

MEMORANDUM TO: L.J. Callan, Administrator February 4, 1997
Region IV

FROM: Carl J. Paperiello, Director /s/
Office of Nuclear Material Safety
and Safeguards

SUBJECT: REQUEST FOR COMMENTS ON THE URANIUM RECOVERY PROGRAM
NON-COMMON PERFORMANCE INDICATOR FOR THE IMPEP REVIEWS

Attached for your review and comment is the draft description of the non-common performance indicator "Uranium Recovery Program" and the evaluation criteria to be used for this indicator during the interim implementation of the Integrated Materials Performance Evaluation Program (IMPEP). These criteria will be field tested during the FY 1997 IMPEP reviews. We would appreciate your comments by February 28, 1997.

The way the review process is set up for these criteria, you will have another opportunity to comment later this year before the criteria are issued in final form.

You will note that the draft uranium recovery description was written in a manner that is consistent with the other IMPEP performance indicators, which are applied both to Agreement State and Regional program evaluations. As a result, in addition to describing the evaluation of inspection programs, it also discusses the evaluation of licensing programs, which clearly does not apply to Region IV. Although we have asked for your comments on the entire paper, we do not mean to suggest that the IMPEP review of Region IV will include licensing.

Please submit your comments to Joseph J. Holonich, Chief, Uranium Recovery Branch, Division of Waste Management, MS-T7J9.

Attachment: As stated

cc: H. Miller, Region I
L. Reyes, Region II
A. Beach, Region III

CONTACT: Janet Lambert, NMSS/DWM
415-6710

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DATE	1/23/97	1/23/97	2/2/97	2/4/97

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* see previous concurrence

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Q.L.
1/27/97

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DRAFT FOR COMMENTS¹

URANIUM RECOVERY PROGRAM
NON-COMMON INDICATOR

¹ This information request has been approved by OMB, NO. 3150-0029, expiration 4/30/98. Estimated burden per response to comply with this voluntary collection request: 1 hour. Forward comments regarding burden estimate to the Information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0052), Office of Management and Budget, Washington, DC 20503. NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

PART II

Non-Common Performance Indicators

General

The following paragraphs provide a description of the non-common performance indicators to be evaluated for each Region and Agreement State, as appropriate. The evaluation criteria (i.e. performance standards) against which these indicators are to be assessed are described in Part II. The program-specific evaluation criteria (i.e. performance standards) against which these indicators are to be assessed are described in Part III of this handbook.

The performance indicators should be used as a starting point of inquiry. This, in turn, should lead program evaluators to a more careful examination of the underlying conditions, or "root causes" of potential problem areas. Evaluators may find correlations exist between two or more performance indicators. In this situation, the impact of individual performance symptoms could be compounded when combined with others. Conversely, a regulatory program measured as potentially weak against one particular indicator could, nonetheless, be rated as strong overall, if there are sufficient mitigating factors with respect to other indicators.

Non-Common Performance Indicator - Uranium Recovery Program

To evaluate the performance of the Region IV and Agreement State programs in an Integrated Materials Performance Evaluation Program (IMPEP) fashion, five areas will be evaluated to determine if the performance of the Region IV or an Agreement State's Uranium Recovery Program is adequate.

1. Status of Uranium Recovery Inspection Program

Periodic inspections of licensed uranium recovery operations are essential to assure that activities are being conducted in compliance with regulatory requirements and consistent with good safety practices. The frequency of inspections as specified in the NRC Inspection Manual Chapter 2600 for insitu leach mining facilities, and in Chapter 2801 for conventional uranium and thorium mills, is yearly. Uranium recovery facilities that are on standby or under decommissioning also should be inspected at that frequency. Inspections should occur more frequently if significant regulatory concerns develop, before major changes are made to operations, or if generic problems are identified. There must be a capability for maintaining and retrieving statistical data on the status of the inspection program for the uranium and thorium program.

2. Technical Staffing and Training

The ability to conduct effective licensing and inspection programs is largely dependent on having a sufficient number of experienced, knowledgeable, well-trained technical personnel. Under certain conditions, staff turnover could have an adverse effect on the implementation of these programs, and thus could affect public health and safety.

Review of staffing also requires a consideration and evaluation of the levels of training and qualification of the technical staff. Professional staff should normally have bachelor's degrees or equivalent training in the physical sciences, life or earth sciences, or engineering. Staff and support contractors qualifications, training and experience should include the disciplines of health physics, civil or mechanical engineering, geology, hydrology, and other earth sciences, and environmental science. Training requirements for NRC license reviewers and inspectors are specified in Inspection Manual Chapter (IMC) 1246. Agreement States should have training and qualification requirements that are equivalent to those in IMC 1246. The requirements include a combination of classroom requirements and practical on-the-job training.

