DRAFT PERMIT

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CLASS II AIR QUALITY PERMIT

DRAFT PERMIT No. 102492

PERMITTEE:	**Energy Fuels Resources (USA) Inc.**
FACILITY:	**Energy Fuels Resources - Arizona 1 Mine**
PLACE ID:	**128345**
DATE ISSUED:	**Date Pending**
EXPIRY DATE:	**Date Pending**

SUMMARY

This Class II air quality permit is issued to Energy Fuels Resources (USA) Inc., the Permittee, for the continued operation of the Arizona 1 Mine. The facility is located 36 miles southwest of Fredonia, Mohave County, Arizona 86022. This permit renews and supersedes Permit No. 75725.

The Arizona 1 Mine is an underground uranium mine with a maximum production rate of 109,500 tons per year of uranium ore. No ore processing is conducted on-site. The ore is shipped to the White Mesa Mill near Blanding, Utah. If the ore cannot be shipped immediately to the mill, it is placed on-site in stockpiles within the Ore Stockpile Area (OSA) where it can accommodate up to 13,100 tons of stockpiled ore. The facility also operates an existing 400-kilowatt (kW) standby diesel-powered emergency generator. Development rock from the mining operations with less than approximately 0.03 percent uranium is stored on the surface in the Development Rock Area (DRA) and in mined-out areas of the underground workings. The facility's potential to emit (PTE) for all criteria air pollutants, without controls or operating limitations, is less than the major source thresholds. Thus, a Class II permit is required in accordance with Arizona Administrative Code (A.A.C.) R18-2-302.B.2.a.

This permit is issued in accordance with Arizona Revised Statutes (A.R.S.) § 49-426. It contains requirements from Title 18, Chapter 2 of the A.A.C. and Title 40 of the Code of Federal Regulations (CFR). All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and Title 40 of the CFR, except as otherwise defined in this permit.

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ATTACHMENT "A": GENERAL PROVISIONS

I. PERMIT EXPIRATION AND RENEWAL

A. This permit is valid for a period of five (5) years from the date of issuance.
[A.R.S. § 49-426.F, A.A.C. R18-2-306.A.1]

B. The Permittee shall submit an application for renewal of this permit at least six (6) months, but not more than eighteen (18) months, prior to the date of permit expiration.
[A.A.C. R18-2-304.D.2]

II. COMPLIANCE WITH PERMIT CONDITIONS

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona Revised Statutes (A.R.S.) § Title 49, Chapter 3, and the air quality rules under Title 18, Chapter 2 of the Arizona Administrative Code. Any permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
[A.A.C. R18-2-306.A.8.a]

B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
[A.A.C. R18-2-306.A.8.b]

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[A.A.C. R18-2-306.A.8.c]

B. The permit shall be reopened and revised under any of the following circumstances:

1. The Director or the EPA Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; and
[A.A.C. R18-2-321.A.1.c]

2. The Director or the EPA Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
[A.A.C. R18-2-321.A.1.d]

C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopening

shall be made as expeditiously as practicable. Permit reopenings shall not result in a resetting of the five-year permit term.

[A.A.C. R18-2-321.A.2]

IV. POSTING OF PERMIT

A. The Permittee shall post this permit or a certificate of permit issuance on location where the equipment is installed in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

[A.A.C. R18-2-315.A]

1. Current permit number; or

[A.A.C. R18-2-315.A.1]

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

[A.A.C. R18-2-315.A.2]

B. A copy of the complete permit shall be kept on site.

[A.A.C. R18-2-315.B]

V. FEE PAYMENT

The Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

[A.A.C. R18-2-306.A.9 and -326]

VI. EMISSIONS INVENTORY QUESTIONNAIRE

Emissions Inventory Questionnaire

1. The Permittee shall complete and submit to the Director an emissions inventory questionnaire no later than June 1 every three years beginning June 1, 2021. At the Director's request, the Permittee may be required to complete and submit emissions inventory questionnaires in addition to the triennial emissions inventory questionnaire. The Director shall notify the Permittee in writing of the decision to require additional emissions inventory questionnaires.

[A.A.C. R18-2-327.A.1.b]

2. The emissions inventory questionnaire shall be on an electronic or paper form provided by the Director and shall include the information required by A.A.C. R18-2-327.A.3 for the previous calendar year.

[A.A.C. R18-2-327.A.3]

3. The Permittee shall submit to the Director an amendment to an emissions inventory questionnaire, containing the documentation required by A.A.C. R18-2-327.A.3, whenever the Permittee discovers or receives notice, within two years of the original submittal, that incorrect or insufficient information was submitted to the Director by a previous emissions inventory questionnaire. The amendment shall be submitted to the Director within 30 days of discovery or receipt of notice. If the incorrect or insufficient information resulted in an incorrect annual emissions fee, the Director shall require that additional payment be made or shall apply an amount

as a credit to a future annual emissions fee. The submittal of an amendment shall not subject the Permittee to an enforcement action or a civil or criminal penalty if the original submittal of incorrect or insufficient information was not due to willful neglect.

[A.A.C. R18-2-327.A.4]

VII. COMPLIANCE CERTIFICATION

A. The Permittee shall submit a compliance certification to the Director semiannually which describes the compliance status of the source with respect to each permit condition. The certifications shall be submitted no later than May 15th and November 15th. The May 15th compliance certification shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The November 15th compliance certification shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

[A.A.C. R18-2-309.2.a]

B. The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

[A.A.C. R18-2-309.2.c.i]

2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period;

[A.A.C. R18-2-309.2c.ii]

3. Status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certifications shall identify each deviation (including any deviations reported pursuant to Condition XII.B of this Attachment) during the period covered by the certification and take it into account for consideration in the compliance certification

[A.A.C. R18-2-309.2.c.iii]

4. Other facts the Director may require in determining the compliance status of the source.

[A.A.C. R18-2-309.2.c.iv]

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[A.A.C. R18-2-309.3]

IX. INSPECTION AND ENTRY

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
[A.A.C. R18-2-309.4.a]

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
[A.A.C. R18-2-309.4.b]

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
[A.A.C. R18-2-309.4.c]

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
[A.A.C. R18-2-309.4.d]

E. Record any inspection by use of written, electronic, magnetic and photographic media.
[A.A.C. R18-2-309.4.e]

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

If this source becomes subject to a standard promulgated by the EPA Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve (12) months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.
[A.A.C. R18-2-304.D.3]

XI. ACCIDENTAL RELEASE PROGRAM

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.
[40 CFR Part 68]

XII. EXCESS EMISSIONS AND EMERGENCY REPORTING

A. Excess Emissions Reporting
[A.A.C. R18-2-310.01.A, B, and C]

1. Excess emissions shall be reported as follows:

   a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:
   [A.A.C. R18-2-310.01.A]

      (1) Notification by myDEQ, telephone, or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of

excess emissions including all available information from Condition XII.A.1.b below.

[A.A.C. R18-2-310.01.A.1]

(2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a(1) above.

[A.A.C. R18-2-310.01.A.2]

b. The report shall contain the following information:

(1) Identity of each stack or other emission point where the excess emissions occurred;

[A.A.C. R18-2-310.01.B.1]

(2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

[A.A.C. R18-2-310.01.B.2]

(3) Time and duration, or expected duration, of the excess emissions;

[A.A.C. R18-2-310.01.B.3]

(4) Identity of the equipment from which the excess emissions emanated;

[A.A.C. R18-2-310.01.B.4]

(5) Nature and cause of the emissions;

[A.A.C. R18-2-310.01.B.5]

(6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions;

[A.A.C. R18-2-310.01.B.6]

(7) Steps that were or are being taken to limit the excess emissions; and

[A.A.C. R18-2-310.01.B.7]

(8) If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures governing source operation during periods of startup or malfunction.

