

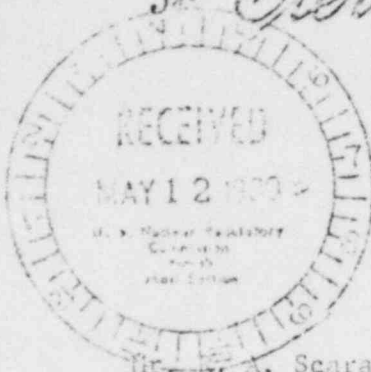
PDR

40-3714

The Cleveland-Cliffs Iron Company

P. O. Box 3140 Phone (307) 234-9133 309 N. McKinley
CASPER, WYOMING 82602

May 7, 1980



Mr. A. Scarano, Section Leader
Uranium Recovery Licensing Branch
Division of Waste Management
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Sir:

Re: Docket No. 40-3714, Source Materials License No. SUA-1352

Pursuant to recent telephone conversations Mr. R. W. Riedel and I had with Messrs. Jack Rothfleisch and Gregory Eadie of your office, the Nuclear Regulatory Commission (hereinafter "N.R.C.") has requested further data and amplification of the requested changes to License No. SUA-1352 which I submitted to your office on March 21, 1980.

Attached hereto, please find Attachment I which lists and compiles, as numbered exhibits, the extensive data which I have enclosed herein. I trust that Attachment I will help you in your review of this matter. Enclosed please find a complete set of all the data, correspondence and permit applications, listed in Attachment I, that was submitted on behalf of The Cleveland-Cliffs Iron Company (hereinafter "Cliffs") to the Wyoming Department of Environmental Quality (hereinafter "W.D.E.Q.") concerning Cliffs' negotiations to obtain all necessary permits and licenses to construct and operate an in-situ uranium leach pilot test plant (hereinafter "Collins Draw") in Sections 35 and 36, T43N, R76W, Campbell County, Wyoming.

It is Cliffs' belief that the changes which I detailed in my March 21, 1980 submittal and which I have tried to expand upon in this letter do not constitute changes of a magnitude that would require an amendment to License No. SUA-1352. I believe that the changes will neither expose man nor man's environment to any increased radiological hazards beyond those which are presently detailed in License No. SUA-1352.

The following items of discussion are intended to explain the changes set forth in my March 21, 1980 submittal:

A. ACCESS ROAD

Presently, License No. SUA-1352 has an allocation of 1.2 acres of disturbed area for site roads. Obviously, Cliffs anticipated the need for road construction and rights-of-way to connect the site with existing roads; however, Cliffs did not contemplate that the needed roads and

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rights-of-way would have to be included in the W.D.E.Q. Research and Development License or the N.R.C. Source Materials License. The W.D.E.Q. has required Cliffs to include an additional 5.8 acres of disturbed area for access roads and rights-of-way. Cliffs does not believe the addition of 5.8 acres to its W.D.E.Q. permit for roads and rights-of-way will constitute any additional radiological hazard to man or man's environment.

B. SUMP

The W.D.E.Q. has required Cliffs to construct a "sump" to collect surface runoff in the unlikely event of lixiviant spillage from broken pipelines on the surface of the well field. The "sump" will provide a larger safety factor in preventing any chemicals from harming the environment.

C. SPOIL STOCKPILE for SOLID WASTE DISPOSAL SITE

The W.D.E.Q. required a spoil stockpile for use as backfill in the solid waste disposal site. The mine site plan submitted March 21, 1980, shows the spoil stockpile as constructed.

D. CONTAMINATED SOIL STORAGE AREA

The location of the contingent contaminated soil storage area had to be moved from its anticipated location in Section 36, T43N, R76W to the adjacent Section 35 due to an unanticipated objection from the mineral lessee of said Section 36 to Cliffs' usage of the surface estate of Section 36 even though Cliffs had a lease of the surface estate from the State of Wyoming.

E. TOPSOIL STORAGE AREA

License No. SUA-1352 provides for one topsoil storage area. During the construction of the mine site much greater volumes of topsoil were removed than had been anticipated in the N.R.C. license or the W.D.E.Q. permit. Wyoming law requires that the topsoil be segregated from the subsoil and stored until reclamation is commenced. Because of the large change of the relief and the slope of the site, more extensive leveling in the permit area was mandated thus 1) greatly enlarging the total disturbed area, 2) increasing the total volume of topsoil removed and 3) requiring more than one topsoil storage area to accommodate the increased volume of topsoil. The revised site plan submitted March 21, 1980, illustrates the location and size of the topsoil storage areas.

