COMMENTS ON ENERGY FUELS RESOURCES MILL HEALTH AND SAFETY PLAN Vol. 11; J1			
COMMENT #	**SECTION**	**PAGE(S)**	**COMMENT**
1.			GENERAL COMMENT: There are several appendices "A-D" (Hazard Communication, Administrative Procedures, etc.) for the Mill Health & Safety Plan. Within each of these appendices, there are more appendices. This naming approach may be confusing to workers as to what might be referenced. Consideration should be given to use a different naming/numbering approach to avoid having appendices within appendices of the same name/lettering (Appendix A of Appendix A).
2.	3.0	14	This statement pertaining to liquor and drugs should be clarified to mean "illegal" drugs, or drugs not legally prescribed by a physician (or other individual legally authorized to prescribe drugs). The following statement in this section should be reworded to clarify the intent: Failure to properly "scan" equipment or personnel when leaving the restricted area of the Mill. Reword to: *Failure to properly perform radiological surveys/scans of equipment or personnel when leaving the restricted area of the Mill.*
3.	4.0	Bullet 2	This item prohibits the use of contact lenses which appears to conflict with the requirements of Section 7.13 of Procedure HS-130. Site policies and procedures should not conflict with one another. These documents require correction so the requirements agree.
APPENDIX A – "HAZARD COMMUNICATION PROGRAM"			
4.	1.1	1	A copy of the Hazard Communication Program should also be maintained inside the plant boundary and accessible to workers, such as the plant control room. (And in light of the fact that the program is applicable to all work areas of the Mill per Section 1.2).
5.	3.0	2-3	This section provides exemptions to the HazCom program including various types/sources of radiation. However, it appears that this may contradict Section 5.0 of this Appendix. Section 5 addresses NFPA requirements – which do require use of labels/signs for radioactive materials.

6.	6.0	4	This section requires that vehicles transporting hazardous materials onto the mill site must have a DOT placard or label. For vehicles transporting ore to the mill under exclusive use shipment requirements, there are explicit vehicle placarding requirements. However, other (non-ore) vehicles transporting radioactive material may not be required to be placarded. Consideration should be given to reword this section to require that vehicles transporting hazardous materials on the mill site do so in accordance with U.S. DOT requirements.
COMMENTS ON APPENDIX B OF MILL H&S PLAN "ADMINISTRATIVE PROCEDURES"			
AD-020 PREPARATION, CONTROL, AND DISTRIBUTION OF PROCEDURES PROCEDURE			
7.	2.0	1	Typographical error: There should be a comma after "environmental" and "radiological" (i.e.., "…environmental, radiological, and emergency procedures…")
8.	3.1	1	The reference to the Colorado Regulations should be as follows: Colorado Rules and Regulations Pertaining to Radiation Control 6 CCR 1007-1
9.	4.2	1	This section should also include a statement assuring that procedures are in accordance with the requirements of the Energy Fuels Radioactive Materials License.
10.	6.14	4	This section currently references 6 CCR-1007-1 4.42.1 for a recordkeeping requirement. However, Section 4.42.1 of the Colorado Regulations pertains to records of surveys. This section should <u>instead</u> reference Section 4.41.2 with the retention period being until termination of the license, since procedures are considered "provisions of the program."
AD-030 ORGANIZATION PROCEDURE			
11.	5.3	2	The term "Assistant" should be changed to Alternate RSO to be consistent with language used by the Departments' in its current licensing practices. Alternate RSO will be the terminology used on any Radioactive Materials license issued by the Department. Also, this terminology should be used throughout the remaining EF procedures. The educational criteria for the Alternate RSO should be made the same as the primary RSO. The Department's expectation is