[A.A.C. R18-2-310.01.B.8]

2. In the case of continuous or recurring excess emissions, the notification requirements shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Where the applicable requirement contains a definition of prompt or otherwise specifies a timeframe for reporting deviations, that definition or timeframe shall govern. Where the applicable requirement does not address the timeframe for reporting deviations, the Permittee shall submit reports of deviations according to the following schedule:

1. Notice that complies with Condition XII.A above is prompt for deviations that constitute excess emissions;

[A.A.C. R18-2-306.A.5.b.i]

2. Notice that is submitted within two (2) working days of discovery of the deviation is prompt for deviations of permit conditions identified by Condition I.C.1 of Attachment "B";

[A.A.C. R18-2-306.A.5.b.ii]

3. Except as provided in Conditions XII.B.1 and XII.B.2, prompt notification of all other types of deviation shall be every 6 months, concurrent with the semi-annual compliance certifications required in Section VII, and can be submitted via myDEQ, the Arizona Department of Environmental Quality's online portal.

[A.A.C. R18-2-306.A.5.b.ii]

XIII. RECORDKEEPING REQUIREMENTS

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;

[A.A.C. R18-2-306.A.4.a.i]

2. The date(s) any analyses were performed;

[A.A.C. R18-2-306.A.4.a.ii]

3. The name of the company or entity that performed the analyses;

[A.A.C. R18-2-306.A.4.a.iii]

4. A description of the analytical techniques or methods used;

[A.A.C. R18-2-306.A.4.a.iv]

5. The results of analyses; and

[A.A.C. R18-2-306.A.4.a.v]

6. The operating conditions as existing at the time of sampling or measurement.

[A.A.C. R18-2-306.A.4.a.vi]

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement,

report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

[A.A.C. R18-2-306.A.4.b]

XIV. DUTY TO PROVIDE INFORMATION

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the EPA Administrator along with a claim of confidentiality.

[A.A.C. R18-2-304.G and -306.A.8.e]

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

[A.A.C. R18-2-304.H]

XV. PERMIT AMENDMENT OR REVISION

The Permittee shall apply for a permit amendment or revision for changes to the facility which does not qualify for a facility change without revision under Section XVI.A below, as follows:

A. Facility Changes that Require a Permit Revision;

[A.A.C. R18-2-317.01]

B. Administrative Permit Amendment;

[A.A.C. R18-2-318]

C. Minor Permit Revision; and

[A.A.C. R18-2-319]

D. Significant Permit Revision.

[A.A.C. R18-2-320]

The applicability and requirements for such action are defined in the above referenced regulations.

XVI. FACILITY CHANGES ALLOWED WITHOUT A PERMIT REVISION

A. Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under A.A.C. R18-2-317.01, or a change subject to logging or notice requirements in Condition XVI.B, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.

[A.A.C. R18-2-317.02.A]

B. The following changes may be made if the source keeps on site records of the changes according to Condition XVI.H below:

[A.A.C. R18-2-317.02.B]

1. Implementing an alternative operating scenario, including raw materials changes;
[A.A.C. R18-2-317.02.B.1]

2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;
[A.A.C. R18-2-317.02.B.2]

3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.68 but not listed in the permit;
[A.A.C. R18-2-317.02.B.3]

4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and
[A.A.C. R18-2-317.02.B.4]

5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.
A.A.C. R18-2-317.02.B.5]

C. The following changes may be made if the source provides written notice to the Department in advance of the change as provided below:
[A.A.C. R18-2-317.02.C]

1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: seven days. The Director may require verification of efficiency of the new equipment by performance tests;
[A.A.C. R18-2-317.02.C.1]

2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: seven days;
[A.A.C. R18-2-317.02.C.2]

3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;
[A.A.C. R18-2-317.02.C.3]

4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;
[A.A.C. R18-2-317.02.C.4]

5. A change that amounts to reconstruction of the source or an affected facility: seven days. For purposes of this subsection, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds

50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and

[A.A.C. R18-2-317.02.C.5]

6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.

D. For each change under Condition XVI.C, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:

[A.A.C. R18-2-317.02.D]

1. When the proposed change will occur,

[A.A.C. R18-2-317.02.D.1]

2. A description of the change,

[A.A.C. R18-2-317.02.D.2]

3. Any change in emissions of regulated air pollutants, and

[A.A.C. R18-2-317.02.D.3]

4. Any permit term or condition that is no longer applicable as a result of the change.

[A.A.C. R18-2-317.02.D.4]

E. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XVI.B.1.

[A.A.C. R18-2-317.02.F]

F. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the Permittee under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.

[A.A.C. R18-2-317.02.G]

G. A copy of all logs required under Condition XVI.B shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.

[A.A.C. R18-2-317.02.I]

H. Logging Requirements

[Arizona Administrative Code, Appendix 3]

1. Each log entry required by a change under Condition XVI.B shall include at least the following information:

   a. A description of the change, including:

      (1) A description of any process change;

      (2) A description of any equipment change, including both old and new equipment descriptions, model numbers, and serial numbers, or any other unique equipment ID number; and

      (3) A description of any process material change.

   b. The date and time that the change occurred.

   c. The provisions of Condition XVI.B that authorizes the change to be made with logging.

   d. The date the entry was made and the first and last name of the person making the entry.

2. Logs shall be kept for five (5) years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially number pages, or in any other form, including electronic format, approved by the Director.

XVII. TESTING REQUIREMENTS

A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

[A.A.C. R18-2-312.A]

B. Operational Conditions during Performance Testing

Performance tests shall be conducted under such conditions as the Director shall specify to the plant operator based on representative performance of the source. The Permittee shall make available to the Director such records as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.

[A.A.C. R18-2-312.C]

C. Performance Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

[A.A.C. R18-2-312.B]

D. Test Plan

At least 14 working days prior to performing a test, the Permittee shall submit a test plan to the Director, which must include the following, in addition to all other applicable requirements, as identified in the Arizona Testing Manual:

[A.A.C. R18-2-312.B]

1. Test duration;

2. Test location(s);

3. Test method(s); and

4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

[A.A.C. R18-2-312.E]

1. Sampling ports adequate for test methods applicable to the facility;

2. Safe sampling platform(s);

3. Safe access to sampling platform(s); and

4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

[A.A.C. R18-2-312.F]

G. Report of Final Test Results

A written report of the results of performance tests conducted pursuant to 40 CFR 60 or 40 CFR 63, shall be submitted to the Director within 60 days after the test is performed. A written report of the results of all other performance tests shall be submitted within 4 weeks after the test is performed, or as otherwise provided in the Arizona Testing Manual. All

performance testing reports shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

[A.A.C. R18-2-312.A and B]

H. Extension of Performance Test Deadline

For performance testing required under Condition XVII.A above, the Permittee may request an extension to a performance test deadline due to a force majeure event as follows:

[A.A.C. R18-2-312.J]

1. If a force majeure event is about to occur, occurs, or has occurred for which the Permittee intends to assert a claim of force majeure, the Permittee shall notify the Director in writing as soon as practicable following the date the Permittee first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline. The notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall be given as soon as practicable.

   [A.A.C. R18-2-312.J.1]

2. The Permittee shall provide to the Director a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the Permittee proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure event occurs.

   [A.A.C. R18-2-312.J.2]

3. The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Director. The Director shall notify the Permittee in writing of approval or disapproval of the request for an extension as soon as practicable.

   [A.A.C. R18-2-312.J.3]

4. Until an extension of the performance test deadline has been approved by the Director under Conditions XVII.H.1, XVII.H.2, and XVII.H.3 above, the Permittee remains subject to the requirements of Section XVI.A.

   [A.A.C. R18-2-312.J.4]

5. For purposes of this Section XVI.A, a “force majeure event” means an event that will be or has been caused by circumstances beyond the control of the Permittee, its contractors, or any entity controlled by the Permittee that prevents it from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the Permittee's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the Permittee.

   [A.A.C. R18-2-312.J.5]

XVIII. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

[A.A.C. R18-2-306.A.8.d]

XIX. SEVERABILITY CLAUSE

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

[A.A.C. R18-2-306.A.7]

XX. PERMIT SHIELD

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XV.C of this Attachment and any facility changes without a permit revision pursuant to Section 0 of this Attachment.

[A.A.C. R18-2-317.F, - 320, and -325]

XXI. PROTECTION OF STRATOSPHERIC OZONE

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

[40 CFR Part 82]

XXII. APPLICABILITY OF NSPS/NESHAP GENERAL PROVISIONS

For all equipment subject to a New Source Performance Standard or a National Emission Standard for Hazardous Air Pollutants, the Permittee shall comply with all applicable requirements contained in Subpart A of Title 40, Chapter 60 and Chapter 63 of the Code of Federal Regulation.