In addition, the qualification process for NRC uranium recovery program personnel includes demonstration of knowledge on relevant sections of the Code of Federal Regulations, completion of a Qualifications Journal, and appearance before a Qualifications Board. A program for training and qualification of personnel should be present and adhered to in Agreement State programs. The evaluation standard measures the overall quality of training available to, and taken by, uranium recovery program personnel. The training of staff can be accomplished through a combination of classroom requirements and practical on-the-job training. The staff should be afforded opportunities for training that are consistent with the needs of the uranium recovery program, such as attendance at counterpart meetings, university programs and national conventions.

For this area, qualitative as well as quantitative measures must be considered. In particular, the reason for apparent trends in staffing must be explored. Is the rate of turnover and the degree of under-staffing symptomatic of a chronic problem or is it merely a short-term phenomenon? Why is turnover high? What steps are being taken to address this? What impact is it having on other performance indicators?

3. Technical Quality of Licensing Actions

An acceptable program for licensing uranium recovery activities includes: preparation and use of internal licensing guides and policy memoranda to assure technical quality in the licensing program (when appropriate, NRC Uranium Recovery Program Policy and Guidance System Guides may be used), and to ensure that essential elements of NRC licensing requirements for radiation protection, qualifications of personnel, facilities and equipment, operating and emergency procedures, financial qualification and assurance, closure and decommissioning procedures, and institutional arrangements are met in a manner sufficient to establish a basis for licensing action; prelicensing inspection of complex facilities; and supervisory review, when appropriate.

To evaluate the technical quality of the Agreement State licensing program, an indepth onsite review of an aspect of the uranium recovery license (such as health physics, hydrology, or geotechnical engineering) will be conducted. Technical quality includes not only the review of completed actions, but also an examination of any ongoing requests and license renewals that may have health and safety implications. Technical quality includes review of the States compliance with the statutory requirements or prohibitions in Section 274 of the Atomic Energy Act, as amended.

4. Technical Quality of Inspections

This area provides the qualitative balance to Performance Indicator 1 above, which looks at the status of the inspection program on a quantitative basis. Inspector accompaniments by review team members will be used to evaluate the knowledge and capabilities of the Region and Agreement State inspectors at uranium recovery facilities. These accompaniments will usually occur at a time other than the onsite review of the Region or Agreement State. An acceptable program for conducting inspections for radioactive material licenses includes preparation and use of internal inspection guides and policy memoranda to ensure technical quality in the inspection program (when appropriate, NRC guidance may be used). Reviews in this area focus on the scope, completeness, and technical accuracy of completed inspections and related documentation. Review teams will conduct indepth, onsite reviews of completed inspection reports. In addition, review teams will verify that supervisors generally conduct accompaniments of inspectors on an annual basis to provide management quality assurance.

5. Response to Incidents and Allegations

The quality, thoroughness, and timeliness of a regulator's response to incidents, alleged incidents, and other allegations of safety concerns regarding uranium recovery licensees can have a direct bearing on public health and safety. A careful assessment of incident response and allegation investigation procedures, actual implementation of these procedures, internal and external coordination, and investigative and follow up procedures will be a significant indicator of the overall quality of the program.

PART III

Evaluation Criteria

Region IV and Agreement States with uranium recovery programs will be evaluated using the specific performance indicators described in Part II of this handbook. The following is a discussion of the evaluation criteria.

Non-Common Performance Indicator - Uranium Recovery Inspection Program

Satisfactory. Uranium recovery licensees are inspected at least once a year as prescribed in NRC Inspection Manual Chapters (IMC) 2801 and 2600. Deviations are generally the result of decisions which consider the risk of licensee operation, past licensee performance, and the need to temporarily defer the inspection(s) to address more urgent or more critical priorities. There is clear evidence of an organized "get well" plan to reschedule any missed or deferred inspections. Inspection findings are communicated to licensees at the exit briefings and confirmed formally in writing in a timely manner (30 calendar days as specified in IMC 0610-10).

Review indicates that the qualifications of the technical staff are commensurate with expertise identified as necessary to regulate uranium recovery facilities. The management has developed and implemented a training program for staff. Staff trends that could have an adverse impact on the quality of the program are tracked, analyzed and addressed.

Review of completed licenses and a representative sample of licensing files indicates that license reviews are generally thorough, complete, consistent, and of acceptable technical quality. Health, safety, and environmental issues are properly addressed. License reviewers almost always have the proper signature authority for the cases they review. Special license tie-down conditions are usually stated clearly and are inspectable. Deficiency letters are well-written and used at the proper time. Reviews of renewal applications demonstrate thorough analysis of a licensee's inspection and enforcement history. Applicable guidance documents are available to reviewers in most cases, and are generally followed. No potentially-significant health and safety issues can be linked to licensing practices.