			that the Alternate RSO will generally have the same level of education and/or equivalent experience as the primary RSO.
AD-040 RADIATION PROTECTION PROGRAM PERFORMANCE REVIEW PROCEDURE			
12.	5.2.1	2	In addition to the items listed in 5.2.1, being reviewed during the annual program review, the review should include some review of "hands on" Mill activities by Senior management personnel performing the annual review. This could include such things as actual review of in-process work activities, radiological postings, observation of performance of surveys, etc. This is in addition to the paper review of the "inspection log entries" (which are completed by mill staff).
AD-060 TRAINING RECORDS DOCUMENTATION AND TRACKING PROCEDURE			
13.			GENERAL COMMENT: A specific form should be developed and incorporated into the procedure for documenting each training session to ensure appropriate information is gathered and for consistency.
AD-080 AS LOW AS REASONABLY ACHIEVABLE (ALARA) PROCEDURE			
14.	2.0	1	Although the procedure employs the mechanics of the ALARA process, it does not adequately convey the ALARA philosophy. The procedure should also better demonstrate EFR's commitment to the ALARA concept. This section should include additional information on the conceptual and practical approach to ALARA to help guide mill staff, the committee, RSO, and management and other users of the procedure on important ALARA concepts and why they are important. The concepts include use of engineering controls, use of work planning, time, distance, shielding, administrative controls, etc. Consideration should be given to incorporate specific language from NRC Regulatory Guides 8.10, and/or 8.31 to better communicate the ALARA ideology.
15.	4.2	2	Since latter sections (6.2.1) of this procedure refer to issuance of a report following a "walk around" by the Safety Committee, the responsibilities of the Safety Committee should be clarified to include performance of walk arounds rather than just "assessing".
16.	4.2	2	The responsibilities of the Radiation Safety Committee should be expanded to include: Review of new or significant projects/processes before they are implemented to ensure that ALARA practices are built into the projects. (This is addressed a bit in Section 6.2.1 of this procedure, but should be added as a specific responsibility of the Safety Committee).

			Periodic review of radiation dose data and other indicators.
17.	4.4.2.4	2	The wording of this requirement should be clarified to state "Meet quarterly or more frequently with the Safety Committee…"
AD-090 ACCIDENT INVESTIGATION PROCEDURE			
18.			GENERAL COMMENT: This procedure makes reference to and relies heavily upon root cause analysis processes. However, it is unclear whether root cause analysis training will be conducted in-house or through an outside party. This should be addressed in the procedure. If training is to be done by EFR personnel, training materials should be developed and submitted to the Department for review.
19.	4.6	2	This section of AD-090 discusses the composition of the Safety Committee as being 50% management and 50 % hourly workers. However, Section 4.1 of AD-080 (ALARA Program) discusses a different composition of the Safety Committee. Is the intent of AD-090 to have a specific committee established and specific to an accident which has occurred? If so, consideration should be given to naming this committee (such as an accident investigation committee) or establishing a sub-committee for such things as accident investigations. If the intent is to use the overall "Safety Committee", then these procedures must be corrected/clarified so they are in agreement with each other with respect to committee makeup.
20.	VARIOUS	VARIOUS	The procedure makes reference to "coaching" during accident investigations. The way in which this is written in some areas of the procedure could be taken in a negative context. Please clarify the intent of use of "coaching" during application of this procedure.
21.	7.46	5	Notification requirements may also be part of the license. Reference to the radioactive materials license should be specifically included in 7.46 for additional notification requirements.
22.			GENERAL COMMENT: This procedure should be modified to specifically include responsibilities for the notification of regulatory agencies (or referencing the need to make notifications) in the "action" sections of the procedure.
23.	Appendix A Accident Invest. Report Form"		The "nature of injury" checkboxes need to be expanded to include radiological incidents, including 1) potential radiological skin contamination; 2) injection injury involving radioactive material; 3) potential inhalation of radioactive material.

