activity which is performed by fully competent personnel, to approved standards and

procedures, and
under sound organizational arrangements has a high probability of being a safe operation.

First priority should be accorded to personnel. The most difficult condition to establish is that
personnel are qualified by means of education, training, and experience for their assignments. In
DOE there are very many reasons why you are likely to find problems. Most of them will not
have been caused by deficient oversight. But independent oversight does have the highly
important responsibility of making assessments which identify those who are not qualified and
also of finding out just why the line tolerates this situation.

You probably know that in five successive Annual Reports, the Board has informed Congress that
the most important safety problem in the Department is the lack of sufficient numbers of
technically qualified personnel. This situation has developed over many years, mainly as a result
of deficient line management at all levels up to the top. But effective independent oversight could
have, and should have, consistently and constantly, brought this situation to the attention of the
line management until corrective action was taken.

Urged on by the Board, the department is now trying to correct this serious problem. No one
doubts the difficulty of the task. Success depends most certainly and importantly on fully
effective internal oversight. Each of you must take this as a personal and professional challenge
of the highest importance. You will be faced with formidable difficulties. The most important
have to do with yourself. First, you must have or acquire the competence to make objective
assessments. Confidence comes with competence. Determine its attributes and acquire it.
Equally important, perhaps more problematic, is will power. Few things are more difficult than to
make objective assessments of the qualifications of others. You can do so only if you have the
will to do so. Much of the success of internal oversight will be the result of how well you execute
this vitally important function.

Second only in importance to personnel is standards. This is especially true in DOE. The reason
is that there has been an animus of long standing against the use of standards in DOE. Except for
the naval reactors program and the AEC's breeder reactor program there has never been a sound
standards-based safety program in DOE. A priority task for you will be to help change that. You
must understand the objectives and the measures established for achieving them, both

generally
and at the facilities where they are being applied. The independent assessments you make of these
efforts will be of utmost importance to success, and of crucial importance to safety.

Let me give an example of what I mean. As you know, some DOE safety Orders are gradually
being replaced by Rules. These Rules require the contractor to develop implementation plans and
submit them to the DOE for approval. This places a heavy responsibility on DOE to perform
rigorous and technically satisfactory reviews. Accordingly it requires DOE to have the technical
expertise to do so. Line organizations will have to establish that capability at all sites where those
approval actions are being taken. You will have to make the independent assessments which
either confirm or question whether this is being done effectively. Also, you will have noted that
these Rules, unlike Orders, do not identify the organizations which are responsible for carrying
them out. The Rule on Quality Assurance provides an excellent example. You will, of course,
know that this Rule has replaced the comprehensive Order on the same topic. Criterion 2 of that
Order required that all personnel were to be qualified and trained for the tasks to which they were
assigned. Yet, it was difficult to establish that sufficient attention was being given to this
requirement. Now that the criterion has been carried over into the Rule, you will have to inquire
how these responsibilities are assigned, whether they are in writing, whether and how they are
understood, and whether they are being executed.

Reflecting on these tasks ahead, one might be tempted to conclude that they are simply beyond
the resources allotted. Whether this is true or not will depend on how these resources are
managed. If the internal oversight organization allows itself to become the principal means by
which safety is established at every facility; if, in fact, line organizations are relying on you to do
their job, you will fail. You will have only confirmed the line in weakness and have deprived DOE
of the independent back-up on which the Secretary and top-most levels of management had
supposed they could rely. The safety net will have vaporized.

Even if you do all these things, doubts may still arise as to whether internal oversight has the
power to effect the changes which your assessments call for. In this respect I would urge you
never to underestimate what can be accomplished in the name of safety. It has been my
experience that, when Congress and the public are fully and properly informed on an

issue
pertaining to public safety in matters involving nuclear radiation, they will insist on appropriate
corrective action being taken. Notice the qualification, "if Congress and the public are fully and
properly informed." All too often, those with safety concerns fail to demonstrate the courage
needed to bring unpleasant news about safety to their superiors. This is in sharp contrast to the
Admiral Rickover's principle, which was to spare him the good news; all he had time for was the
bad. In any event, if your efforts are not bringing their intended effects you would do well to ask
first whether they are being put forward objectively, formally, and forcefully, or rather tempered
by a concern for what others want to hear.
Again, an example, which is all too fresh in my mind. At one site, the Board was the means by
which grave deficiencies in training and qualification of operators at a major facility were
corrected before start-up. The Board had supposed that the lesson learned would be extended by
DOE and contractor line management to other facilities. However, the same situation was
encountered again and again, facility by facility, at the same site. The contractor and the DOE,
both on site and at headquarters, appeared to have learned little from the first experience. An
independent oversight organization just cannot allow this to occur. It has to use its resources
with telling effect vis-a-vis the line so that lessons learned will bring corrective action across the
entire site, even across all sites, not just at one facility. When this does not happen, there is a
responsibility to take the problem to the very top levels of management. I am sure that your own
internal safety management understands this and is well prepared to apply the principle involved.
But they can apply it only to the extent that each one of you operates in your place with
competence, confidence, commitment, and utter objectivity.

The third matter requiring your priority attention concerns organizational arrangements as they
relate to safety. In most situations this is expected to be a straight forward matter. Not so, in
DOE at this juncture. The simple, astonishing fact is that even now, DOE has not defined
organizational responsibilities for safety at defense nuclear facilities with sufficient clarity in
writing. In response to repeated requests for over a year by the Board, the Secretary promulgated
a Functions and Responsibilities Manual in June, 1994. This manual enumerated the requirements
in relevant DOE Orders. These requirements obliged the organizations involved to develop
complementary documentation defining such matters as their respective safety

responsibilities.
That FAR Manual is now out-of-date and the Secretary has agreed to up-date it. To do so will
require a well-managed, high priority effort, an effort which is not yet strongly established.

