From: "Schlittler, Charles" <CSCHLITTLER@KMG.com>
To: "Torre Taylor (E-mail)" <TMT@nrc.gov>
Date: Tuesday, June 25, 2002 9:05AM
Subject: Kerr-McGee Comments

Please see attached comments. Please acknowledge receipt.

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Thanks,

Charles Schlittler
Kerr-McGee Corporation
(405) 270-3188

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KERR-McGEE CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

June 24, 2002

Ms. Torre Taylor
Health Physicist - Rulemaking and Guidance
Division of Industrial and Medical Nuclear Safety
U.S. Nuclear Regulatory Commission - Mail Stop T9C24
Washington, DC 20555-0001

Dear Ms. Taylor:

Kerr-McGee commends the Part 40 Working Group for their hard work and dedication to developing an understanding and long-term policy regarding unimportant quantities of source material. The Company appreciates the opportunity to provide the attached comments addressing this important issue.

Kerr-McGee Operating Corporation (KMG) is engaged in oil and gas exploration and titanium dioxide pigment manufacturing in the United States and worldwide. Safety and environmental management systems are integrated into worldwide operations as part of the company's commitment to environmental stewardship, health and safety. Eleven KMG facilities have earned Star Worksite status, the highest recognition for safety under OSHA's Voluntary Protection Program. Eight facilities have received ISO 14000 certification for international environmental management. KMG performance has been commended by MMS through the Safe Award Program.

KMG's operations involve the production or use of materials of natural origin, including petroleum, natural gas and titanium minerals. Naturally occurring radionuclides (in varying amounts) are either integral to these minerals/commodities or associated with production of them. Therefore, KMG has an interest in NRC's regulatory actions, which could alter the existing regulatory structure and threshold for licensable source material or impose additional requirements on materials that are not subject to NRC regulations.

Please call me at (405) 270-3188 if you have questions or comments concerning these documents.

Regards,

KERR-MCGEE CORPORATION
SAFETY AND ENVIRONMENTAL AFFAIRS DIVISION

Charles Schlittler

Charles Schlittler
Program Manager

Comments on Part 40 Jurisdictional Group Options for Regulating Unimportant Quantities of Source Material

June 24, 2002

Overview

KMG believes that the current regulatory structure regarding unimportant quantities of source material should remain unchanged as supported by the following:

- The current regulatory structure –with NRC as the lead agency on uranium and thorium (U+Th) issues- is protective of human health and the environment
- The current structure is in the nation's best interest since the scope of impacted entities, complications of required regulatory action and unjustifiable costs related to implementing the alternatives discussed by the Part 40 Working group would create an unnecessary burden on industry, government and the public.
- NRC staff understand the regulatory and environmental issues surrounding U+Th.
- NRC understands the needs and restrictions applicable to the regulated community.
- The institutional memory to successfully deal with legacy issues resides with NRC.

To change this structure would place unnecessary burden on other agencies and the regulated community –for ambiguous benefit. In this time of mandated balanced budgets and market-based regulatory initiatives, the resources required from the States and other federal agencies to climb the steep learning curve already mastered by NRC could best be invested in other endeavors.

The Current Regulatory Structure Should not be Changed

The 0.05% threshold, in essence, exists for industries processing ores and minerals for their non-radionuclide value. Producers endeavor to use materials with low U+Th concentrations –to avoid licensing requirements. Therefore, such materials with U+Th concentrations above 0.05% are of lower economic value. Thus, market constraints play a crucial role in managing exposure and dose level. If the threshold were lowered, at some point, economic realities will force producers to obtain licenses and begin using the lower cost, but more radioactive, material. The self-limiting feature of the current regulatory structure would, therefore, be lost. Existing limitations on capacity, availability and other issues related to waste disposal would be exacerbated.

Product stewardship is an important, and growing, concept in the industrial minerals industry in this country and one to which KMG is committed. Through continued cooperation between NRC and the regulated community, the Product Stewardship model can be used to provide additional security, at low cost, to our workers and communities.

There is No Technical Basis for Altering the Existing Regulatory Scheme

Given the fact that most of the unimportant quantity materials discussed in NUREG 1717 are industrial commodities that are used only in workplaces subject to OSHA industrial hygiene standards, existing regulatory standards for respirable dust, crystalline silica, and other non-radiological exposure concerns coincidentally serve to reduce exposures to the radiological component of these materials. The Part 40 Group's work has confirmed that NRC's technology based licensing threshold for source material is in fact protective of human health.

NRC's recent scrutiny of concentrations of uranium and thorium excluded from licensing appears to result from concerns internal and external to the Commission: 1) the 1999 Petition for Rulemaking by the State of Colorado and the Organization of Agreement States (seeking increased controls over generally licensed source material); 2) the publication of SECY –99-259 (suggesting that materials below 0.05% U + Th could lead to significant worker and public doses); and 3) a more general desire, expressed in other Commission decisions and documents, to make NRC's rules "risk-informed" and "performance-based."

This introspective look at unimportant quantities of source material culminated in the formation of the Part 40 Interagency Jurisdictional Working Group, which was chartered to "explore the best approach to delineating the responsibilities of the NRC and other Federal agencies and States with regard to low concentrations of uranium and/or thorium and their decay products."[1]

The principal reference work relied upon by the Group (NUREG 1717 *Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials.* NUREG 1717) is a collection of published and anecdotal information on doses, arising from 40.13(a) exempt material, "intended to provide an assessment of potential radiological impacts on the public associated with all of the present exemptions for source and byproduct materials."[2] Unfortunately, doses from exempt materials reported in NUREG 1717 are erroneous i.e., up to 4000 mrem/yr from handling zircon flour,[3] which, if true, approaches the limit for occupational exposure established by NRC and the Occupational Safety and Health Administration ("OSHA").[4]

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[1] Interagency Jurisdictional Working Group Charter (revised February 27, 2001).
[2] NUREG 1717 at page 1-5.
[3] NUREG 1717 at Table 3.2.19.
[4] See: 10 C.F.R. Part 20; 29 C.F.R. 1096.