[40 CFR Part 60 Subpart A and Part 63 Subpart A]

ATTACHMENT "B": SPECIFIC CONDITIONS

I. FACILITY-WIDE REQUIREMENTS

A. Applicability

This Section includes facility-wide requirements.

B. Opacity

1. Instantaneous Surveys and Six-Minute Observations

a. Instantaneous Surveys

Any instantaneous survey required by this permit shall be determined by either option listed in Conditions I.B.1.a(1) and (2):

[A.A.C. R18-2-311.B]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

(a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.

(b) The results of all instantaneous surveys and six-minute observations shall be obtained within two (2) hours.

(2) EPA Reference Method 9 Certified Observer.

[A.A.C. R18-2-306.A.3.c]

b. Six-Minute Observations

Any six-minute observation required by this permit shall be determined by either option listed in Conditions I.B.1.b(1) and (2):

[A.A.C. R18-2-311.B]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

(a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.

(b) The results of all instantaneous surveys and six-minute observations shall be obtained within two (2) hours.

(2) EPA Reference Method 9.

c. The Permittee shall have on site or on call a person certified in EPA Reference Method 9 unless all six-minute Method 9 observations required by this permit are conducted as a six-minute Alternative Method ALT-082 (Digital Camera Operating Technique) and all instantaneous visual

surveys required by this permit are conducted as an instantaneous ALT-082 camera survey. Any six-minute Method 9 observation required by this permit can be conducted as a six-minute Alternative Method ALT-082 and any instantaneous visual survey required by this permit can be conducted as an instantaneous ALT-082 camera survey.

[A.A.C. R18-2-306.A.3.c]

2. Monitoring, Recordkeeping, and Reporting Requirements

[A.A.C. R18-2-306.A.3.c]

a. At the frequency specified in the following sections of this permit, the Permittee shall conduct an instantaneous survey of visible emissions from both process stack sources, when in operation, and fugitive dust sources.

b. If the visible emissions on an instantaneous basis appears less than or equal to the applicable opacity standard, then the Permittee shall keep a record of the name of the observer, the date on which the instantaneous survey was made, and the results of the instantaneous survey.

c. If the visible emissions on an instantaneous basis appears greater than the applicable opacity standard, then the Permittee shall immediately conduct a six-minute observation of the visible emissions.

(1) If the six-minute observation of the visible emissions is less than or equal to the applicable opacity standard, then the Permittee shall record the name of the observer, the date on which the six-minute observation was made, and the results of the six-minute observation.

(2) If the six-minute observation of the visible emissions is greater than the applicable opacity standard, then the Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to less than or equal to the opacity standard;

(b) Record the name of the observer, the date on which the six-minute observation was made, the results of the six-minute observation, and all corrective action taken; and

(c) Report the event as an excess emission for opacity in accordance with Condition XII.A of Attachment "A".

(d) Conduct another six-minute observation to document the effectiveness of the adjustments or repairs completed.

C. Recordkeeping and Reporting Requirements

1. Deviations from the following Attachment "B" permit conditions shall be promptly reported in accordance with Condition XII.B of Attachment "A":

[A.A.C. R18-2-306.A.5.b]

(1) Condition II.C.3;

(2) Conditions III.B.2, III.B.3, and III.C.2;

(3) Condition V.B;

(4) Conditions VI.B.2, VI.B.3; and

(5) All conditions in ATTACHMENT "D".

2. The Permittee shall submit reports of all monitoring activities required in Attachment "B" along with the annual compliance certification required by Section 0 of Attachment "A."

[A.A.C. R18-2-306.A.5.a]

D. Permit Shield

Nothing in this permit shall alter or affect the following:

[A.A.C. R18-2-325.B]

1. The provisions of Section 303 of the Act (emergency orders), including the authority of the EPA Administrator under that Section;

2. The liability of the facility for any violation of applicable requirements prior to or at the time of permit issuance;

3. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

4. The ability of the EPA Administrator or the Director to obtain information from the facility pursuant to Section 114 of the Act, or any provision of state law; and

5. The authority of the Director to require compliance with new applicable requirements adopted after the permit is issued.

II. MINE VENTS

A. Applicability

This Section applies to the mine vents as subject to A.A.C. R18-2-730 and 40 CFR 61 Subpart B.

B. Radon Emissions

1. Emission Limitation and Standard

a. The Permittee shall not cause, allow or permit emissions of radon-222 from the underground uranium mine in excess of those amounts that would

cause any member of the public to receive in any year an effective dose equivalent of 10 millirem per year (mrem/yr).

[40 CFR 61.22]

2. Monitoring, Recordkeeping and Reporting Requirements

a. Compliance with the emission standard in Condition II.B.1.a shall be determined and the effective equivalent dose calculated by the U.S. Environmental Protection Agency (EPA) computer code (i.e. mathematical model) COMPLY-R. The source terms to be used for input into COMPLY-R shall be calculated by conducting testing in accordance with the procedures described in 40 CFR Part 61 appendix B, Method 115, or;

[40 CFR 61.23(a)]

b. The Permittee may demonstrate compliance with the emission standard in Condition II.B.1 through use of computer models that are equivalent to COMPLY-R provided that the model has received prior approval from EPA headquarters. EPA may approve a model in whole or in part and may limit its use to specific circumstances.

[40 CFR 61.23(b)]

c. The Permittee shall annually calculate and report the results of the compliance calculations required in Condition II.B.2.a above and the input parameters used in making the calculations. This annual report shall include the emissions for the entire calendar year and shall be sent to the EPA Administrator and the Director by March 31st of the following year. Each report shall also include the following information:

[40 CFR 61.24(a)]

(1) The name and location of the mine.

(2) The name of the person responsible for the operation of the facility and the name of the person preparing the report (if different).

(3) The results of the emissions testing conducted and the dose calculated using the procedures described in Condition **Error! Reference source not found.**.

(4) A list of the stacks or vents or other points where radioactive materials are released to the atmosphere, including their location, diameter, flow rate, effluent temperature and release height.

(5) A description of the effluent controls that are used on each stack, vent, or other release point and the effluent controls used inside the mine, and an estimate of the efficiency of each control method or device.

(6) Distances from the points of release to the nearest residence, school, business or office and the nearest farms producing vegetables, milk, and meat.

(7) The values used for all other user-supplied input parameters for the computer models (e.g., meteorological data) and the source of these data.

(8) Each report shall be signed and dated by a corporate officer in charge of the Permittee and contain the following declaration immediately above the signature line: "I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See, 18 U.S.C. 1001."

d. If the Permittee is not in compliance with the emission standard of Condition II.B.1.a in the calendar year covered by the report, the Permittee shall then commence reporting to the Director and EPA Administrator on a monthly basis the information listed in Condition II.B.2.a of this Section for the preceding month. These reports will start the month immediately following the submittal of the annual report for the year in noncompliance and will be due 30 days following the end of each month. This increased level of reporting will continue until the Administrator has determined that the monthly reports are no longer necessary. In addition to all the information required in Condition II.B.2.a of this Section, monthly reports shall also include the following information:

[40 CFR 61.24(b)]

(1) All controls or other changes in operation of the facility that will be or are being installed to bring the facility into compliance.

[40 CFR 61.24(b)(1)]

(2) If the Permittee is under a judicial or administrative enforcement action the report shall describe the facilities performance under the terms of the action.

[40 CFR 61.24(b)(2)]

e. The Permittee shall maintain records documenting the source of input parameters including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine compliance. In addition, the documentation should be sufficient to allow an independent auditor to verify the accuracy of the determination made concerning the facility's compliance with the standard in Condition II.B.1.a. These records must be kept at the mine or by the Permittee for at least five years and upon request be made available for inspection by the Director and EPA Administrator, or his authorized representative.

[40 CFR 61.25]

3. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with 40 CFR 61.22, 40 CFR 61.23(a)-(b), 40 CFR 61.24(a)-(b), 40 CFR 61.25.

[A.A.C. R18-2-325]

C. Particulate Matter and Opacity

1. Emission Limitations and Standards

a. The Permittee shall not cause, allow or permit the discharge of particulate matter, into the atmosphere in any one hour from any process source in total quantities in excess of the amounts calculated by one of the following equations:

For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$E = 4.10\ P^{0.67}$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

[A.A.C. R18-2-730.A.1.b]

b. The Permittee shall use the total process weight from all similar units employing a similar type process in determining the maximum allowable emissions of particulate matter.