24.	Appendix A "Accident Investigation Report Form"		The "unsafe acts by people" checkboxes need to be expanded to include: 1) failure to follow procedure requirements; 2) failure to follow radiation work permit (RWP) requirements; 3) Human error.
AD-100 JOB SAFETY ANALYSIS PROCEDURE			
25.			GENERAL COMMENTS: This procedure needs to reference and include steps which "tie" it to the Radiation Work Permit procedure (RH-060) in more of an integrated safety program approach. The overall H&S plan indicates that RWPs are written when the work is not covered by a specific procedure. There needs to be a more solid process to evaluate the job hazards. This procedure is weak and does not contain sufficient information or detail to assist the user in evaluating the work hazards properly.
AD-110 CONTRACTOR REQUIREMENTS PROCEDURE			
26.			GENERAL COMMENT: This procedure is inadequate in that it does not tie in with other Site procedures, including the Job Safety Analysis Procedure (AD-100). Energy Fuels personnel are the ones most familiar with the operations and systems at the Pinon Ridge site and should be responsible for performing a Job Safety Analysis with each contractor prior to work activities being conducted at the mill. The procedure does not currently reference performing a JSA in specific terms and starts prematurely with a pre-job contractor meeting. Steps should be added to the procedure, possibly in Section 4 to include the process and/or reference to the job safety analysis process well before the job is scheduled as part of the planning process.
27.	4.1.3	1	This section indicates that "this information will be provided to the Secretary of Labor upon request". Does "this information" include the information in all of Section 4.1 or just the information contained in Section 4.1.2?
28.	4.2.1	1	This section describes an "orientation" for familiarization with hazards, etc. This orientation should be formalized into the specific training program and geared towards contractor activities. Consideration should be given to make Section 4.2.1 into two bullet items to separate contractor training responsibilities (MSHA) training and EFR training responsibilities (currently termed "orientation" training). This section makes specific reference only to MSHA requirements. Additional requirements should also be referenced and included in the procedure such as Colorado Rules and Regulations Pertaining to Radiation Control (when applicable to

			the work location and activity), the radioactive materials license, and other applicable EFR procedures/programs (e.g., HazCom program as discussed in 4.6.6.1 of this procedure).
29.	4.5.2.1	2	The wording of this section should be similar to that used in Section 4.5.1.1. Specifically, the statement "…at all times while performing work on EFR jobsites or facilities" should be added to this section.
30.	4.5	2	This section of the procedure does not make it clear who (what entity – EFR or contractor) is responsible for providing the required safety equipment. Failure to specify this may result in failure to comply with the safety requirements. The procedure should be revised to identify what equipment is provided by EFR and that which the contractor must provide. In some instances, it may be preferred that safety equipment be provided by EFR to ensure compatibility with other systems and equipment (e.g., fall protection equipment, radios, etc.).
31.	4.6.1	3	This section discusses permitted smoking areas. However, Section 3.0 of the Mill Health and Safety Plan indicates that the entire facility is a smoke-free facility. Procedure AD-110 should be rectified with the overall mill safety plan to ensure they convey the same message and requirements.
32.	4.5.8.1	3	This section should reference the RH procedure for respiratory protection (HS-130).
33.	4.6.5.1	4	This section should also reference both the Radioactive Materials license and internal EFR procedures for additional requirements pertaining to "hot" work which may be considered high risk if it involves other contaminants such as radioactive materials. If issued, the radioactive materials license may contain requirements pertaining to welding and similar activities on contaminated or potentially contaminated systems.
AD-120 DRUG POLICY PROCEDURE			
34.	3.4.1	1	This sentence should be reworded as follows: The manufacture, distribution, dispensing, possession, use, or being under the influence of a controlled substance at the work site is strictly prohibited. The use of controlled substances not prescribed and used in accordance with a physicians directive is not acceptable to the Department for facilities to use radioactive materials.

