

JUL 22 1980

Mr. Glenn Catchpole
Ogle Petroleum, Inc.
150 N. Nichols Avenue
Casper, Wyoming 82601

Dear Mr. Catchpole:

Attached are the license conditions currently under consideration by the NRC for the Bison Basin project. We will use these for our discussions with you on July 29, 1980.

Sincerely,

Original Signed by

R. S. Kaufmann, Project Manager
Uranium Recovery Licensing Branch
Division of Waste Management

Enclosure:
Draft License Conditions

Distribution:

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2 Docket 40-8745

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RSKaufmann

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WMUR *for*
JERothfleisch
7/22/80

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OFFICE

WMUR

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SURNAME

RSKaufmann/tr HJ Miller

DATE

7/27/80

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OGLE LICENSE CONDITIONS

July 16, 1980

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1. The licensee is hereby authorized to possess source material in the form of yellowcake and byproduct material in the form of uranium waste tailings generated by the licensee's uranium in situ leach operations authorized under SUA-
2. Authorized place of use: The licensee's uranium in situ extraction facility located in Fremont County, Wyoming.
3. For use in accordance with statements, representations, and conditions contained in Subsections 2.1, 3.3, 3.4, 4.3, 5.5, 6.1, 6.8, 6.9 and 7.1 of the licensee's application, dated August 1979 and supplemental dated May 15, 1980. Whenever the word "will" is used in the above mentioned sections, it shall denote a requirement.
4. The maximum plant throughput shall not exceed 1.8×10^5 kg U_3O_8 per year at a maximum ^{plant flow} rate of 1200 gpm.
5. The licensee is hereby exempted from the requirements of Section 20.203(e)(2) of 10 CFR 20 for areas within the plant facility provided that all entrances to the plant are conspicuously posted in accordance with Section 20.203(e)(2) and with words, "Caution - Any area within this facility may contain radioactive material."
6. The licensee shall decommission the project site in conformance with their submittal, dated May 15, 1980, and Annex C, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material" dated November 1976 (enclosed). In addition, surety arrangements covering the well field, ponds and plant facility decommissioning costs shall be maintained.
7. The licensee shall submit to the Uranium Mill Licensing Section, U.S. NRC, Washington, D.C. 20555 a copy of the annual revision of the bond covering plant facility decommissioning and site area reclamation as well as supporting documentation showing a breakdown of the costs associated with reclaiming the well fields, evaporation ponds and plant facility.
8. The ~~following~~ ^{STET} inspections and audits ^{to assure plant safety} shall be performed by the licensee:
 - (a) ~~daily~~ ^{Daily walk-through} inspections by the plant RSO of process and storage areas and a report to the mine manager on any items of noncompliance with operating procedures, license requirements, or safety practices, including housekeeping practices, affecting radiological safety. ~~Once monthly the RSO shall perform a documented walk-through inspection~~
 - (b) ~~Quarterly plant inspection by the Corporate RSO and audit of the weekly inspection reports of (a) above and audit of all monitoring data, both in-plant and environmental, resulting in an evaluation of the data and a written report to the Corporate Licensing Manager. The report shall recommend any necessary corrective actions and include an evaluation of license requirements.~~