[A.A.C. R18-2-730.B]

2. Opacity

a. The Permittee shall not cause, allow or permit to be emitted into the atmosphere, from the mine ventilation stacks, when operating, any plume which exhibits greater than 20% opacity, measured in accordance with EPA Reference Method 9.

[A.A.C. R18-2-702.B.3]

b. If the presence of uncombined water is the only reason for the exceedance of any visible emissions requirement, such exceedance shall not constitute a violation of the applicable opacity limit.

[A.A.C. R18-2-702.C]

3. Monitoring, Recordkeeping, and Reporting Requirements

A certified EPA Reference Method 9 observer shall conduct a bi-weekly (once every two weeks) survey of visible emissions emanating from the mine ventilation stacks, when in operation and in accordance with Condition I.B of Attachment "B".

[A.A.C. R18-2-306.A.3.c]

4. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-702.B-C, and -730.A-B.

[A.A.C. R18-2-325]

D. Gaseous Pollutants

1. Operating Limitations

a. The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

b. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

2. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.D, and -730.G.

[A.A.C. R18-2-325]

III. EMERGENCY GENERATOR

A. Applicability

This Section applies to the emergency generator identified in the Equipment List in Attachment "C" as subject to A.A.C. R18-2-719 and 40 CFR 63 Subpart ZZZZ.

B. General Requirements

1. Fuel Requirements

The Permittee shall use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

[40 CFR 63.6604(b)]

2. Operating Requirements

a. *The Permittee shall not operate the emergency generator for more than 120 hours per year on a twelve (12) month rolling total, except for emergency situations.*

[A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material Permit Conditions are indicated by underlines and italics]

b. *The Permittee shall install a non-resettable hour meter prior to startup of the engine, if one is not already installed.*

[40 CFR 63.6625(f) and A.A.C. R18-2-331.A.3.c]
[Material Permit Conditions are indicated by underlines and italics]

3. Recordkeeping Requirements

a. The Permittee shall maintain records of the monthly hours of operation of the emergency generator to demonstrate compliance with Condition Error! Reference source not found. above.

b. The Permittee shall calculate a rolling twelve (12) month total of the operational hours of the emergency generator within 15 days of the end of each month.

[A.A.C. R18-2-306.A.3.c, -306.A.4]

C. Particulate Matter and Opacity

1. Emission Limitations and Standards

a. The Permittee shall not cause, allow or permit to be emitted into the atmosphere, from the emergency generator, smoke for any period of time greater than ten consecutive seconds which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-719.E]

b. The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from the emergency generator in excess of the amounts calculated by the following equation:

[A.A.C. R18-2-719.C]

$E = 1.02Q^{0.769}$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

Q = the heat input in million Btu per hour.

c. For purposes of Condition III.C.1.b above, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass

through a stack or other outlet. Compliance tests shall be conducted during operation at the normal rated capacity of each unit. The total heat input of the emergency generator shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

[A.A.C. R18-2-719.B]

2. Monitoring, Recordkeeping and Reporting Requirements

A certified EPA Reference Method 9 observer shall conduct a quarterly survey of visible emissions emanating from the stack of the emergency generator when in operation and in accordance with Condition I.B of Attachment "B".

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-719.B, -719.C, and -719.E.

[A.A.C. R18-2-325]

D. Sulfur Dioxide

1. Reporting and Recordkeeping Requirements

a. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the emergency generator exceeds 0.8%.

[A.A.C. R18-2-719.J]

b. The Permittee shall record daily the sulfur content and lower heating value of the fuel being fired in the emergency generator.

[A.A.C. R18-2-719.I]

2. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-719.I, and -719.J.

[A.A.C. R18-2-325]

E. Hazardous Air Pollutants

1. General Requirements

a. The Permittee shall operate and maintain at all times the emergency generator including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require any further efforts to reduce emissions if levels required by 40 CFR 63 Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results,

review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
[40 CFR 63.6605(b), A.A.C. R18-2-1101.B.81]

b. The Permittee shall minimize the emergency generator time spent at idle during startup and minimize the generator's startup time to a period needed for appropriate and safe loading of the generator, not to exceed 30 minutes.
[40 CFR 63.6625(h), A.A.C. R18-2-1101.B.81]

c. The Permittee shall operate and maintain the emergency generator and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the emergency generator in a manner consistent with good air pollution control practice for minimizing emissions.
[40 CFR 63.6625(e)(3), A.A.C. R18-2-1101.B.81]

2. Operating Requirements

a. The Permittee shall comply with the following operation and maintenance requirements.
[40 CFR 63.6603(a) and 63.6625(j), and A.A.C. R18-2-1101.B.81]

(1) The Permittee shall change the oil and filter every 500 hours operation or annually, whichever comes first. If the Permittee prefers to extend the oil change requirement, an oil analysis program shall be completed. The oil analysis must be performed at the same frequency specified for changing the oil. The Permittee shall at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows:

(a) Total Acid Number: increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new;

(b) Viscosity: changed by more than 20 percent from the viscosity of oil when new; and

(c) Water Content: greater than 0.5 percent by volume.

If all of the condemning limits are not exceeded, the Permittee is not required to change the oil. If any of the condemning limits are exceeded, the Permittee shall change the oil within two (2) business days of receiving the results of the analysis or before commencing operation, whichever is later. The analysis program shall be part of the maintenance plan for the generator.

(2) The Permittee shall inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and

(3) The Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

b. If the generator is operating during an emergency and it is not possible to shut down the generator in order to perform the work practice requirements on the schedule required in Conditions III.E.2.a, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice shall be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. The Permittee shall report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

c. The Permittee shall operate the emergency generator according to the requirements in Conditions III.E.2.c(1) through III.E.2.c(3). In order for the emergency generator to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in Conditions III.E.2.c(1) through III.E.2.c(3) is prohibited. If the Permittee does not operate the emergency generator according to the requirements in Conditions III.E.2.c(1) through III.E.2.c(3), the generator will not be considered an emergency generator and must meet all requirements for non-emergency generators:

[40 CFR 60.6640(f), A.A.C. R18-2-1101.B.81]

(1) There is no time limit on the use of emergency generator in emergency situations.

[40 CFR 60.6640(f)(1), A.A.C. R18-2-1101.B.81]

(2) The Permittee may operate the emergency generator for the purpose of maintenance checks and readiness testing for a maximum of 100 hours per calendar year provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission operator, or the insurance company associated with the generator. The Permittee may petition the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. Any operation for non-emergency situations as

allowed by Condition III.E.2.c(3) counts as part of the 100 hours per calendar year allowed by this condition.

[40 CFR 63.6640(f)(2)(i), A.A.C. R18-2-1101.B.81]

(3) The Permittee may operate an emergency generator for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in Condition III.E.2.c(2).

[40 CFR 63.6640(f)(4), A.A.C. R18-2-1101.B.81]

3. Compliance Requirements

a. The Permittee shall be in compliance with all applicable requirements of 40 CFR 63 Subpart ZZZZ at all times.

[40 CFR 63.6605(a), A.A.C. R18-2-1101.B.81]

b. The Permittee shall demonstrate continuous compliance by operating and maintaining the generator according to the manufacturer's emission-related operation and maintenance instructions, or developing and following a maintenance plan which must provide to the extent practicable for the maintenance and operation of the emergency generator in a manner consistent with good air pollution control practice for minimizing emissions.

[40 CFR 63.6640(a), Table 6, Entry 9, A.A.C. R18-2-1101.B.81]

4. Recordkeeping Requirements

a. If the emergency generator does not meet the standards applicable to non-emergency generators, the Permittee shall keep records of the hours of operation of the emergency generator that is recorded through the non-resettable hour meter. Records shall include how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation.

[40 CFR 63.6655(f), A.A.C. R18-2-1101.B.81]

b. If the Permittee elects to utilize the oil analysis program option in Conditions III.E.2.a(1) above, it shall keep records of the parameters that are analyzed as part of the oil analysis program, the results of the analysis, and the oil changes for the emergency generator.