F. BLADDER STORAGE AREA

License No. SUA-1352 provides that the storage bladders will be located on the surface with a 3-foot-high embankment surrounding them. In order to provide added safety for the environment, the storage bladders have been put below the surface rather than utilizing a surface embankment.

G. TOTAL PERMIT AREA

Cliffs' W.D.E.Q. permit contains a total permit area of 42.5 acres (17.2 hectares) while License No. SUA-1352 contemplates a total permit area of

23 acres (9.31 hectares). As explained in Paragraph A, supra, the principle reason for this increase in size of the total area is due to the inclusion of the road and rights-of-way. The revised site plan submitted March 21, 1980, illustrates the sizable rectangular area which was added for the road and rights-of-way. While it is true that the rectangular area could have been made smaller, it would have resulted in a highly irregular permit outline which would be more difficult to monitor.

II. SURFACE DISTURBANCE

In order to comply with W.D.E.Q. requirements and to provide a level, safe working environment, a total of 19.7 acres (8.0 hectares) of surface area have been disturbed. The disturbed area of 19.7 acres is composed of the following:

1. Well Field Area	
a. Actual Well Field	1.25 acres
b. Removal of Surrounding Topsoil	<u>1.95 acres</u>
	3.20 acres
2. Process Building	0.20 acres
3. Bladder Area and Chemical Storage	1.00 acres
4. Drain Fields and Solid Waste Disposal Site	3.00 acres
5. Roads	7.00 acres
6. Topsoil Stockpile	3.80 acres
7. Sump	<u>1.50 acres</u>
Total	19.70 acres

As you will note from the above, there is no significant change in disturbed area between Paragraphs H.2. and H.3. above and the respective areas to be disturbed in License No. SUA-1352. The significant changes occur in the other categories listed above and as noted respectively below:

H.1.a. Denotes that the actual well field is to be 1.25 acres. This estimate is the same as that contained in License No. SUA-1352.

H.1.b. Denotes that in removing the topsoil immediately surrounding the actual well field, an additional 1.95 acres were disturbed. This was done to 1) segregate the topsoil from the subsoil to enhance revegetation at a later date, 2) to create a level well field area which will be a safer work environment, 3) to protect the topsoil in the unlikely event of chemical spillage, and 4) to eliminate compaction of the topsoil by equipment moving over it.

H.4. Contains the industrial drain field, sanitary drain field and solid waste disposal site. This category contains 3.0 acres of

disturbed surface area which is an increase of 2.6 acres. This increase is primarily due to the necessity of removing and storing the larger volumes of topsoil and the necessary leveling of the surrounding area.

H.5. Contains the total area of surface disturbed for roads. This was previously discussed in Paragraph A, supra.

H.6. Contains the total area of surface disturbed for the storage of segregated topsoil. This was previously discussed in Paragraph E, supra.

H.7. Contains the total area of surface disturbed for the construction of the sump. This was previously discussed in Paragraph B, supra.

With the exception of the road containing 7.0 acres of disturbed area and the sump containing 1.5 acres of disturbed area, the principle causes of the increase in the size of the disturbed area are 1) a large increase of the volume of topsoil which had to be segregated and stockpiled and 2) the leveling and removal of topsoil from the immediately adjoining areas of those components H.1. through H.7. The leveling was accomplished 1) to provide a safer and more efficient working environment for the operation and 2) to protect the topsoil in the unlikely event that a chemical spill occurred on the surface of the mine site, and 3) to protect the topsoil from compaction.

I. PROCESS SCHEMATIC and BLADDER STORAGE

A revised Uranium Recovery Process Schematic was submitted March 21, 1980 which illustrates that two 25,000-gallon bladders will be utilized rather than two 50,000-gallon bladders for waste storage. There is no longer a need for such a large storage capacity because the anticipated volume of liquids that will go to the process wastewater drain field has been reduced from approximately 4,320 gallons per day to an average of 1,000 gallons per day (see Paragraphs P and Q, infra); thus the need for such a large storage capacity has decreased substantially.

Cliffs requests that more flexibility be allowed concerning the use of the storage bladders. It would be helpful if Cliffs could, from time to time, use the bladders for temporary storage of soft water for well field conditioning or the temporary storage of wastewater before it is transferred to the process wastewater drain field when it is in the operation's best interest to do so.