Internal safety oversight must help in this effort. It can do so--beginning right now--by calling
attention in its assessments to the need for clear written definitions and understanding of safety
responsibilities, wherever they are found lacking. You must not allow yourselves to be satisfied
by the vague general phrases which one hears frequently like "more responsibilities being assigned
to the field and away from headquarters." You must ask what specific responsibilities, to whom,
from where, and by what written authority. Primary responsibility for defining these assignments
lies elsewhere. But, if they have not been made, internal oversight must call attention to the fact.
Otherwise, you will be failing in a fundamental responsibility to your organization, to top
management, to yourselves, and to safety.

Organizational arrangements have large safety implications. To the extent that line responsibility
is transferred from headquarters to DOE in the field, questions are raised as to just which
organizations and individuals in headquarters retain the responsibility for making sure that the
field organizations are carrying out those responsibilities. The answers which have been given to
this question thus far have been vague, uncertain, and are therefore unacceptable. The central
question is whether assistant secretaries responsible for defense nuclear activities are responsible
unequivocally for the effective performance of field organizations as regards safety. A closely
related question is whether they are to have the technical personnel resources to carry out this
responsibility. These are matters of such large safety significance that internal safety oversight
must address them.

There are also important matters which pertain to the internal oversight organization itself. A
highly important one is the coupling between its representatives in the field and the head of the
organization. The fewer the layers the better. My own experience, both as a field representative
and as a headquarters manager, is that the most effective arrangement is for field representatives
to report to the head of the organization directly. This arrangement heightens the stature of the
representative and intensifies his sense of responsibility. It removes the possibility that he or she

will become disillusioned from not being heard with all force and speed as a result of layering.
Finally, it brings headquarters into the most direct contact possible with what is happening on site.
That, after all , is where safety is being protected, or where it is not.

Early in my remarks, I called for the establishment of a rational balance in safety matters among DOE line organizations, internal oversight, and external oversight by the Board. Too much reliance, in my view, is being placed de facto on the Board to initiate recommendations for safety problems which ought to have been identified and corrective action taken by DOE. That is to say, further, that these actions should have been initiated by the DOE line in the first place; but failing that, corrective action should have been called for by internal oversight. Surely this could have been done across a wide range of matters: personnel, standards, safety organization, radiation protection, conduct of operation, and the like.

In this connection, let me urge that each of you who has not yet done so, to become familiar in detail with the Recommendations which the Board has made and the associated Implementation Plans developed by DOE. These Implementation Plans are binding commitments made by the Secretary to the Board. The Board and its staff monitor their implementation carefully. Even so, I assume that such Implementation Plans are under your internal oversight cognizance. Certainly it would be preferable if you were to identify lapses and delays in carrying out these plans before the Board is called upon to draw attention to them. No doubt, DOE management would much prefer this. To the extent that internal oversight does so, it will enable the Board to better utilize its limited resources and this will contribute toward arriving at that balance which is implicit in the respective responsibilities of the DOE and the Board.

The emphasis in my remarks thus far has been on deficiencies within DOE itself as distinguished from those among its laboratories and contractors. The emphasis was deliberate. My experience in the naval reactors program and the AEC's breeder reactor program has long since convinced me that the main way to improve contractor and laboratory performance is to improve DOE in-house technical management capability and then use that capability to elicit the level of performance required. And yet, I see indications that DOE is moving in the opposite direction. The trend seems to be toward a management posture in which the contractor and labs will be expected to do what is right without forceful guidance, technical direction and

internal oversight
from DOE. The arrangement has not worked in DOE and its predecessor organizations in the
past; I have grave doubts that it will work now or in the future.

At the outset, I spoke of the need to bring internal safety up to the stature it merits by reason of
its intrinsic importance to protecting public health and safety. I am reminded here of an incident
which has to do with according matters their proper stature. During World War II, Winston
Churchill was despondent because of continuing British reverses while fighting Rommel in the
North African desert. Pondering the problem on the bridge of the Prince of Wales in mid-Atlantic
the following sentence came to his mind: "Renown awaits the commander who restores artillery
to its rightful place on the field of battle from which it has been ousted by [tanks]." He found
commanders like Montgomery to apply this principle and the tide of battle was turned. We all
need to develop that type of vision, in this case about the importance of safety oversight.

You need that type of vision about your own roles. What more important public service could
you perform? After seven years as a prisoner of war, Senator John McCain said, "The Vietnam
experience made me want to be involved more in public service and seeing things happen right."
You would not be here if you didn't have something of that motivation. It remains only for you to
seize the opportunity which is now in your grasp, of seeing to it that "things happen right."

A PERSONAL TECHNICAL INVENTORY

ù In which areas am I technically qualified?

ù How abreast am I of the technical practices and innovations that have taken place in the last
5 years?

ù Do I read professional journals on the subjects concerning which I may be expected to
make assessments?

ù Have I actually performed work in the field comparable to that which I may be expected to
assess?

ù Have I made myself aware of the educational opportunities which are available to me to
increase the depth of my understanding in a technical discipline?

ù Am I taking advantage of them?

ù When was the last time I took an academic course in a technical subject?

ù How many technical standards are you familiar with?

ù When was the last time that I actually performed an engineering calculation or tried to
make a piece of equipment work?

ù How many standards are you familiar with?

ù Do you know that DOE has embarked on a course of developing new technical standards in
several areas such as plutonium storage and stabilization?

ù Have you exhibited any interest in any of these standards or in others?

ù Are there good practices which you are aware of in other industrial settings which may be
of value to DOE?

ù Have you tried to influence DOE to adopt them?