[40 CFR 63.6625(j), A.A.C. R18-2-1101.B.81]

c. The Permittee shall keep records of the maintenance conducted on the emergency generator in order to demonstrate that the emergency generator and after-treatment control device (if any) was operated and maintained according to any developed maintenance plan.

[40 CFR 63.6655(e), A.A.C. R18-2-1101.B.81]

d. The Permittee shall keep each record in hard copy or electronic form for five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The records shall be in

a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

[40 CFR 63.6660(a)-(c), A.A.C. R18-2-1101.B.81]

5. Reporting Requirement

The Permittee shall report all deviations and compliance certifications pursuant to the timelines specified in Conditions VII.A and XII.B of Attachment A, respectively.

[A.A.C. R18-2-309.2.a, -309.2.c, -309.2.d, and A.A.C. R18-2-306.A.5.b]

6. Permit Shield

Compliance with the Conditions of this Subsection shall be deemed compliance with 63.6603(a), 63.6604(b), 63.6605(a)-(b), 63.6625(e)-(f), 63.6625(h), 63.6625(j), 63.6640(a), 63.6640(f), 63.6655(e)-(f), 63.6660(a)-(c) and A.A.C. R18-2-1101.B.81.

[A.A.C. R18-2-325]

IV. GASOLINE STORAGE TANK

A. Applicability

This Section applies to the gasoline storage tank identified in the Equipment List in Attachment "C" as subject to A.A.C. R18-2-710.

B. Emission Limitations and Standards

1. All gasoline storage tanks shall be equipped with a submerged filling device, or acceptable equivalent, for the control of hydrocarbon emissions.

[A.A.C. R18-2-710.B]

2. All pumps and compressors which handle volatile organic compounds (VOCs) shall be equipped with mechanical seals or other equipment of equal efficiency to prevent the release of organic contaminants into the atmosphere.

[A.A.C. R18-2-710.D]

C. Monitoring and Recordkeeping Requirements

The Permittee shall maintain a storage tank log showing the following:

1. The Permittee shall maintain a file of each type of petroleum liquid stored, the typical Reid vapor pressure of the petroleum liquid stored and the dates of storage. Dates on which the storage vessel is empty shall be shown.

[A.A.C. R18-2-710.E.1]

2. The Permittee shall determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if either:

a. The petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or

[A.A.C. R18-2-710.E.2.a]

b. The petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg (9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent.

[A.A.C. R18-2-710.E.2.b]

3. The average monthly storage temperature shall be an arithmetic average calculated for each calendar month, or portion thereof, if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days.

[A.A.C. R18-2-710.E.3]

4. The true vapor pressure shall be determined by the procedures in American Petroleum Institute Bulletin 2517, amended as of February 1980 (and no future editions), which is incorporated herein by reference and on file with the Office of the Secretary of State. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the Director requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, the Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available upon request to the Director when typical Reid vapor pressure is used.

[A.A.C. R18-2-710.E.4]

D. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-710.B, -710.D, -710.E.1, -710.E.2.(a)-(b), and -710.E.3-4.

[A.A.C. R18-2-325]

V. GASOLINE DISPENSING FACILITIES

A. Applicability

This Section applies to the gasoline dispensing facility (GDF) that is located at the source as subject to 40 CFR 63 Subpart CCCCCC.

B. General Requirements

The Permittee shall not allow the throughput of gasoline to exceed 10,000 gallons per month.

[A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material permit conditions are indicated by underlines and italics]

C. Emission Limitations and Standards

1. The Permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

[40 CFR 63.11116(a)]

a. Minimize gasoline spills;

b. Clean up spills as expeditiously as practicable;

c. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

2. The Permittee shall have records available within 24 hours of a request by the EPA Administrator or Director to document the gasoline throughput.

[40 CFR 63.11116(b)]

D. Recordkeeping Requirements

The Permittee shall record a monthly log of the throughput of the storage tank.

[A.A.C. R18-2-306.A.3.c]

E. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with CFR 63.11116(a)-(b).

[A.A.C. R18-2-325]

VI. FUGITIVE DUST REQUIREMENTS

A. Applicability

This Section applies to any non-point source of fugitive dust.

B. Particulate Matter and Opacity

Open Areas, Roadways & Streets, Storage Piles, and Material Handling

1. Emission Limitations and Standards

a. Opacity of emissions from any fugitive dust non-point source shall not be greater than 40%.

[A.A.C. R18-2-614]

b. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(1) Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C. R18-2-604.A]

(2) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means;

[A.A.C. R18-2-604.B]

(3) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway or alley is used, repaired, constructed, or reconstructed;

[A.A.C. R18-2-605.A]

(4) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits;

[A.A.C. R18-2-605.B]

(5) Operate mineral tailings piles by taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Reasonable precautions shall mean wetting, chemical stabilization, revegetation or such other measures as are approved by the Director; and

[A.A.C. R18-2-608]

(6) Any other method as proposed by the Permittee and approved by the Director.

[A.A.C. R18-2-306.A.3.c]

2. Air Pollution Control Requirements

a. *The Permittee shall maintain water in the evaporation pond, stabilize the soil, or remove the soil to prevent particulate matter from becoming airborne.*

[A.A.C. R18-2-306.01.A and -331.A.3.d]
[Material Permit Condition is indicated by underlines and italics]

b. *The Permittee shall operate and maintain the haul trucks in such a way that ore cannot escape through any slits or openings in the bed of the truck.*

[A.A.C. R18-2-306.01.A and -331.A.3.d]
[Material Permit Condition is indicated by underlines and italics]

c. *Haul truck loads shall be covered with a tarpaulin to prevent loss of material in transit, so that haul road emissions will result exclusively from natural dust on the road surface. The tarpaulin shall be lapped over the sides of the haul truck bed at least six inches, and secured every four feet with a tiedown rope.*

[A.A.C. R18-2-306.01.A and -331.A.3.d]
[Material Permit Condition is indicated by underlines and italics]

d. Haul Roads and Storage Piles

Water, or an equivalent control, shall be used to control visible emissions from haul roads and storage piles.

[A.A.C. R18-2-306.01.A and -331.A.3.d]
[Material Permit Condition is indicated by underlines and italics]

3. Monitoring and Recordkeeping Requirements

a. The Permittee shall maintain records of the dates on which any of the activities listed above were performed and the control measures that were adopted.

[A.A.C. R18-2-306.A.3.c]

b. Each month, when in operation, the Permittee shall monitor visible emissions from fugitive sources in accordance with Condition I.B of Attachment "B".

[A.A.C. R18-2-306.A.3.c]

C. Permit Shield
Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-604, -605, -608, and -614.

[A.A.C. R18-2-325]

VII. OTHER PERIODIC ACTIVITIES

A. Abrasive Blasting

1. Particulate Matter and Opacity

a. Emission Limitations and Standards

The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

[A.A.C. R18-2-726]

(1) Wet blasting;

(2) Effective enclosures with necessary dust collecting equipment; or

(3) Any other method approved by the Director.

b. Opacity

The Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

2. Monitoring and Recordkeeping Requirement

a. Each time an abrasive blasting project is conducted, the Permittee shall make a record of the following:

[A.A.C. R18-2-306.A.3.c]

(1) The date the project was conducted;

(2) The duration of the project; and

(3) Type of control measures employed.

b. Each time an abrasive blasting project is conducted, the Permittee shall monitor visible emissions from the project in accordance with Condition I.B of Attachment "B".

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with Conditions of this Section shall be deemed compliance with A.A.C. R18-2-702.B.3 and -726.

[A.A.C. R18-2-325]

B. Use of Paints

1. Volatile Organic Compounds

a. Emission Limitations and Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

(1) The Permittee shall not conduct or cause to be conducted any spray-painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C. R18-2-727.A]

(2) The Permittee or their designated contractor shall not either:

(a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or

(b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C. R18-2-727.B]

(3) For the purposes of Condition VII.B.1.a(1), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Condition VII.B.1.a(2), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

[A.A.C. R18-2-727.C]

(a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.