COMMENTS ON APPENDIX C OF MILL H&S PLAN "GENERAL HEALTH AND SAFETY PROCEDURES"			
HS-010 SAFETY MEETINGS PROCEDURE			
35.	2.0	1	The scope of this procedure identifies only EFR employees, but should include all safety meetings where EFR and contractor personnel are involved. Will safety meetings, such as those discussed in procedure AD-110 involving contractors also be documented using this procedure? If so, this should be made clear in this procedure and/or AD-110 should reference HS-010. (Contractors holding their own safety briefing separate from and in addition to those of/with EFR would not be expected to document their safety meeting in accordance with EFR procedures).
HS-020 BLOOD BORNE PATHOGEN EXPOSURE PROCEDURE			
36.	3.2.1	1	This section requires that employees wear the appropriate PPE when blood or OPIM are encountered. Where can employees find a list of the "appropriate PPE" for such circumstances? Consideration should be given to provide a basic list of PPE (or universal precautions) in this procedure.
37.	3.2.2	1	It is unclear as to what this step/instruction is providing.? Are employees notifying supervision of equipment needing replacement due to being contaminated with blood or similar products, or is this referring to replacement of consumable equipment used to treat someone (e.g., first aid kit supplies)?
HS-030 HEARING CONSERVATION PROCEDURE			
38.	5.4.1	2	Typographical error – delete "that is" from this sentence.
39.	5.6		Consideration should be given to establish a more formal form for documenting the hearing conservation program training to ensure that appropriate information is documented.
40.	6.2	3	Typographical error – replace "ration" with "ratio".
HS-040 VEHICLES AND MOBILE EQUIPMENT PROCEDURE			
41.			GENERAL COMMENT: Consideration should be given to add a statement which refers to performance of radiological surveys of vehicles prior to leaving the Mill site and refers to the applicable survey procedure.
42.			GENERAL COMMENT: This procedure does not address the use of vehicles such as forklifts and graders where special requirements may apply, such as handling/moving/transporting hazardous chemicals or radioactive materials. The procedure should be modified to include or reference additional requirements pertaining to hazardous materials handling (e.g.,

			movement/loading of yellowcake drums, contaminated items, etc.). Additionally, this procedure should reference and be integrated with the Hazard Communication (HazCom) Procedure of Appendix A of the Health and Safety Plan, which addresses placarding for vehicles and how these requirements apply to use of onsite vehicles. (See prior comments on Appendix A of the Health and Safety Plan).
43.	3.0	1	This procedure does not clearly address the requirement that for non-standard "specialty" vehicles (forklifts, graders, etc.) that personnel be trained in equipment operation prior to being allowed to operate such vehicles alone in a non-training capacity. Section 4.2.16 references training but is not sufficient and does not specifically mandate a training requirement prior to being allowed to operate the vehicle. A requirement to be trained prior to use of specialized transportation related equipment should be added to section 4.0 to reinforce this training requirement up front. (Relocation of section 4.2.16 to the beginning of Section 4.0 would be an option with the additional language of "…of mobile equipment…prior to being allowed to operate the vehicle alone.")
HS-050 CONFINED SPACE ENTRY			
44.			GENERAL COMMENT: This procedure is not adequately integrated with other aspects of the overall Health and Safety program. This procedure should be revised to incorporate other critical elements of the mill safety plan, including a requirement for performing a Job Safety Hazard Analysis (per procedure AD-100) of the work activity/area to evaluate and document other potential interfering or co-located hazards and controls (radiological contamination, etc.) prior to performing a confined space entry. The hazard analysis would be used to complete the "special requirements" section of the HS-050A Form.
45.			GENERAL COMMENT: The procedure should reference other over-arching documents/requirements. Specifically, the procedure should state that confined space entry shall be done in accordance with HS-050 and OSHA/MSHA requirements.
46.	5.1.1	1	The format of the "company approved competent person" specified in section 5.1.1 should match the format used in the definition Section 9.3. Additionally, this procedure step is unclear and should be rewritten. Consideration should be given to re-write as follows: "*Selection of a Company-Approved Competent Person for the job*"