J. CONDITION 13 COMPLIANCE

Cliffs' March 21, 1980 submittal to the N.R.C. contained individual assay sheets for the required seven wells in order to establish the premining groundwater quality values of the well field test area. Kindly change your records to correct an error of values in Well No. 230. The June 10, 1978 sample for Well No. 230 has the sulfate and chloride values transposed.

K. BOILER INSPECTION

License No. SUA-1352 states that the boiler will be inspected by Hartford Boiler Insurance Company of Hartford, Connecticut. In lieu of Hartford Boiler Insurance Company, the inspection of the boiler was performed by the boiler's manufacturer, Williams and Davis Boilers and Welding Company, Hutchings, Texas.

L. FUEL STORAGE LOCATIONS

License No. SUA-1352 states that boiler and generator fuel (diesel oil) will be stored in a special fuel bladder to be surrounded by a dike.

In an effort to provide a safer environment for the workers and the ecosystem, the bladder was replaced with a steel tank and buried below surface in a trench lined with an 8 mil plastic liner cushioned in sand to preclude any migration of spilled fuel. This was done because of the flammable nature of the fuel.

M. TEMPORARY CREW QUARTERS

Rather than maintain temporary quarters at the mine site for the operators, Cliffs has opted to provide temporary quarters for the crew at a local ranch house located several miles from the mine site.

N. COMMERCIAL POWER LINES

License No. SUA-1352 provides that power lines for commercial electrical power will not be part of the facility because the service is not available. Subsequent to Cliffs' submission for License No. SUA-1352, single-phase commercial power has become available and has been lined to the mine site for lighting and small equipment. All high voltage, three-phase power is generated on site.

O. FENCED AREA

The fenced area which enclosed the disturbed surface area pursuant to License No. SUA-1352 has been enlarged so that the fenced area includes virtually all of the present disturbed surface area. This change will afford greater protection to both the public and the mine site. In Cliffs' March 21, 1980 submittal, it is stated that, "There will be no reason to operate outside of the fenced area (approximately 19.7 acres)." Cliffs does have one process wastewater drain field monitor well located outside of the fenced area. Therefore, this sentence should be changed to read, "There will be no reason to operate outside of the fenced area (approximately 19.7 acres) except to sample monitor wells.

P. VOLUME of DISCHARGE to WASTEWATER DRAIN FIELD

Cliffs previously estimated that the volume of fluids which would be discharged to the process wastewater drain field would be 2 to 3 gallons per minute or approximately 4,320 gallons per day. It is Cliffs' present position that the volume of fluids will require an average daily discharge of 1,000 gallons.

Q. COMPOSITION of WASTEWATER to DRAIN FIELD

Attached to the March 21, 1980 submittal were "Summary of Estimated Process Drain Field Volumes and Compositions for Two-Year Life" and "Tabulation of Estimated Volume and Composition of Discharge to the Process Wastewater Drain Field." These tables provide greater detail on the origin, quantity, and quality of the wastewater discharged from the plant to the process wastewater drain field. The estimated flow and mass discharged to the drain field has decreased since License No. SUA-1352 was issued.

As stated in the preamble to this letter, Cliffs does not believe that the requested changes outlined in my March 21, 1980 submittal and further explained in this letter constitute changes of a magnitude which would require an amendment to License No. SUA-1352. Potential hazardous radiation to the natural environment and to people either on or off site should only decrease due to the above changes.

At your earliest convenience, we shall be very happy to further discuss this matter, should you so desire.

Respectfully submitted,

THE CLEVELAND-CLIFFS IRON COMPANY

Truman E. Louderback
Truman E. Louderback
Director of Environmental Affairs

TEL/RWR/GAP:ag/am

Enclosures

XC w/Enclosures: Region IV, Office of Inspection and Enforcement
 U. S. Nuclear Regulatory Commission
 611 Ryan Plaza Drive - Suite 100
 Arlington, Texas 76012

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ATTACHMENT I

IN SITU RESEARCH and DEVELOPMENT TESTING LICENSE

Exhibit 1

"Mine Permit Application and Environmental Supplemental for In-Situ Uranium Leach Pilot Test Plant - Collins Draw, Campbell County, Wyoming," submitted to the Land Quality Division, Wyoming Department of Environmental Quality (L.Q.D., W.D.E.Q.), 1-19-79.