[A.A.C. R18-2-727.C.1]

(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

[A.A.C. R18-2-727.C.2]

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

[A.A.C. R18-2-727.C.3]

(4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups of organic compounds described in Condition VII.B.1.a(3), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C. R18-2-727.D]

b. Monitoring and Recordkeeping Requirements

(1) Each time a spray-painting project is conducted, the Permittee shall make a record of the following:

[A.A.C. R18-2-306.A.3.c]

(a) The date the project was conducted;

(b) The duration of the project;

(c) Type of control measures employed;

(d) Safety Data Sheets (SDS) for all paints and solvents used in the project; and

(e) The amount of paint consumed during the project.

(2) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition VII.B.1.b(1).

c. Permit Shield

Compliance with Conditions of this Section shall be deemed compliance with A.A.C. R18-2-727.

[A.A.C. R18-2-325]

2. Opacity

a. Emission Limitation and Standards

The Permittee shall not cause, allow or permit visible emissions from painting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

b. Monitoring, Recordkeeping and Reporting Requirements

Each time a spray-painting project is conducted, the Permittee shall monitor visible emissions in accordance with Condition I.B of Attachment "B".

c. Permit Shield

Compliance with Conditions of this Section shall be deemed compliance with A.A.C. R18-2-702.B.3.

[A.A.C. R18-2-325]

C. Demolition/Renovation - Hazardous Air Pollutants

1. Emission Limitation and Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M for National Emission Standards for Hazardous Air Pollutants - Asbestos.

[A.A.C. R18-2-1101.A.12]

2. Monitoring and Recordkeeping Requirements

The Permittee shall keep all required records in a file. The required records shall include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-1101.A.12.

ATTACHMENT "C": EQUIPMENT LIST

EQUIPMENT TYPE	MAX. CAPACITY	MAKE	MODEL	SERIAL NUMBER	INSTALLATION/ MFG. DATE	EQUIPMENT ID NUMBER	A.A.C. / NSPS / NESHAP
Gasoline Storage Tank	N/A*	N/A	N/A	N/A	N/A	F2777	A.A.C. R18-2-710
Emergency Generator	400 kW	Cummins	680FDC5038AAW	41650	May 1974	Cummins Part No. 214365	40 CFR 63, Subpart ZZZZ A.A.C. R18-2-719

*N/A = Not Available

ATTACHMENT "D": DUST CONTROL AND SOIL SAMPLING IMPLEMENTATION PLAN

Air Quality Control Permit No. 102492
For
Energy Fuels Resources (USA) Inc- Arizona 1 Mine

I. INTRODUCTION

This Dust Control and Soil Sampling Implementation Plan describes the procedures the Arizona 1 Mine will employ to minimize fugitive dust emissions and mitigate the transport of dust from ore stockpiles, haul truck loading activities, and other dust producing activities. This plan requires the facility to conduct periodic sampling of soil around the mine site to determine if any elevated readings of uranium and radium are detected. This will indicate if dust control strategies are working or if additional dust mitigation strategies need to be implemented.

II. SOIL SAMPLING AND MONITORING

A. Monitoring and Sampling Locations

Appendix 1 to this Attachment shows the locations where the soil sampling and environmental gamma monitoring will be conducted. The four (4) locations are 100 feet outside the property fenceline approximately north, south, east, and west of the mine site.

B. Soil Sampling and Environmental Gamma Monitoring Requirements

[A.A.C. R18-2-306.A.2]

1. Environmental Gamma Monitoring Procedures

   a. The Permittee shall follow the "Standard Operating Procedure for Environmental Gamma Monitoring" in Appendix 2 to this Attachment.

   b. Optically stimulated luminescence (OSL) monitors for gamma radiation will be collected on a calendar quarter basis at the four locations identified in Appendix 1 to this Attachment.

2. Soil Sampling Procedures

   a. Soil Sampling shall be conducted in accordance with the facility's Standard Operating Procedure for Soil Sampling in Appendix 3 to this Attachment.

   b. Soil samples shall be taken annually, or quarterly if required by Condition II.B.3.e.

   c. The Permittee shall use the following test methods for soil sampling conducted under this section:

      (1) EPA Method SW6010 or SW6020 for Uranium

      (2) EPA Method E903.1 or E901.1for Radium-226

3. Reporting of Environmental Gamma and Soil Sampling Data

a. The Permittee shall submit all OSL monitors and soil samples for analysis within 7 calendar days of collection.

b. Results from the OSL monitors and soil samples shall be provided to ADEQ within 30 calendar days of the Permittee receiving the respective lab results.

c. If the results of the OSL monitors or soil samples exceed the initial action trigger levels identified in Table 1 below, or a revised trigger level established at a specific sampling point per Condition II.B.3.f, the Permittee shall notify ADEQ within two business days of discovery of the exceedance.

Table 1: Initial Action Trigger Level

Parameter	Action Trigger Values
Uranium	40 pCi/g (60 mg/kg)
Radium 226	20 pCi/g
Gamma	50 µR/hr (7.8 mrem/week)

d. Within 3 business days of the notification required by Condition II.B.3.c above, the Permittee shall submit a follow-up report containing the following:

(1) The results of any quality assurance and quality control data analysis.

(2) If the exceedance cannot be attributed to laboratory error, the report shall also contain the following:

(a) A description of the suspected cause of the increased levels.

(b) A corrective action plan describing the additional control measures to be implemented in accordance with Condition III.E and a timeframe for implementing the controls. To the extent practicable, the additional control measure should be designed to control the cause identified in Condition II.B.3.d(2)(a) above, and should be implemented as expeditiously as practically possible.

e. Following an exceedance reported per Condition II.B.3.d(2), the frequency of subsequent soil samples at all sampling locations identified in Appendix 1 to this Attachment shall be increased to once per calendar quarter. If the results from all sampling locations for four consecutive quarters are equal to or less than the respective trigger level at each sampling location, the Permittee may reduce the soil sampling frequency to annual.

f. Following an exceedance reported per Condition II.B.3.d(2), the action trigger level for individual sampling points shall be adjusted as follows:

(1) For any sampling location that has exceeded the respective action trigger level, the action trigger level will be reset to the value of the most recent exceedance.

(2) For sampling locations that have not exceeded the respective action trigger levels, the action trigger level will remain the same as in Table 1 of this Attachment.

III. DUST CONTROL PLAN

A. This Section covers the following sources of fugitive dust:

1. Unpaved on-site haul roads;

2. Transfer of ore from storage piles to haul trucks;

3. Disturbed areas within the property boundaries.

B. Wind Speed Monitoring

1. *Prior to resuming active mine operations that involve the placement of ore in storage piles or transfer of ore to haul trucks, the Permittee shall install, calibrate, maintain, and operate an anemometer to measure the wind speed at the facility.*

[A.A.C. R-18-2-306.01.B and -331.A.3.d and e]
[Material Permit Condition is indicated by underlines and italics]

2. The anemometer shall operate during periods of active mine operations and shall not be required if no ore is stored at the facility and no transfer of ore to haul trucks is taking place.

[A.A.C. R-18-2-306.A.2]

3. If the onsite measured wind speeds exceed 20 miles per hour over a 2-minute average, the Permittee shall evaluate water usage and/or application frequency at the facility and make adjustments as needed.

[A.A.C. R-18-2-306.A.2]

4. If the onsite measured wind speeds exceed 25 miles per hour over a 2-minute average, the Permittee shall stop haul truck loading activities for two hours and shall not resume haul truck loading activities until onsite measured wind speeds are below 25 miles per hour on a 2-minute average.

[A.A.C. R-18-2-306.A.2]

C. Ore Storage Piles and Haul Truck Loading

[A.A.C. R-18-2-306.A.2]

1. Ore Storage Piles

a. The ore storage pile will not exceed 13,100 tons.

b. The ore storage pile height shall not exceed 20 feet.

c. The Permittee shall spray the ore stockpile with water, as necessary, to control fugitive dust.

2. Haul Truck Loading

a. Prior to haul truck loading operations, the Permittee shall spray the ore stockpile with water, as necessary, to control fugitive dust.

b. On a calendar quarter basis, the Permittee shall train haul truck personnel on dust control measures to minimize dust emissions.

D. Disturbed Surface Areas and On-Site Haul Roads

Water shall be applied as needed to control visible emissions from disturbed surface areas and on-site haul roads.