47.	6.2.1	3	Physical, and radiological hazards should be added to the sentence in this section.
48.	Appendix A HS-050 Form		The form will require modification to incorporate the above comments.
49.	Appendix A HS-050 Form		The form presumes that "tanks" are the only types of confined space entry locations. There may be other confined spaces on the mill site, such as vaults, trenches, pipes, or enclosed conveyor systems. This form should be modified to make some aspects more generic to allow the user to fill in the appropriate information.
HS-060 ELECTRICAL SAFETY PROCEDURE			
50.			GENERAL COMMENT: As with other procedures, this procedure should be better integrated with other safety procedures, such as the job hazard analysis, to address co-located hazards that are not directly related to electrical safety. For example, electrical work in a radiologically contaminated area may require additional PPE, controls, surveys, etc.
51.	4.0	1	Section 4.0, pg 1: This procedure should reference and require that all personnel follow the HS-110 (Lock Out Tag Out) procedure prior to performing electrical work.
HS-070 EXCAVATION AND TRENCHING PROCEDURE			
52.	4.0	1	This procedure should be modified to include additional collocated hazard assessment should excavation/trenching activities take place in an area where radioactive materials are potentially present in the ground or on ground surfaces.
HS-080 FALL PROTECTION PROCEDURE			
53.	5.1.1	1	This procedure makes reference to a Task Hazard Analysis and a task hazard analysis form. It is not clear whether the Task Hazard Analysis is a separate procedure or whether this should instead, be referring to the Job Safety Analysis procedure (AD-100). Additionally, the form referenced in procedure HS-080 does not appear to be in the procedure or HS procedure appendix.
HS-090 FLAMMABLE MATERIALS STORAGE PROCEDURE			
54.			GENERAL COMMENT: This procedure should provide clarification on whether it applies to large permanent tanks or only to quantities and/or tanks below "x" amount. Table 1 has limits of 660 gallons, while other sections reference limits of 1,100 gallon tanks.

HS-100 LADDERS AND SCAFFOLDING			
55.			GENERAL COMMENT: This procedure should refer back to procedure HS-080 (Fall Protection) since that procedure requires a safety evaluation where there is a risk of an employee falling 6 feet or more.
HS-110 LOCK OUT TAG OUT PROCEDURE			
56.			GENERAL COMMENT: As commented elsewhere, this procedure needs to be better integrated with other Health and Safety procedures.
HS-120 HAND AND POWER TOOLS PROCEDURE			
57.			GENERAL COMMENT: This procedure should incorporate and reference a requirement to complete a job safety analysis for the work activity per procedure AD-100 prior to individuals performing work with hand tools. Certain equipment and areas of the mill may contain radiological contamination which could be made airborne due to use of hand (powered) tools.
HS-130 RESPIRATORY PROTECTION USE AND FIT TEST PROCEDURE			
58.	3.1.1.1	1	Should a license be issued to EFR, the wording of the specific license condition may be different than that currently specified in the procedure. Consideration should be given to make a more generic reference to the license.
59.	3.1.2.4	1	Please clarify why the older version of ANSI Z88.2-1969 is referenced in the procedure rather than Z88.2-1992 (which is referenced in NRC Regulatory Guide 8.15). This may require corrections throughout this procedure (i.e., sections 7.4.1, 7.9.1).
60.	6.2.1, 6.2.2	2-3	The frequency of medical evaluations in HS-130, etc. appears to exceed the intent of Section 5.1.3 of NRC Regulatory Guide 8.15. While the regulatory guide does allow a grace period, this should be the exception and not the rule. The procedure is inappropriately written such that grace periods are the "norm". (Note that Section 4.24 of the Colorado Rules and Regulations Pertaining to Radiation Control do not provide for a grace period beyond the 12 months, except for medical evaluations <u>and</u> when authorized by a physician/qualified medical person.)
61.	7.7.4	6	This section discusses documenting the quantitative fit testing, but there does not appear to be a form provided with or referenced in the procedure (unlike the qualitative fit testing). The Portacount system referenced in the procedure for quantitative testing may provide capability for documenting or printing a report to meet the requirements of 7.7.4. However, this should be discussed/referenced in the procedure (i.e., the Portacount report should be printed and retained). As a back-up, consideration should also be given to allow manual