Exhibit 2

Letter from L.Q.D., W.D.E.Q. with Research and Development License 3RD, 10-29-79.

Exhibit 3

Letter from L.Q.D., W.D.E.Q. requesting completion of Form C-2, 12-26-79. Attached completed Form C-2 submitted to L.Q.D., W.D.E.Q., 1-2-80.

Exhibit 4

Letter to L.Q.D., W.D.E.Q. in reference to Research and Development License 3RD, Conditions 3, 6, and 7, 2-5-80.

Exhibit 5

Letter to L.Q.D., W.D.E.Q. notifying them of planned start-up of solution (in-situ) mining at Collins Draw, 2-18-80.

Exhibit 6

Exhibit 5, signed by Dennis Morrow, L.Q.D., W.D.E.Q., 2-20-80.

Exhibit 7

Letter from L.Q.D., W.D.E.Q. stating that existing in-situ mining operations must show compliance by May 25, 1980, with the In-Situ Mining Act, 3-7-80.

Exhibit 8

Letter to L.Q.D., W.D.E.Q. with revised pages containing changes in the application for License 3RD to be inserted into the application after review, 3-24-80.

Exhibit 9

Letter to L.Q.D., W.D.E.Q. with proposed injection well casing integrity test method, 3-27-80.

Exhibit 10

L.Q.D., W.D.E.Q. approval of injection well casing integrity test method, 3-28-80.

Exhibit 11

Memo from L.Q.D., W.D.E.Q. on review of upper control limits for well field excursion control, 4-8-80. (These limits are still being negotiated with the L.Q.D., W.D.E.Q.).

PROCESS WASTEWATER DRAIN FIELD PERMIT

Exhibit 12

"Application for Permit to Construct and Operate Wastewater Facility, Collins Draw," submitted to the Water Quality Division (W.Q.D.), W.D.E.Q., 6-1-79.

Exhibit 13

Review comments from W.Q.D., W.D.E.Q. on Exhibit 12, 7-27-79.

Exhibit 14

Letter to W.Q.D., W.D.E.Q. in response to review comments, 8-15-79.

Exhibit 15

Memo to file on meeting 9-21-79 with W.Q.D., W.D.E.Q., dated 9-28-79.

Exhibit 16

Memo to file on meeting 10-1-79 with L.Q.D., W.D.E.Q., dated 10-8-79.

Exhibit 17

Memo from L.Q.D. on meeting 10-1-79 with L.Q.D., W.D.E.Q., dated 10-2-79.

Exhibit 18

Memo to file on meeting 10-3-79 with W.Q.D., W.D.E.Q., dated 10-10-79.

Exhibit 19

"Application for Permit to Construct and Operate an Industrial Wastewater Facility, Collins Draw," submitted to the W.Q.D. and L.Q.D., W.D.E.Q., 11-8-79.

Exhibit 20

Letter to W.Q.D. and L.Q.D., W.D.E.Q. in regard to drain field construction and operation, 11-29-79.

Exhibit 21

Letter from L.Q.D., W.D.E.Q. with review comments on application (Exhibit 19), 1-3-80.

Exhibit 22

Letter to L.Q.D., W.D.E.Q. requesting review of attached file memo of meeting 1-14-80 with L.Q.D., W.D.E.Q., dated 1-25-80.

Exhibit 23

Letter from L.Q.D., W.D.E.Q. with memo in Exhibit 22 and LQD review comments 1-30-80.

Exhibit 24

"Permit to Construct," Collins Draw Industrial Wastewater Facility (process wastewater drain field) issued by W.Q.D., W.D.E.Q., 1-29-80.

Exhibit 25

"Response to Wyoming Department of Environmental Quality Review Comments to Application for Permit for Industrial Wastewater Facility, Collins Draw," submitted to L.Q.D., W.D.E.Q., 2-28-80.

Exhibit 26

Letters to W.Q.D., and L.Q.D., W.D.E.Q. and to Campbell County Health Department, with current engineering drawings of the process wastewater drain field, 3-20-80 and 3-21-80.

Exhibit 27

Letter to L.Q.D., W.D.E.Q. with new drawing of proposed monitoring and sampling system, 3-21-80.

Exhibit 28

L.Q.D., W.D.E.Q. approval of Exhibit 27, 3-24-80.

