July 16, 1999

MEMORANDUM FOR DOE PAAA COORDINATORS
CONTRACTOR PAAA COORDINATORS

FROM: R. KEITH CHRISTOPHER
DIRECTOR
OFFICE OF ENFORCEMENT AND INVESTIGATION

SUBJECT: Enforcement Guidance Supplement 99-02:
DOE Enforcement Activities of Internal Dosimetry Program Requirements

Section 1.3 of the Operational Procedure entitled Enforcement of DOE Nuclear Safety Requirements under Price-Anderson Amendments Act of 1988, published in June 1998, provides the opportunity for the Office of Enforcement and Investigation (EH Enforcement) to issue clarifying guidance in a timely manner with respect to the processes used in its enforcement activities. The focus of this enforcement guidance clarifies internal dosimetry program requirements identified by the Department of Energy's nuclear safety requirements in 10 CFR 835 (Occupational Radiation Protection Programs) and 10 CFR 830.120 (Quality Assurance Requirements). To develop the enforcement guidance, EH Enforcement convened a DOE working group which included representatives from the Field Office elements and the Office of Worker Protection Programs and Hazards Management, which is the office responsible for the content and technical clarifications of 10 CFR 835. The guide discusses the following areas: (1) prospective determination of employees that are "likely to receive" 100 millirem (mrem) or greater per 10 CFR 835.402, (Individual Monitoring); (2) application of enforcement policy in taking credit for respiratory protection in prospective determinations; (3) use of contractor's policies regarding personnel internal exposure to radioactive material; (4) As Low As Reasonably Achievable (ALARA) programs; (5) clarification of enforcement with regard to internal dosimetry programs; and Final Comments.

1. PROSPECTIVE DETERMINATION OF EMPLOYEES "LIKELY TO RECEIVE" 100 MREM OR MORE

It is important that contractors perform a prospective determination to identify radiological workers who are required to be monitored by 10 CFR 835.402(c), i.e., those workers likely to receive 100 mrem or more from all occupational radionuclide intakes in a year. Contractors should establish and document a clear basis for the

prospective determination as part of the contractor's existing internal dosimetry program and/or technical basis documents. Such documents should include the technical rationale used by the contractor for including or excluding populations of radiological workers from monitoring for internal deposition of radioactive materials. Contractors should maintain these documents as part of the contractor's record system. However, if the contractor does not adequately document the basis for identifying the radiological worker population that is required to participate in the internal dosimetry program, then, for compliance purposes, all workers participating in the internal dosimetry program will be considered likely to receive 100 mrem or more in a year and are being monitored per 10 CFR 835.402.

It should be recognized that changes in a facility's operations or operational status can and do occur, particularly in the area of decommissioning and decontamination activities in which previously contained radioactive materials systems are opened and accessed by workers. These operational changes would then require reconsideration of the working conditions and modification of the determination of the "likely" exposed population of radiological workers when performing a prospective determination of employees likely to receive 100 mrem or more in a year. Contractors should also continually reassess the determination when initiating operations that are infrequently performed.

As with all safety programs implemented by the DOE-contractor community, the technical bases, decisions, and implementation of the safety programs at various sites will continue to be subject to DOE review and evaluation. A contractor's determination that a population of workers does not require monitoring under 10 CFR 835.402 does not automatically result in the monitoring (or lack of monitoring) of those individuals being outside DOE's purview. As a result of DOE's review, differences in professional opinion may arise or new factors and considerations may result. As always, DOE will work to resolve any differences; however, no programs, decisions or bases supporting the determination of the population of workers required to be monitored under 10 CFR 835.402 will be considered outside DOE's continued purview.

2. APPLICATION OF ENFORCEMENT POLICY IN TAKING CREDIT FOR RESPIRATORY PROTECTION IN PROSPECTIVE DETERMINATIONS

In work situations where a contractor is considering the use of respiratory protection in performing prospective exposure estimates to identify those individuals who require internal exposure monitoring per 10 CFR 835.402, credit for respiratory protection may be allowable in certain circumstances. For enforcement purposes, credit for respiratory protection may be considered provided that the contractor has well planned and controlled work activities, timely and accurate monitoring of work areas, a demonstrable history of implementing effective work controls, and a respiratory protection program that meets the OSHA requirements of 29 CFR

1910.134(b). Credit for respiratory protection should not be taken, however, for situations in which potential airborne radiological releases are not highly predictable or controllable. Examples of such situations include facilities with multiple release points, unidentified or chronic releases, or instances of airborne release not closely associated with planned work activities. The contractor's analysis of the effectiveness of the site's respiratory protection program and documented position in taking credit for respiratory protection is but one aspect of the overall prospective determination and is, therefore, subject to EH Enforcement review.