As it turns out, NUREG 1717 overstates exposure. In evaluating the validity of doses presented in NUREG 1717, NRC staff concluded that "uncertainties regarding particle size, conservatism in calculations, which are not realistic, error in original reference, etc.", caused NUREG 1717 to dramatically overstate occupational doses reported for the zircon industry.[5] Moreover, application of the newer dosimetry prescribed in ICRP Publication 68 show doses to zircon workers to be orders of magnitude lower than those presented in NUREG 1717.

Lowering the Regulatory Threshold for Source Material Significantly Expands the Universe of Regulated Entities

NRC may not have fully considered the consequences of lowering the regulatory threshold for licensable source materials, and the increased regulatory burdens that would ensue for industry, municipalities, and small businesses across the country. The vast majority of materials used by these entities are below the existing regulatory threshold. Many would become subject to some level of control if the existing threshold were lowered.

A. Industry

As discussed above, the vast majority of unimportant quantities discussed in NUREG 1717 are minerals that are used in industrial settings, subject to state or federal OSHA controls over airborne particulate. Mineral commodities with identifiable uranium and thorium components include zircon, titanium, copper, vanadium, tin, bauxite, coal (including coal ash), cement, granite, refractory, glass, and phosphate fertilizer. It is conceivable that other industries will be affected.

B. Municipalities

An intended consequence of the recent EPA rule imposing Maximum Contaminant Level ("MCL") for radionuclides and uranium in drinking water[6] is the increased removal of these substances from municipal water supplies. An unintended consequence of cleaner drinking water is the generation of elevated activity water treatment sludges and ion-exchange resins that have captured the unwanted contaminants, including uranium and other radionuclides. Some states have already addressed this issue according to the conditions that exist in that state.[7]

Wastewater treatment sludges from publicly owned treatment works have also been demonstrated to exhibit detectable levels of radionuclides. Beneficial reuse of biosolids as soil amendments or fertilizers takes place on a national scale.[8]

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[5] Meeting Summary: Part 40 Jurisdictional Working Group, March 6-7, 2002.

[6] 65 Fed. Reg. 76708 (December 7, 2000).

[7] It should be noted that the State of Colorado has drafted a regulatory approach to water treatment residuals based on a tiered approach where level of control is indexed to specific activity.

[8] The State of Illinois has addressed radionuclides in land-applied sludges through a memorandum of understanding between the Illinois Department of Nuclear Safety ("IDNS") and Illinois Environmental Protection Agency ("IEPA").

Increased regulation of these practices would have a significant adverse impact on such recycling.

C. Small Businesses
Numerous small businesses stand to be affected by increased regulatory controls over exempt source materials.

Lowering the Source Material Regulatory Threshold is a Significant Regulatory Action.

NRC's lowering the regulatory threshold for source material would be a significant regulatory action under section 3(f) of Executive Order 12866 which would require review by the Office of Management and Budget.

Lowering the regulatory threshold for source material would preempt State, local and Indian tribe requirements, including existing State regulatory programs governing naturally occurring radioactive materials ("NORM"). Because significantly increased funding would be required to administer the expanded universe of regulated entities, the consultation and funding requirements of Executive Order 13132 ("Federalism") are also triggered.

In sum, lowering the regulatory threshold for source material holds significant consequences for a broad array of interests, including industry, municipalities, and small businesses. Where the technical review of doses estimated to arise from these materials does not confirm that a significant radiological concern exists, the increased costs and burdens of additional regulation are hard to justify.

VI. Alternatives to Regulation

Industries that have become aware of the presence of NORM (including unimportant quantities of source material in addition to progeny) have begun developing "Best Management Practices" and "Product Stewardship" approaches to maintaining occupational exposures as low as reasonably achievable ("ALARA"). Enhanced communications regarding the presence of NORM in industrial materials is one aspect of this approach that has been encouraged by State regulatory authorities.[9]

Because industrial minerals and secondary materials arising from mineral processing exhibit different chemical, physical and radiological properties from industrial materials, as well as patterns of use, reuse and disposal, we believe that an industry-driven "Best Management Practice" approach to radiation protection is a desirable, cost effective alternative. To the extent that potential

[9] Ohio exempts certain industrial minerals from regulation as NARM "provided that the radioactive constituent is consistent with the radioactive levels stated in the material safety data sheet..." O.A.C.3701-39-02.1

industrial exposures remain a concern, we recommend that NRC, OSHA and industry engage in a partnership approach to identify Best Management Practices and, as appropriate, apply worker education requirements similar to those required under 10 C.F.R. 19.12. Precedent exists where NRC has worked with licensees in the fuel cycle and power generation industries to implement voluntary industry initiatives and similar principles are applicable to resolving concerns over unimportant quantities of source material.

VII. Conclusions

For all the foregoing reasons we recommend that NRC refrain from altering the existing regulatory threshold and structure for unimportant quantities of source material. Such action would impose substantial burdens with little, if any, benefit. A close examination of the 0.05% U+Th technology-based licensing threshold confirms that this concentration is protective of human health. To the extent concerns over non-fuel cycle industrial uses of unimportant quantities remain, we recommend NRC, industry and OSHA engage in a collaborative effort to identify Best Management Practices for such materials within an industry sector that will keep occupational exposures ALARA.