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- at experts of radiation protection programs shall be performed*
- (c) Annual audit of the plant, ~~operations by the Corporate Compliance Review Board in accordance with the Charter of the Board as described in the licensee's application dated January 9, 1978 as amended by the supplement of June 21, 1978.~~ *by a corporate official or an outside consultant.*
9. A ~~semiannual~~ *monthly* report shall be prepared by the ~~Corporate~~ RSO for the plant manager and ~~Corporate Licensing Manager~~ evaluating employee exposures, effluent releases and environmental data to determine (1) if there are any upward trends developing in personnel exposures for identifiable categories of workers, of types of operations or in effluent releases, (2) if exposures and effluents might be lowered under the concept of maintaining exposures and effluents as low as reasonably achievable, and (3) if equipment for exposure and effluent control is being properly used and maintained.
10. Release of equipment or packages from the restricted area shall be in accordance with Annex C, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material" dated November 1976 (enclosed).
11. The results of sampling, analyse, surveys and monitoring, the results of calibration of equipment, reports on audits and inspections, and all meetings and training courses, committed to in Subsections 3.3, 3.4, 4.3, 5.5, 6.1, 6.8, 6.9 and 7.1 of the licensee's application and supplements and in the additional conditions to this license, as well as any subsequent reviews, investigations, and corrective actions, shall be documented. Unless otherwise specified in NRC regulations, all such documentation shall be maintained for a period of at least five years.
12. In-plant airborne monitoring committed to in Subsection 5.5 of the licensee's application and supplements, shall be performed under conditions typical of employee exposures. Along with results of airborne activity, a record of the state of operation of both process and effluent control equipment and ventilation conditons shall be kept.
13. The licensee shall monitor employee exposure at least once during any 40-hour working period to assure with 10 CFR 20.103.
14. Prior to leaving the restricted area, all facility employees shall either shower or monitor themselves after changing clothes. If clothing is not changed then clothing shall also be monitored. A radiation survey meter shall be available at the exit to the change room. In addition, the licensee shall perform spot surveys for alpha contamination at least quarterly on workers leaving the plant. Alpha contamination on skin or clothes greater than 1,000 dpm/100 cm² shall be cause for additional showering or decontamination and an investigation by radiation safety staff.

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15. Any changes in the process circuit, as illustrated and described in Figure 3.3-2 of the licensee's application shall require approval by the NRC in the form of a license amendment.
16. Written operating procedures shall be maintained for all process operations and shall incorporate operating instructions and appropriate safety precautions for the work. The employee training program shall include detailed review of the operating procedures applicable to the employee's assignments. The requirement for written operating procedures shall include establishment of procedures for the conduct of the radiation safety and environmental monitoring programs, including analytical procedures and instrument calibration, maintenance requirements. Written procedures and subsequent changes to the procedures shall be reviewed and approved by the plant radiation safety officer (RSO) and the plant manager. At least annually, all procedures shall be reviewed to assure continued applicability.

Unless the operation or maintenance work is covered by an effective operating procedure, a Radiation Work Permit (RWP) shall be prepared. In addition, for all work involving entry into a system containing radioactive material or where a potential for release of contamination to which employees are exposed from the proposed operation or work is likely to exceed the concentration in Appendix B, Table 1, of 10 CFR 20.

17. Notwithstanding the bioassay program specified in Subsection 5.5 of the licensee's application and supplements, the licensee shall comply with the following regarding bioassay:

(a) ~~baseline urine sample shall be obtained from any new worker, who will be subject to urinalysis, prior to start of work.~~

(b) ~~In vivo measurements shall be performed on all facility workers, all yellowcake maintenance workers, and all other maintenance workers routinely assigned to work in the plant building at least once every two years with equipment capable of measuring 9 nCi or less of uranium in the lung. In vivo counting shall be performed each year on approximately half of the above workers and any worker whose intake of radioactive material for any calendar quarter since his last in vivo count exceeds 25% of the intake that would result from exposure to the concentration of radioactive material listed in 10 CFR 20, Appendix B, Table 1 for a period of one quarter.~~

17. ⁴ ~~Baseline in vivo measurements shall be performed on all new workers, who will be subject to in vivo counting the first time the in vivo counter is available.~~ ^{urine sample} ~~shall be~~ ^{obtained from} ~~all new workers, who~~ ^{specifically those} ~~will be subject to in vivo counting the first time the in vivo counter is available.~~ ^{urinalysis, prior to start of work. During work, urine samples shall be taken from any worker who has been exposed. Report of}

(c) Action levels based on bioassay measurements shall be in accordance with Tables 1 and 2 of NRC Regulatory Guide 8.22, "Bioassay at Uranium Mills" (July 1978). In addition, all bioassay results shall be evaluated by the Radiation Safety Officer (RSO).

