



Wyoming Mineral Corporation

REP-80-473
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A Subsidiary of
Westinghouse Electric
Corporation

October 17, 1980

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Docketing and Service Branch

Subject: Proposed Revision 1 to Regulatory Guide 1.23 Meteorological Programs in Support of Nuclear Power Plants

Gentlemen:

Your previously distributed draft, "Standard Format and Content of License Applications, Including Environmental Reports, for in-situ Uranium Solution Extraction" in Chapter 2, Section 2.5 on page 6 states, "Guidance on site meteorological measurements...is presented in Regulatory Guide 1.23." Moreover, years of use and experience have made it common practice of applicants, permit holders, and regulatory agency staffs to view guidelines as quasi-rules to be rather rigorously applied.

Wyoming Mineral Corporation has an intense interest in the content of the subject document, as we presently operate in-situ uranium solution mines or extraction facilities on a commercial scale at five locations, as follows:

- Bruni Mine, Webb County, Texas
- Lamprecht Mine, Live Oak County, Texas
- Irigaray Mine, Johnson County, Wyoming
- Bingham Canyon Facility, Copperton, Utah
- Farmland Facility, Lakeland, Florida

Accordingly, we wish to submit our comments (see attachment I) on the draft of the subject document.

Thank you for this opportunity to express our thoughts and opinions. We trust you will find them useful contributions. If there are any questions, do not hesitate to write or phone me on (303) 988-8530.

Sincerely,

Carleton Rutledge, Jr.

Carleton Rutledge, JR.
Manager, Regulatory & Environmental Programs

cc: TISUMEA, Corpus Christi, TX

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IRP-11

WYOMING MINERAL CORPORATION
COMMENTS ON DRAFT OF
PROPOSED REVISION 1 TO REGULATORY GUIDE 1.23
METEOROLOGICAL PROGRAMS IN SUPPORT OF NUCLEAR POWER PLANTS

A. General Comments:

1. The draft regulatory guide is not correctly scoped for in-situ solution mining of uranium. It is specifically directed toward operations of full scale and test nuclear power plants involving initial investments of billions of dollars. A typical in-situ uranium solution mine is a facility with only 37* million dollars of capital invested. There are small in-situ operations producing as little as 150,000 pounds per year of yellowcake; at the price of 30 dollars per pound, this represents an annual gross of only 4.5 million dollars.

In-situ solution mining of uranium is the low-cost alternate to conventional uranium mining. In-situ technology was born of the necessity of meeting a global energy demand in the face of diminishing numbers of prime uranium deposits, thus forcing attention on recovery of uranium from small scattered ore deposits having uranium values one-tenth or less of those of conventional mines.

2. The cost of the meteorologic program described in the proposed REGUIDE 1.213 could be up to \$500,000 without considering the associated costs of the licensing fees, the preparation of the various permit applications and environmental reports, the necessary field studies and baseline evaluations, or the continuing costs of the applicant's compliance programs and interfaces with the regulatory agency. Consider also, that a significant part of the field work must be repeated every five years of the mine's life in order to renew the license. This is an unreasonable burden on this small new industry, especially when compared to the annual gross of one of the smaller operations.

Admittedly, it is difficult to devise one, but some reasonable limit must be established on the meteorological program based on dollars, data quantity and quality, or whatever. This limit must be commensurate with the risks, environmental impact, investment, and value to the economy of the mining operation.

3. NRC also needs to appreciate the fact that in-situ leach mining involves minimal impact of radiation and radioactive materials hazards because there is little surface disturbance, the ore remains underground, and only leach solution and yellowcake (U_3O_8) are handled above ground. The need is for a simpler, less stringent, and less costly set of guidelines for in-situ solution mining.
4. No recognition seems to be given to the fact that in-situ solution mining of uranium impacts the environment for a shorter time and to a much less degree than nuclear power plants.

* Jacob N. Frank, "Cost Model for Solution Mining of Uranium," U.S. ERDA, October, 1976.

5. NRC has an extensive record of experience and a source of expertise within its organization on in-situ solution mining of uranium. Many license applications have processed, several very thorough environmental statements have been promulgated, and numerous licenses have been issued (e.g., SUA-1064, SUA-1199, SUA-1204, SUA-1223, SUA-1228, SUA-1249, SUA-1273, SUA-1329, SUA-1330, SUA-1331, SUA-1336, SUA-1337, SUA-1338, etc.). NUREG-0511, the Generic Environmental Impact Statement on Uranium Milling, soon to be released in final form is a particularly useful reference.