			documentation of the data from the Portacount system should there be a printer failure or problem during fit testing.
62.	7.8.2	6	The wording of the first sentence in this section is unclear. Reword from "Determine that…" to "Verify that…".
63.	7.8	6	This section (or procedure) does not adequately discuss the limitations of qualitative fit testing as discussed in NRC Regulatory Guide 8.15, Section 5.3.2.
64.	7.8.4	6	The sequence of steps in section 7.8 are unclear. Step 7.8.4 should be moved up, to just after 7.8.2.
65.	7.8	6	Sections 7.8.3, and 7.8.6 should be combined into a single step, since 7.8.3 provides the specific test exercises to be performed.
66.	7.17.1	9	This Section should reference the appropriate air sampling procedure used to assess occupational radiological airborne activity.
67.	7.17.1	9	Procedure HS-130 appears to apply to both radiological and non-radiological airborne hazards. However, Section 7.17.1 only indicates air sampling for radiological hazards. If procedure HS-130 applies to non-radiological hazards, then additional steps should be incorporated to evaluate for those hazards.
68.	Exhibit 2		"Respiratory Protection Program Requirements": This "Exhibit" contains specific requirements that should be incorporated into the main body of HS-130 rather than as an "Exhibit". Additionally, the exhibit also contains information which is redundant with sections of HS-130. The discussion on positive and negative fit checks in the Exhibit requires that both fit tests are to be performed. However, Sections 6.2.3, and 7.10.1 of HS-130 requires only one of these tests. This should be corrected so all sections of the procedure agree. (As a general rule, both tests should be performed.)
69.			GENERAL COMMENT: Since this procedure addresses training and "use" of respirators, including supplied air respirators it should include a brief discussion of Grade D air.
70.			GENERAL COMMENT: The sections (Exhibit titles) following procedure HS-130 appear to not coincide with the correct Exhibit name in the procedure.
71.			GENERAL COMMENT: Several sections of this procedure make reference to the "technician" and the "Radiation/Security

			Technician" having certain responsibilities. The general responsibilities of this job class should be outlined with other responsibilities in Section 5.0
HS-131 RESPIRATOR MAINTENANCE, INSPECTION, CLEANING, AND STORING PROCEDURE			
72.	1	1	The second sentence of this section is redundant with the purpose described in HS-130 without additional information. Consideration should be given to qualifying the statement by adding "…through proper maintenance,…" at the end of the purpose statement.
73.	3.1.2.3	1	Please clarify why the older version of ANSI Z88.2-1969 is referenced in the procedure rather than Z88.2-1992 (which is referenced in NRC Regulatory Guide 8.15).
74.	7.1	2	The "policy statement" and "note on engineering controls" sections appear out of place for this procedure. This is a maintenance procedure. Such policies and information are useful, but should be in a <u>use</u> procedure, and referenced in this (HS-131) maintenance procedure.
75.	4.1.1, 4.1.2, 4.1.3	1	The procedure should specifically identify that these are referring to air purifying respirators since there are air purifying, airline, and SCBA "full face" respirators.
76.	7.2.6	3	This item suggests storing the respirator at the bottom of a tool box. This could be adequate if the toolbox is empty or such that the respirator is protected from crushing/damage. This should be clarified in the procedure so that it does not lead to misunderstanding.
77.	7.2	3	Section 7.2 of the procedure is largely inadequate, non-functional, and difficult to follow. This section of the procedure should be divided into sub-sections by respirator type (air purifying, SCBA, airline, etc) where the frequency of and requirements for each type of respirator inspection/maintenance activity are outlined. Similarly, the form HS-131A is inadequate to document all of the maintenance and inventory activities and requires a redesign.
78.	7.2	3	GENERAL COMMENT: Consideration should be given to use maintenance/inspection tag that is attached to the respirator to indicate the last inspection date. Unless all respirators are individually identified (serial #), it will be difficult to determine whether a specific respirator has been inspected within the allotted time. Issuers and respirator users would be responsible for verification of a current inspection tag.