[A.A.C. R-18-2-306.A.2]

E. Trigger Based Additional Dust Control Strategy

[A.A.C. R-18-2-306.A.2]

a. Following the first exceedance reported per Condition II.B.3.d(2), the Permittee shall reduce the ore stockpile to 6,600 tons within 60 days of submittal of the corrective action plan to ADEQ. As specified in Condition II.B.3.d(2)(b), the Permittee shall also implement one additional dust control strategy from Condition III.E.b(1) through (4).

b. Following each subsequent exceedance reported per Condition II.B.3.d(2), the Permittee shall implement one or more of the following additional dust control strategies as described in the corrective action plan submitted in accordance with Condition II.B.3.d(2)(b). Control strategies already in place shall continue to be utilized if practicable:

(1) Reduce the stockpile further to 4,400 tons within 45 days of submittal of the corrective action plan.

(2) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%.

(3) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings.

(4) Additional dust control strategies not included in the above list may be included in the corrective action plan for approval by the Director.

IV. MONITORING AND RECORDKEEPING REQUIREMENTS

A. The Permittee shall maintain the following records onsite, and readily available for review by ADEQ personnel upon request:

[A.A.C. R18-2-306.A.3.c]

1. The Permittee shall maintain a current record of the action trigger levels for all sampling points.

2. The Permittee shall maintain records of wind speeds from the facility anemometer.

3. The Permittee shall maintain records of the date, time, and quantity that water is applied to the ore storage pile, on-site haul roads, and disturbed surface areas.

4. The Permittee shall maintain daily records of the tons of ore contained in the ore stockpile.

5. The Permittee shall maintain daily records of the approximate height of the ore stockpile.

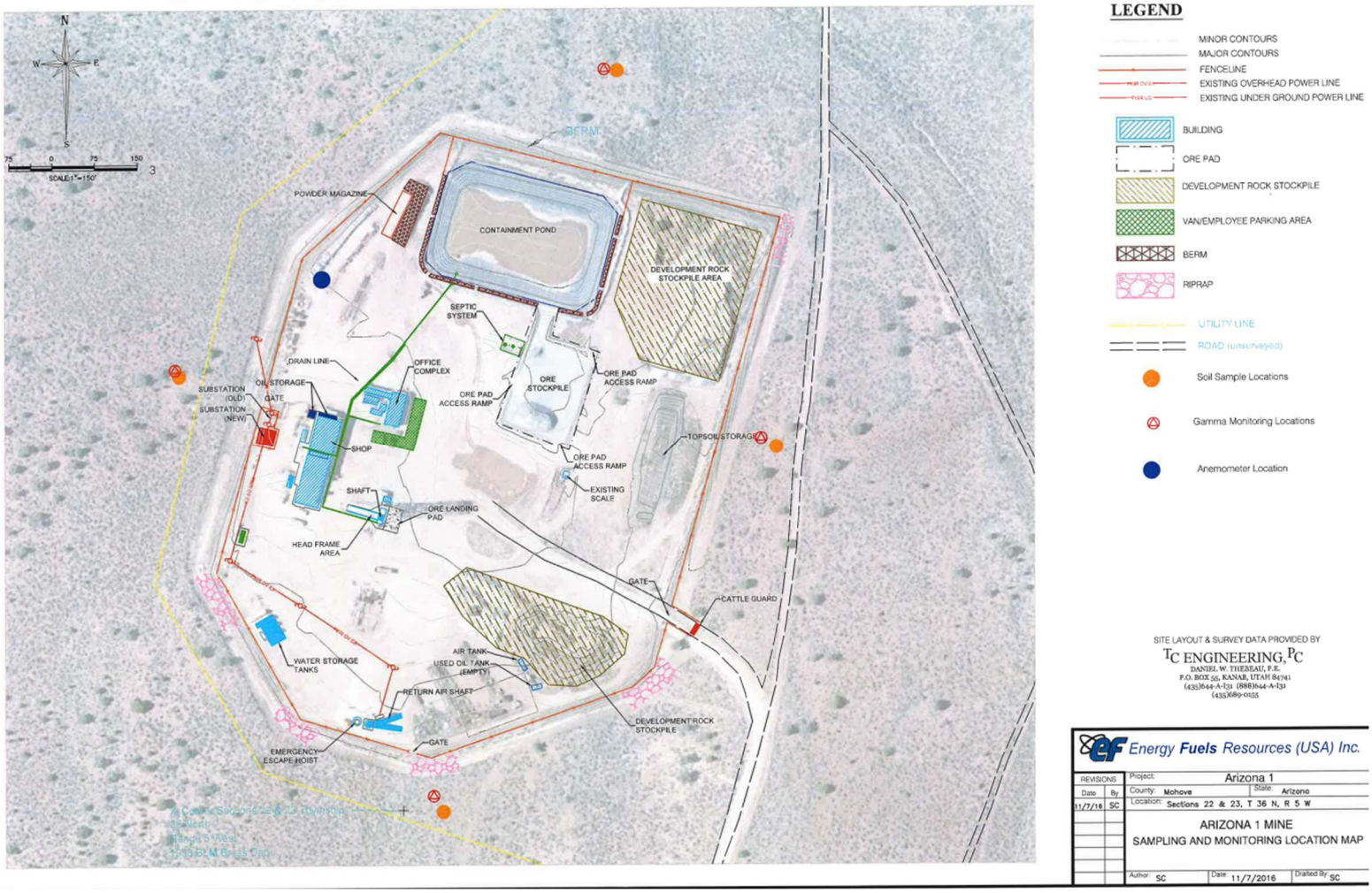
6. The Permittee shall maintain records of all haul truck operator trainings.

7. The Permittee shall maintain records of all soil sampling and environmental gamma monitoring results.

8. The Permittee shall maintain copies of all corrective action plans if applicable.

APPENDIX 1 TO ATTACHMENT "D": SAMPLING AND MONITORING LOCATION MAP

Air Quality Control Permit No. 102492
For
Energy Fuels Resources (USA) Inc. – Arizona 1 Mine



APPENDIX 2 TO ATTACHMENT "D": STANDARD OPERATING PROCEDURE FOR ENVIRONMENTAL GAMMA MONITORING PLAN

Air Quality Control Permit No. 102492
For
Energy Fuels Resources (USA) Inc. – Arizona 1 Mine

Energy Fuels Resources (USA) Inc.

Standard Operating Procedure (SOP) for Environmental Gamma Monitoring

July 2016
Revision 1
Reformatted from EFRI Report

TABLE OF CONTENTS

I. PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to describe the field procedures, required documentation, and equipment to be used during environmental gamma monitoring at Energy Fuels Resources (USA) Inc.'s (EFRI's) Arizona mine sites.

The procedures discussed in this SOP will be used for routine and non-routine environmental gamma monitoring at the Mines as required by ADEQ operating permits. For site-specific details regarding gamma monitoring, please see the site-specific operating permits and/or plans which are housed on-site, in the Fredonia office, and in the EFRI Corporate office in Lakewood, CO.

II. RADIATION (GAMMA) MONITORING

A. Health and Safety Considerations

General site conditions shall always be observed prior to the commencement of field activities. Any unsafe conditions shall be documented and reported to the Mine Superintendent as soon as possible. If safety concerns warrant, field activities will be delayed until such time as the concerns are adequately addressed and the safety of field personnel is assured.

A safety assessment will be completed at each site prior to the commencement of any field activities. A safety assessment includes but is not limited to:

- A review of weather conditions (for severe weather conditions which may pose a hazard such as lightning, snow, and ice),
- A review of any biological hazards present (bees, wasps, snakes, and animals),
- A review of slip, trip, and fall hazards (ice, snow, mud, and uneven ground),
- A review of ground conditions around the sampling locations for any signs of instability, and
- A review of electrical hazards (frayed cords).

As in all mine areas, appropriate Personal Protective Equipment (PPE) and safety precautions will be followed when working at the Mines:

- Steel toed shoes will be worn at all times in the field;
- Safety glasses will be worn at all times in the field; and
- Ear protection will be worn around operating surface fans and wherever posted.