B. Specific Comments:

- Pg. 3, Item 5:Measurement programs only for short distances (at most 16km, i.e., 10 mi.) should be required for in-situ mining, longer distances being incommensurate with their limited impact and effect.
- Pg. 5, Sec. C1, Para. 1: Wind speed and temperature measurements taken at two levels is excessive for in-situ.
- Pg. 6, Sec. C1, Para. 2: The paragraph calls for discussions with NRC staff regarding additional special instrumentation and studies for unusual sites but makes no provision for such discussions regarding eliminating requirements for instrumentation and studies in cases of simple operations, low environmental impact, minimal risk, etc.
- Pg. 7, Sec. C3, Para. 1: For in-situ, only measurements at 10 m level should be required.
- Pg. 7, Sec. C3, Para. 2: Only one tower per site should be required for in-situ and that should be near the yellowcake dryer if there is one, otherwise near the uranium extraction plant.
- Pg. 8, Sec. C3, Para. 1: "...one digital and one analog system..." is an excessive requirement for in-situ.
- Pg. 8, Sec. C3, Para. 2: "...display in control room....technical support center..." is excessive; a minimal display should be required only in the technical support center.
- Pg. 9, Sec. C4, Para. a: Because of the remoteness and minimal impact of in-situ mining operations:
- (1) Wind direction: $\pm 10^\circ$ of azimuth with threshold 0.90 m/s.
 - (2) Wind speed: ± 0.45 m/s to 11.13 m/s and threshold 0.90 m/s.
 - (6) Precipitation: Resolution of 0.50 mm recorded $\pm 10\%$ of total accumulated.

- Pg. 10, Sec. C4, Para. 2: Continued.
(7) This should be changed to, "Within 15 minutes."
- Pg. 10, Sec. C4, Para. 1: For in-situ (because of minimal impact, remoteness, and manning difficulties in pre-op phase). Battery pack should be acceptable for redundant power supply. Inspect and service to achieve 65% joint data recovery with no one period of down-time of greater than three continuous weeks. Calibration should be annually. Procedures and logs should be kept at the site in the technical support center.
- Pg. 11, Sec. C6, Para. 1: Precipitation (see comment regarding Pg. 8, Sec. 3, Para. 1). Delete reference to Table 1.
- Pg. 11, Sec. C6, Para. 2: Delete magnetic tape requirement.
- Pg. 11, Sec. C6, Para. 3: Delete entire paragraph. Insert the following: "For baseline data to accompany permit applications and its attached environmental report, data must be compiled at the site for at least one continuous year.
- Pg. 11, Sec. C7, Para. 1: Delete entire section as inapplicable and inappropriate for in-situ mining.
- Pg. 12, Sec. C8: Delete entire section as inapplicable and inappropriate for in-situ mining.
- Pg. 13, Sec. D: Implementation is totally misoriented and inappropriate for in-situ mining.
- Pg. 29: Draft Value/Impact Statement in no degree takes into consideration any in-situ uranium solution mining operation. It specifically refers to nuclear-power plants repeatedly and justifies the document on experience of Three-Mile Island.
- Also, the draft estimates that 0.5 to 2.0 man-years of effort will be required. This is more than one percent of the total manpower required for all functions of a typical in-situ mine at the peak of its operational phase. Moreover, for in-situ mining, meteorology is a minor part of the environmental assessment and monitoring program among several much more pertinent, critical, and expensive categories such as structural geology, surface and groundwater hydrology, water chemistry, soils science, ecology of local flora and fauna, and radiologic environment.
- Pg. 30: Cost estimates in Sec. 1.3.3 are very low. In any case, these costs are an inordinate burden on the gross product of the typical in-situ uranium solution mine.
- Pg. 31: The statement in Sec. 1.3.4 that the public will bear the monetary costs is naively incorrect when applied to in-situ solution mining of uranium. The costs must be borne by the mining company, and consequently, increased costs will cut

profits, in the extreme causing the mine to close down. This will have a detrimental effect on the national, state, and local economy by increasing unemployment, drawing upon state unemployment insurance funds, diminishing the tax income at all levels of government, increasing the foreign trade deficit, etc.

Under current economic conditions and with the spot price of uranium (\$28.50/lb of yellowcake), uranium mines are laying-off and shutting down. Increased costs are not being passed on to the utility companies and ultimately to the consumer because (1) the utilities have an abundance of nuclear fuel stockpiled, (2) almost all the uranium fuel they are using was contracted at fixed prices in years past, (3) fewer new nuclear power plants have been going into service, and (4) U.S. uranium miners are at a distinct economic disadvantage relative to their foreign competition, hence, any new orders for nuclear fuel are going overseas.

Pg. 32, Sec. 3: It is suggested that the correct procedural approach is to (1) update the existing REGUIDE 1.23, making it applicable to nuclear power plants only, and (2) prepare a separate and distinct guideline document for the nuclear fuel cycle, including in it a separate section simplified appropriately to fit the conditions, impacts, scale, and technology of in-situ uranium mining.