Exhibit 29

Memos containing review comments from L.Q.D., W.D.E.Q. on Exhibit 25, 4-8-80. (The top of the memo from Eric Hinzl was not sent to Cliffs.)

Exhibit 30

L.Q.D., W.D.E.Q. handwritten approval to operate process wastewater drain field following meeting 4-25-80.

SANITARY LEACH FIELD PERMIT

Exhibit 31

"Application for Permit to Construct and Operate Wastewater Facility, Collins Draw," submitted to W.Q.D., W.D.E.Q., 8-6-79.

Exhibit 32

"Permit to Construct," Collins Draw Solution Mine Sanitary Leach Field issued by W.Q.D., W.D.E.Q., 9-27-79.

SOLAR EVAPORATION POND PERMITS

Exhibit 33

Letter to Wyoming State Engineer (W.S.E.) with application for a solar evaporation reservoir, 1-28-80. (This application was required by the L.Q.D., W.D.E.Q. See Exhibit 21).

Exhibit 34

Letters to W.Q.D., L.Q.D., and Air Quality Division (A.Q.D.), W.D.E.Q. with application for a solar evaporation reservoir, 1-29-80.

Exhibit 35

Approved permit application from W.S.E. to construct solar evaporation reservoir, 2-27-80.

Exhibit 36

"Permit to Construct," wastewater evaporation reservoir, issued by W.Q.D., W.D.E.Q., 2-29-80.

Exhibit 37

Letter from A.Q.D., W.D.E.Q. stating the reported emissions from the solar evaporation pond are considered insignificant, 3-11-80.

AIR QUALITY PERMIT

Exhibit 38

Letter to A.Q.D., W.D.E.Q. with Air Quality Permit Application, 6-23-79.

Exhibit 39

Letter from A.Q.D., W.D.E.Q. requesting additional information, 8-21-79.

Exhibit 40

Letter to A.Q.D., W.D.E.Q. with additional information for Air Quality Permit Application, 10-29-79.

Exhibit 41

Letter from A.Q.D., W.D.E.Q. stating the permit application had been evaluated and that the evaluation would be published as a public notice. The public notice and evaluation were attached, 12-7-79.

Exhibit 42

Letter from A.Q.D., W.D.E.Q. granting approval to construct, 1-29-80.

Exhibit 43

Letter to A.Q.D., W.D.E.Q. notifying them of anticipated start-up of the uranium solution mining project, 2-22-80.

Exhibit 44

Letter from A.Q.D., W.D.E.Q. acknowledging receipt of Exhibit 43, 2-27-80.

Exhibit 45

Interoffice memo in regard to arranging an A.Q.D. on-site inspection at the solution mine, 3-3-80.

SOLID WASTE DISPOSAL PERMIT

Exhibit 46

"Construction and Operation Plans for Industrial Solid Waste Disposal Site, Collins Draw," submitted to Solid Waste Management Division (S.W.M.D.), W.D.E.Q., 6-1-79.

Exhibit 47

Letter from S.W.M.D., W.D.E.Q. requesting additional information, 6-22-79.

Exhibit 48

Letter to S.W.M.D., W.D.E.Q. in response to Exhibit 47, 7-19-79.

Exhibit 49

Notice of filing Exhibit 48 with the Campbell County Clerk, 7-23-79.

Exhibit 50

Letter from S.W.M.D., W.D.E.Q. authorizing construction of the solid waste disposal facility, 7-27-79.

Exhibit 51

Letter from Jim's Water Service stating they will collect used oil at the solution mine, 8-14-79. A copy of the letter was forwarded to S.W.M.D., W.D.E.Q., 8-15-79.

Exhibit 52

Letter to S.W.M.D., W.D.E.Q. stating the design and construction of the disposal facility was modified for safety purposes and requesting approval of the modifications, 10-19-79.

Exhibit 53

Letter to Campbell County Clerk with Exhibit 52 attached for filing 10-23-79.

Exhibit 54

Letter from S.W.M.D., W.D.E.Q. stating the design of the disposal facility is acceptable, 10-25-79.

Exhibit 55

Letter to S.W.M.D., W.D.E.Q. with photographs of the constructed disposal facility, 11-16-79.

Exhibit 56

Letter from S.W.M.D., W.D.E.Q. authorizing operation of the solid waste disposal facility 11-29-79.

TEL:ag
Casper, Wyoming
May 7, 1980

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