B. Equipment and Supplies

Environmental gamma radiation is measured using OSL detectors from Landauer, Inc., or the equivalent. The following is a list of supplies needed to collect and exchange OSL detectors:

- Monitoring paperwork and tags/labels
- Sample cooler or suitable shipping container
- Global Positioning System (GPS) instrument
- Field notebook
- Camera

C. Monitoring Procedures

Environmental gamma measurements are collected for twelve (12) months of the year with OSL detectors being exchanged on a quarterly basis. Detectors are mounted approximately one meter above the ground surface at each monitoring location. Packages containing new OSL detectors are received the first of each quarter from Landauer and exchanged with detectors in the field. A background OSL detector is stored in the Administration Vault at the White Mesa Mill as a transportation control. Once exchanged, the OSL detectors collected from the field are returned to Landauer for processing.

D. Recordkeeping Procedures

During monitoring activities, traceability of the sample measurement must be maintained upon exchange of the OSL detectors until they are delivered to Landauer. The sampler will be responsible for recording data using the appropriate form. Data maintained in record form for gamma includes:

- Sample period;
- Sample location; and
- Gamma levels for total radiation.

Records will be retained in appropriate files with EFRI.

III. LABORATORY ANALYSIS AND ANALYTICAL QUALITY ASSURANCE

Values reported are in millirems per week average for the monitor period (supplied by Landauer) along with a counting error term. The counting error term is calculated by:

[(sample 2 sigma) – (control mrem/week)] / (#weeks)

Quality assurance for external gamma measurements consists of:

- Monitoring the container locations to ensure the OSL detectors have not been lost;
- Ensuring that all OSL detectors are present during shipments to/from Landauer; and

- Reviewing Landauer data for consistency and data transportation.

APPENDIX 3 TO ATTACHMENT "D": STANDARD OPERATING PROCEDURE FOR SOIL SAMPLING

Air Quality Control Permit No. 102492
For
Energy Fuels Resources (USA) Inc. – Arizona 1 Mine

Energy Fuels Resources (USA) Inc.

Standard Operating Procedure for Soil Sampling

July 2016
Revision 4
Reformatted from EFRI Report

TABLE OF CONTENTS

I. PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to describe the field procedures, required documentation, and equipment to be used during soil sampling at EFRI's Arizona mine sites.

The procedures discussed in this SOP will be used for routine and non-routine soil sampling at the Mines as required by ADEQ operating permits. For site-specific details regarding soil sampling, please see the site-specific operating permits and/or plans which are housed on-site, in the Fredonia office, and in the EFRI Corporate office in Lakewood, CO.

II. SOIL AND SEDIMENT SAMPLE COLLECTION

A. Health and Safety Considerations

General site conditions shall always be observed prior to the commencement of field activities. Any unsafe conditions shall be documented and reported to the Mine Superintendent as soon as possible. If safety concerns warrant, field activities will be delayed until such time as the concerns are adequately addressed and the safety of field personnel is assured.

A safety assessment will be completed at each site prior to the commencement of any field activities. A safety assessment includes but is not limited to:

- A review of weather conditions (for severe weather conditions which may pose a hazard such as lightning, snow, and ice),
- A review of any biological hazards present (bees, wasps, snakes, and animals),
- A review of slip, trip, and fall hazards (ice, snow, mud, and uneven ground),
- A review of ground conditions around the sampling locations for any signs of instability, and
- A review of electrical hazards (frayed cords).

As in all mine areas, appropriate Personal Protective Equipment (PPE) and safety precautions will be followed when working at the mines:

- Steel toed shoes will be worn at all times in the field;
- Safety glasses will be worn at all times in the field;
- Nitrile gloves will be worn at all times during sample collection; and
- Ear protection will be worn around operating surface fans and wherever post

B. Equipment and Supplies

Clean, single-use, disposable sampling equipment will be used to collect and composite soil samples and decontamination of sampling equipment will not be necessary.

The following is a list of supplies needed to collect soil and sediment samples:

- Hand trowels;
- Nitrile gloves;
- Clean, disposable 5-gallon buckets for compositing samples;
- 2-gallon Ziploc® bags;
- Sample paperwork and sample tags/labels;
- Sample cooler or suitable shipping container;
- Global Positioning System ("GPS") instrument;
- Field notebook; and
- Camera

C. Composite Sampling Procedures

Composite samples are collected by homogenizing or mixing a subset of individual grab sample aliquots into a single sample submitted for analysis. The individual grab samples will be collected from a 1 ft x 1 ft x 5 cm area at the 4 corners and center of a one square meter area. The individual grab sample points will be field located using a GPS instrument and coordinates which will be provided to the Field Staff prior to the sampling event. Relocation of individual grab sampling points will be done by the Field Staff as necessary to address obstructions or safety hazards encountered during the field effort. If sample points are relocated, the Field Staff will take new GPS coordinates at the time of sampling. The coordinates for any relocated sample points will be recorded in the field notebook.

Upon arrival at each individual location, a photograph will be taken and a description of the material to be sampled (e.g., color, size) will be entered into the field notebook. Vegetation will be removed from the sample locations.

A 1 ft x 1 ft template will be placed on the individual sample location. The excavation depth will be maintained by using a tape measure or other suitable calibrated measuring stick. This method will assure that approximately the same volume of soil is collected at each individual grab sample location.

Individual grab soil samples will be collected using a clean trowel to sample the 1 ft x 1 ft x 5 cm area within the template. The soil will be placed directly into a Ziploc bag. The Ziploc bag will be sealed and labeled with the individual grab location ID. Ensure the Ziploc bag is sealed. The soil in each Ziploc bag is shaken and mixed as vigorously as possible without breaching the Ziploc bag.

After the five individual grab location samples have been mixed in its Ziploc bag, one half of the volume from each individual grab location will be placed into a clean, 5-gallon bucket. When an aliquot from each of the five individual grab locations has been added to the 5-gallon bucket, place the lid on the bucket. Vigorously roll and shake the bucket to homogenize the soil and generate the composite sample.

Place an aliquot of soil from the 5-gallon bucket in a 2-gallon Ziploc bag. Fill the 2-gallon Ziploc bag approximately half full (i.e. use approximately 1 gallon of the composite). Label the Ziploc bag with the composite ID. When all of the composite samples have been collected pack the samples for shipment to the analytical laboratory using the COC procedures below.

Sample Identification**:**

Each sample will be labeled and all sample labels will be filled out in indelible ink and numbered. The following information will be contained on the label:

- Project and facility;
- Company name;
- Date and time of sample collection;
- Sampler's initials;
- Sample location; and
- Requested Analytical Parameters

Sample Chain-of-Custody (COC):

During sampling activities, traceability of the sample must be maintained upon sample collection until the samples are delivered to the laboratory. Information on custody, handling, transfer, and shipment of the samples will be recorded on a COC form. The sampler will be responsible for filling out the COC form. The COC form will be signed by the sampler when the sampler relinquishes the samples to anyone else. A COC form is to be completed for each set of samples placed in a sample shipping container and is to include the following:

- Sampler's name;
- Sample ID/number;
- Date and time of sample collection;
- Sample type;
- Analyses requested;
- Signature(s) of person(s) releasing custody and date(s); and
- Signature(s) of person(s) accepting custody, date(s), and time(s) (at the time of receipt)

Copies of the COC forms and all custody documentation will be retained in appropriate files with EFRI.

III. LABORATORY ANALYSIS AND ANALYTICAL QUALITY ASSURANCE

The soil samples collected will be analyzed for the parameters listed in Table 1 below using the specified EPA methods. The samples will be analyzed by an Arizona state certified laboratory. Laboratory analyses will be reviewed by the technical staff and any identifiable anomalies in results noted and investigated. Appropriate measures to confirm or disaffirm results will be pursued, such as laboratory conversation, analytical sample re-analysis, or trend analysis.

Table 1: Soil Sampling Parameters

Analyses	Reporting Limit	Units	EPA Method
Uranium (U-Nat)	0.05	mg/kg-dry	SW6020 or SW6010
Radium 226 (Ra-226)	0.5	pCi/g-dry	E903.1 or E901.1

The laboratory will prepare and retain a copy of all analytical and quality control documentation. The laboratory will provide the following information in each data package submitted: COC forms, cover sheets with comments, narratives, samples analyzed, reporting limits or lower limit of detection values for parameters, and analytical results of quality control samples. The data reduction and laboratory review will be documented, signed, and dated by the laboratory personnel.

If necessary, corrective action will be taken for any deficiencies or deviations noted in the procedures or anomalous results, such as but not limited to, additional sample collection, sample re-analysis laboratory inquires, or other actions as appropriate.