3. USE OF CONTRACTOR POLICIES REGARDING PERSONNEL EXPOSURES TO RADIOACTIVE MATERIAL

Some contractors may voluntarily establish policies that do not permit any intakes of radioactive material or that limit intakes of radioactive material to less than 100 mrem from all occupational intakes in one year. Such a policy, however, by itself, is not sufficient to conclude that a routine bioassay program at such facilities would not be required. Policy implementation through detailed work control and internal dosimetry documents that ensure compliance with 10 CFR 835.402 would be required.

Additionally, the contractor at a site should have a documented technical basis that identifies known working conditions in the various facilities and a history of low internal exposures for the site's radiological workers. As discussed in item 1, changes in a facility's operations or operational status can and do occur, particularly in the area of decommissioning and decontamination activities where previously "sealed or contained" systems are opened and accessed by the workers. These operational changes would then require reconsideration of the working conditions and the potentially radiologically exposed working population.

4. AS LOW AS REASONABLY ACHIEVABLE PROGRAMS

ALARA is not a numerical value or dose level but rather a process, which has as its goal the objective of maintaining doses as low as is reasonably achievable. Consequently, the monitoring level of 100 mrem established by 10 CFR 835.402(c)(1) does not define a threshold value for ALARA or for enforcement considerations

5. CLARIFICATION OF ENFORCEMENT WITH REGARD TO INTERNAL DOSIMETRY PROGRAMS

Some contractors have chosen, at their discretion, to extend bioassay monitoring programs to include individuals not meeting the "likely" criteria contained in 10 CFR 835.402(c)(1). Contractors may perform such discretionary monitoring for a variety of reasons, such as meeting union commitments or as a program quality

control measure.

EH Enforcement views the following specific elements of a discretionary monitoring program as falling within Price-Anderson regulatory space. They are consequently subject to review and potential enforcement:

a. The contractor's prospective analysis, determination and supporting rationale for identifying the worker population that is not "likely to receive 100 mrem."

b. The contractor's mechanisms for timely, continuing analysis and feedback from the results of the discretionary bioassay program. Positive bioassay results or trends may indicate that individuals within the "discretionary" population require re-evaluation and actually fall under the monitoring requirements of 10 CFR 835.402 in that these individuals may be likely to receive 100 mrem in one year.

c. The contractor's mechanism for recording the dose results from discretionary monitoring in accordance with 10 CFR 835.702.

Additionally, a failure of the discretionary monitoring program may indicate a similar failure of the mandatory program. Moreover, if a contractor operates its discretionary and mandatory bioassay programs together as a unified program, a failure of the discretionary program may correlate to a systemic failure in the entire program and would require evaluation by EH Enforcement. Therefore, a failure in the discretionary program may demonstrate a pattern of noncompliance in the mandatory bioassay program required by 10 CFR 835.402(c).

In general, instances of procedural noncompliance related directly to the discretionary monitoring aspects of the bioassay program would fall outside the constraints of 10 CFR 835.402 and would not be subject to DOE enforcement unless there was a significant breakdown that has the potential to affect compliance with the general requirements of 10 CFR 835.401. In light of the above, the contractor is cautioned, however, not to reduce overall emphasis on bioassay procedure compliance. Attempts to implement a graded procedural compliance based on perceived regulatory significance may serve to confuse and send an inappropriate message to the workforce. EH Enforcement will make a determination of whether regulatory violations occurred with respect to the discretionary bioassay program on a case by case basis, taking into account the commitments established in the Radiation Protection Program for 10 CFR 835 and in the Quality Assurance Program for 10 CFR 830.120.

FINAL COMMENTS

For the purposes of enforcement, DOE is primarily concerned with the programmatic implications of repetitive and long-term bioassay program problems that have not been

corrected by the contractor. DOE expects the contractor to effectively manage and implement their documented bioassay programs including being knowledgeable of the extent of any deficiencies. A single instance of procedural noncompliance, e.g., failure to collect a bioassay sample required by the 10 CFR 835.402 (Internal Dosimetry Program), would not normally have sufficient safety significance for enforcement action. As stated in EH Enforcement's Operational Procedure Identifying, Reporting and Tracking Nuclear Safety Noncompliances under Price-Anderson Amendments Act of 1988, dated June 1998, "DOE recommends that where a condition indicates a sufficient concern to warrant some remedial action to correct a common underlying cause or weakness in controls, the condition be considered programmatic." The safety significance of the failure to collect bioassay samples would escalate if the failure recurred or extended to additional samples.

In addition, EH Enforcement re-emphasizes its interest on contractor self-identification of 10 CFR 835 and 10 CFR 830 noncompliances and the subsequent implementation of effective corrective actions. Pro-active contractor identification of issues related to the internal dose evaluation program would be considered by EH Enforcement for mitigation purposes in the resolution of an enforcement case.

Enforcement Guidance Supplements will be incorporated in later revisions of the DOE Enforcement Handbook and will be made available on the Office of Enforcement and Investigation web page (**http://tis-nt.eh.doe.gov/enforce/).** If you have any questions regarding this Enforcement guidance, do not hesitate to contact me or Susan Adamovitz of my staff at 301-903-0100.