^{urinalysis results shall meet the following criteria}

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10 In addition to any evaluations of employee and any notifications required pursuant to Sections 20.103 and 20.405 of 10 CFR Part 20, the licensee shall make a formal documented evaluation if bioassay measurements exceed any of the following criteria:

of ~~the~~
worker's
urinalysis

(1) The urinary uranium concentration exceeds 30 ug/l for any two consecutive sampling periods.

(2) The urinary uranium concentration for any measurement exceeds 80 ug/l.

(3) Any in vivo thorax measurement exceeds 76 nCi.

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11 Urinalysis results exceeding 15 ug/l shall be reported to the mine manager within ten days of specimen collection.

Urinalysis results exceeding 30 ug/l and in vivo results exceeding 76 nCi shall be reported to the mine manager by telephone.

(12) Prevention of specimen contamination shall be in accordance with Section C.6 of NRC Regulatory Guide 8.22 (July 1978).

13 The licensee shall implement a documented quality control program for urine specimens that includes background samples, blanks, and spikes and also criteria for requiring repeat collection and analysis. This quality control program must be approved by the NRC prior to implementation.

14 The use of respirators shall be controlled by a respiratory protection program as stipulated by Section 20.103 of 10 CFR Part 20 and Regulatory Guide 8.15.

18. Operations shall be immediately suspended in the affected areas of the facility if any of the emission control equipment is inoperative.

19. The licensee shall conduct alpha contamination surveys of the lunch rooms, change rooms, and offices at least weekly. If the surveys reveal contamination levels that exceed the appropriate values in the attached Annex A, the area shall be decontaminated immediately and an investigation made by the plant RSO to determine the cause and corrective measures required to prevent recurrence.

20. The RSO shall conduct and document a daily visual surveillance of all plant building areas to insure proper implementation of good radiation safety practices, including good clean-up practices to minimize unnecessary surface buildup of radioactive particulates.

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- 2D A weekly inspection shall be made by the RSO of all work and storage areas and a report submitted to the mine manager on any items of non-compliance with operating procedures, license requirements, or safety practices affecting radiological safety.
- 1
24. The licensee shall conduct an annual survey of land use (grazing, residences, wells, etc.) in the area within five miles of the facility and submit a report this survey annually to the Uranium Mill Licensing Section, U.S. NRC, Washington, D.C. 20555. This report shall indicate any differences in land use from that described in the licensee's Environmental Report (August 1979) and supplements or the previous annual report. The first annual report shall be submitted by October 1, 1981 and by October 1 each year thereafter.
- 2
25. The results of the effluent and environmental monitoring program required by this license shall be reported in accordance with 10 CFR 40, Section 40.65 with copies of the report sent directly to the Uranium Mill Licensing Section, U.S. NRC, Washington, D.C. 20555. In addition, the report shall also include the results of monitoring of the evaporation pond liner leak detection system.
- 3
26. The licensee shall maintain a minimum of two feet of freeboard between the top of the evaporation pond retaining wall and the effluent level in the pond throughout the project life.
- 4
27. The licensee shall not expand the solar evaporation pond disposal area by raising the height of the embankments beyond that specified in license application dated August 1979, or by constructing any additional embankments not specified in the application without specific prior approval of the NRC obtained through application for amendment of this license.
- 5
28. The licensee shall conduct and document a weekly inspection of the embankments of the evaporation pond area and the exposed protective soil cover over the liner and make repairs if any erosion occurs.
- 6
29. Release of process liquid wastes to surface waters shall be prohibited.
- 7
30. In addition to the in-plant monitoring committed to in Subsection 5.5 of the licensee's application, the licensee shall perform the following environmental monitoring:

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<u>Sample Type</u>	<u>Frequency</u>	<u>Analysis</u>
Air	3 locations, 48 hour/quarter	Radon-222
Air Particulate	3 locations, 24 hour/quarter	Uranium, Thorium-230 and Radium-226
Environmental Dosimeters	22 locations, changed quarterly	Radiation Dose
Surface Water	2 locations, spring time when there is flow	Uranium and Radium- 226
Soil	8 locations at depths 0.5 cm, 5-10 cm, and 10-15 cm, once prior to startup & every 3 years during plant operation	Uranium, Thorium-230, Radium-226, and Lead-210
Vegetation	8 locations, once prior to startup & every 3 years during plant operation	Uranium, Thorium-230, Radium-226, and Lead-210
Gamma Dose Rate	22 locations, once prior to startup & every 3 years during plant operation	Radiation Dose

28. All liquid effluents, including sink and shower discharges and laundry wastes from the process plant buildings and change or shower rooms, with the exception of sanitary wastes, shall be returned to the process circuit or discharged to the solar evaporation pond.
29. The licensee shall institute a monitoring measurement procedure to develop a radon source term (curies per year) for the overall project operation.
30. The licensee shall implement the monitoring programs specified and recommended in Section 4.4 of the FES (NUREG).
31. The wastes from solution mining activities shall be finally disposed of off-site at a licensed disposal facility.
32. The licensee shall minimize total groundwater usage by improving his reverse osmosis treatment unit water recovery rate to an efficiency as high as reasonably achievable, as discussed in Sections 2.3.10.3 and 4.3.2 of the FES (NUREG).
33. The licensee shall implement a groundwater restoration program on mined-out well fields in accordance with the general plan discussed in Section 2.3.10.3 and the criteria discussed in Section 4.3.1 of the FES (NUREG).

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- 4
35. The licensee shall packer test wells (or the equivalent) after completion to ensure casing and cement integrity and shall document the results as discussed in Section 2.3.10.1 of the FES (NUREG). Results of the packer test should be reported and discussed in the quarterly report.
- 5
36. The licensee shall monitor well injection processes and maintain such pressures below 0.63 psi/ft of depth.
- 6
37. The licensee shall develop and conduct a program to better determine radon releases from well-field surge tanks.
- 7
38. The licensee shall establish a program that shall include written procedures and instructions to control all activities discussed in ~~items 3 through 35~~ *and conditions*. Written procedures should be submitted to the NRC before uranium extraction *30 hours* commences. *35.*
- 8
39. Before engaging in any activity not evaluated by the NRC staff, the licensee shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in FES (NUREG), the licensee shall provide a written evaluation of such activities and obtain approval of NRC for the activities.
- 39
40. If unexpected harmful effects or evidence of irreversible damage not otherwise identified in FES (NUREG) dated September 1980 are detected during construction or operations, the licensee shall provide to NRC an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.
- 40
41. Prior to disturbing any land, including topsoil removal, outside the area surveyed for any solution-mining-related activities, including site decommissioning, the licensee shall have an archaeological survey of the area performed with any land disturbance until the NRC has evaluated the report and given the licensee written approval to proceed. *and shall submit the results to the NRC for review. The licensee shall not proceed*
- 1
42. The licensee shall notify the NRC and the Wyoming State Archaeologist when any artifacts of earlier culture are encountered during site operations. Further activity in the immediate area shall be deferred until a determination of their significance by the NRC is completed. Mitigating measures, if needed, to preserve them shall be proposed by the licensee.
- 2
43. The licensee shall provide surety that funds will be available for restoration, surface reclamation, decommissioning, and final waste disposal.
- 3
44. Though the geologic information submitted by the licensee was gathered in the area of the first mine unit, the information is considered to be representative of the entire site. The licensee shall provide additional geologic information related to geologic structure, stratigraphy, hydraulic communications and ore ~~body~~ *body* characteristics *to confirm the continuity of geologic characteristics over the entire site prior to mining fields ~~and~~ other than unit one.*
- 4
45. The licensee shall mine sequentially; commencing restoration of each mined-out unit as mining begins in other fields or as soon as it is practicable.