Accompaniments of inspectors combined with an onsite review of a representative cross-section of completed inspection files indicates inspection findings are usually well-founded and well-documented throughout the assessment period. Licensing history and status are incorporated into the inspection program as demonstrated through accompaniments and procedures in place. A review of inspector field

notes or completed reports indicates that most inspections are complete and reviewed promptly by supervisors or management. Procedures are in place and normally used to help identify root causes and poor licensee performance. In most instances, follow up inspections address previously identified open items and/or past violations. Inspection findings generally lead to appropriate and prompt regulatory action. Supervisors accompany nearly all inspectors on an annual basis.

Incident response and allegation procedures are in place and followed in nearly all cases. Actions taken are appropriate, well-coordinated, and timely in most instances. Level of effort is usually commensurate with potential health, safety, and environmental significance of incident. Investigative procedures are appropriate for incident. Need for corrective (enforcement or other) actions is adequately identified to licensees promptly and appropriate follow up measures are taken to assure prompt compliance. Follow up inspections are scheduled and completed, if necessary. Notification to the Office of Nuclear Material Safety and Safeguards (NMSS), the Office for Analysis and Evaluation of Operational Data (AEOD), or the Office of State Programs (OSP), and others as may be appropriate, is usually performed in a timely fashion.

Satisfactory with Recommendations for Improvement. The licensees are inspected at intervals which exceed the IMC 2801 frequencies for conventional uranium mills or the IMC 2600 frequencies for insitu leach facilities by more than 25%. Some of the inspection findings are delayed, or not communicated to licensees within 30 days.

Review determines the presence of some of the following conditions:

- Some staff turnover which adversely impacts the uranium recovery program;
- Some vacant positions, necessary for continued program effectiveness, not readily filled;
- Some evidence of lack of management attention or actions to deal with staffing problems;
- Some of the uranium recovery licensing and inspection personnel not making prompt progress in completing all of the training and qualification requirements. The training and qualification standards include areas that could be improved.
- Some of the new staff are hired with little education or experience in physical and/or life sciences, materials licensing and inspection, civil or mechanical engineering, geology, hydrology, and other earth sciences, and environmental science.

Review indicates that some licensing actions do not fully address health, safety, and environmental concerns or it indicates repeated examples of problems with respect to thoroughness, completeness, consistency, clarity, technical quality and adherence to existing guidance in licensing actions.

Review indicates that uranium recovery inspections occasionally do not address potentially important health, safety, and environmental concerns or it indicates periodic problems with respect to completeness, adherence to procedures, management review, thoroughness, technical quality and consistency. Review indicates that findings in inspection reports and inspection files are, on occasion, not well-founded or well-documented, and the review does not demonstrate an appropriate level of management review. Accompaniment of inspectors by supervisors is performed non-systematically. Follow up actions to inspection findings are often not timely.

Review indicates frequent examples of response to incidents or allegations to be incomplete, inappropriate, poorly-coordinated, or not timely. As a result, potential health, safety, and environmental problems persist. Notification to NMSS, AEOD, or OSP, and others as may be appropriate, is often not performed in a timely fashion.

Unsatisfactory. The licensees are inspected at intervals which exceed the IMC 2801 or IMC 2600 frequencies by more than 100%. Inspections findings are frequently delayed.

Review determines the presence of chronic or acute problems related to some of the following conditions, which cause concerns about their likely impacts on uranium recovery program:

- Significant staff turnover relative to the size of the program.
- Most vacant positions not filled for extended periods.
- Little evidence of management attention or actions to deal with staffing problems.
- Training program is not in place.
- Most of the licensing and inspection personnel not making prompt progress in completing all of the training and qualification requirements.
- New staff members are hired without having education or experience in physical and/or life sciences, materials licensing and inspection, civil or mechanical engineering, geology, hydrology, and other earth sciences, and environmental science.

Review indicates that licensing actions frequently fail to address important health, safety, and environmental concerns or indicates chronic problems with respect to thoroughness, completeness, consistency, clarity, technical quality and adherence to existing guidance in licensing actions.

Review indicates that uranium recovery inspections frequently fail to address potentially important health, safety, and environmental concerns or it indicates chronic problems exist with respect to completeness, adherence to procedures, management review, thoroughness, technical quality and consistency. Accompaniments of inspectors are infrequently performed. Follow up actions to inspection findings are often not timely and appropriate.

Review indicates frequent examples of response to incidents or allegations to be incomplete, inappropriate, poorly-coordinated, or not timely. As a result, potential health, safety, and environmental problems persist. Notification to NMSS, AEOD, or OSP, and others as may be appropriate, is not done or performed in a timely fashion.

Category N. Not applicable.