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- 5
46. The licensee shall inform the NRC of any proposed revisions in the Wyoming State Mine Permit.
- 6
47. Analyses of degraded resin gathered in the mining and recovery operations shall be performed to determine uranium, radium-226, and thorium-230 contents.
- If the analyses show concentrations exceeding 0.05 percent uranium, 3×10^{-8} uCi/gram of thorium-230, the solid wastes shall be shipped to a licensed commercial disposal site.
- 7
48. The licensee shall provide the NRC with quarterly reports. These reports shall include results of radiation safety audits, results of groundwater, environmental effluent and plant radiation monitoring, results of documented inspections, results of well integrity tests, production parameters, such as quantity of uranium produced, average well field pumping rates and quantity of waste produced. The report should discuss all data provided.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

Docket No. 40-8745

JUN 13 1980

The Honorable Toby Moffett, Chairman
Subcommittee on Environment, Energy and
Natural Resources
Committee on Government Operations
United States House of Representatives
Washington, DC 20515

Subject:

Ogle Petroleum, Inc. - Bison Basin Project

The following documents concerning our review of the subject facility
are transmitted for your information:

- ☐ Notice of Receipt of Application.
- ☒ Draft/Final Environmental Statement, dated June 1980
- ☐ Safety Evaluation, or Supplement No. _____, dated _____
- ☐ Notice of Hearing on Application for Construction Permit.
- ☐ Notice of Consideration of Issuance of Facility Operating License.
- ☐ Application and Safety Analysis Report, Vol. _____
- ☐ Amendment No. _____ to Application/SAR, dated _____
- ☐ Construction Permit No. CPPR-_____ dated _____
- ☐ Facility Operating License No. DPR-_____, NPF-_____, dated _____
- ☐ Amendment No. _____ to CPPR-_____ or DRR-_____, dated _____
- ☐ Other: _____
- ☐ _____

~~Office of Nuclear Reactor Regulation~~
Office of Nuclear Material Safety
Safeguards

Enclosures:
As stated

cc: Representative Paul N. McCloskey, Jr.

bcc: OCA

OFFICE ▶						
SURNAME ▶						
DATE ▶						

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

Docket No. 40-8745

JUN 13 1980

The Honorable John D. Dingell, Chairman
Subcommittee on Energy and Power
Committee on Interstate and Foreign Commerce
United States House of Representatives
Washington, DC 20515

Subject: Ogle Petroleum, Inc., Bison Basin Project

The following documents concerning our review of the subject facility
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- ☐ Other: _____
- ☐ _____

Enclosures:
As stated

~~OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS~~
Office of Nuclear Material Safety
and Safeguards

cc: Representative Clarence J. Brown

bcc: OCA

OFFICE ▶

SURNAME ▶

DATE ▶

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

JUN 13 1980

Docket No. 40-3745

The Honorable Gary Hart, Chairman
Subcommittee on Nuclear Regulation
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Subject: Ogle Petroleum, Inc. - Bison Basin Project

The following documents concerning our review of the subject facility
are transmitted for your information:

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- ☐ Amendment No. _____ to CPPR- _____ or DRR- _____, dated _____
- ☐ Other: _____
- ☐ _____

~~Office of Nuclear Reactor Regulation~~
Office of Nuclear Material Safety
and Safeguards

Enclosures:
As stated

cc: Senator Alan Simpson

bcc: OCA

OFFICE ▶						
SURNAME ▶						
DATE ▶						

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

JUN 13 1980

Docket No. 40-8745

The Honorable Morris K. Udall, Chairman
Subcommittee on Energy and the Environment
Committee on Interior and Insular Affairs
United States House of Representatives
Washington, DC 20515

Subject: Ogle Petroleum, Inc., Bison Basin Project

The following documents concerning our review of the subject facility
are transmitted for your information:

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- ☐ Other: _____
- ☐ _____

~~OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS~~
Office of Nuclear Material Safety
and Safeguards

Enclosures:
As stated

cc: Representative Steven Symms
bcc: OCA

OFFICE ▶

SURNAME ▶

DATE ▶