79.	7.5	5	The procedure does not describe how the respirator issuer will determine whether the user is qualified to utilize a specific respirator so that the issuer may verify current training/qualifications. Are respirator certification cards presented to the issuer? Will the issuer have a list of approved individuals? The procedure requires modification to address this issue. (Section 4.5 of NRC Regulatory Guide discusses positive control of respirators).
80.	ALL	ALL	GENERAL COMMENT: This procedure uses the term "Class D" air. To be consistent with the regulations and other NRC guidance, the term "Grade D" air should be used instead. (Use of the term "class" could be confused with inhalation classes D, W, and Y which are different).
81.	7.6.2	5	The Grade D testing protocol does not appear to include testing for Hydrocarbons as discussed in Section 4.24.1.7 of the Regulations.
82.	7.6.3	5	A specific checklist should be developed and referenced in the procedure to document the air quality testing.
HS-132 MEDICAL EVALUATION FOR RESPIRATOR USE			
83.	3.1.1	1	This section appears to reference the incorrect procedure. Procedure HS-130 should be referenced here.
84.	5.1.2, 6.2.4	1	See prior comment for procedure HS-130 pertaining to a stated grace period for medical evaluations.
85.	ALL	ALL	GENERAL COMMENT: This procedure appears to put excess reliance upon mill management and staff to determine criteria for medical evaluations, which should be placed – in part – on or in conjunction with the physician chosen by the licensee. Refer to Section 5.1.3 of NRC Reg Guide 8.15.
86.	6.3	2	The procedure does not adequately discuss medical information privacy as discussed in NRC Reg Guide 8.15, Section 5.1.5.
HS-140 AIR QUALITY SURVEYS – NON-RADIOLOGICAL			
87.			NO COMMENTS
COMMENTS ON APPENDIX D OF MILL H&S PLAN "RADIOLOGICAL HEALTH AND SAFETY PROCEDURES"			
RH-010 RADIOLOGICAL HEALTH AND SAFETY TRAINING PROCEDURE			
88.			GENERAL COMMENTS: The "Radiation Safety Briefing Checklist" is not an actual checklist nor does it appear to be utilized as a checklist. The document should be changed to an actual checklist format or retitled as a training outline or syllabus.

			Certain topics in the briefing appear inappropriate for the audience. For example, detailed discussions of bioassay may not be applicable for personnel on a short visit/tour of the site. Item 4 of the briefing "Posting of Radiation" appears to be missing words. This should be titled "Posting of Radiation Areas" or "Posting of Caution-Radioactive Materials Areas", or "Radiation Postings" with each posting type as sub-items? The terminology used for the various training levels is somewhat convoluted. Consideration should be given to break the training down in further/more simplistic detail such as level 1, level 2, level 3, etc. (Or, visitor training, contractor training, etc.) Level 1 training might be reserved for visitors to the site and could be a read and sign document (if individuals are to be escorted by EFR personnel). Level 2 training might be for contractors who are able to work certain areas of the mill with or without escort. Level 3 would be for mill workers, etc.
89.	7.1.2	3	This references documenting the training. A training form needs to be developed to document the training. Consideration should be given to utilize one form for the briefing and one for regular training. Please develop and submit the appropriate training documentation forms.
90.	3.1.4 7.3.1	1 2	This procedure incorrectly references procedure RH-180. Procedure number RH-180 does not appear to exist. Possibly, the reference should be to HS-131, which has a similar title.
91.	Appendix C		"SAMPLE RADIATION TEST". This test does not address sufficient numbers of questions or topics. Additional questions – especially those that are more practical - pertaining to postings, exit requirements, RWPs, respiratory protection, etc. should be added.
RH-020 DECONTAMINATION PROCEDURE			
92.	7.4	2	This section of the procedure discusses contamination of equipment and materials and uses the example of contaminated wallets or cell phones. The procedure discusses decontamination of such items using a power washer or grinding – this will likely render smaller personal effects damaged and useless. These mechanisms are too harsh for such items. The procedure section should be rewritten to address smaller hand held items and larger equipment items (tools, etc.) for which power washing and grinding may be appropriate.
93.	Table 1		This table is referred to as Appendix A in the main body of the procedure. However, there is no "Appendix A" labeling on Table

			1. Either delete the reference to Appendix A and refer only to Table 1, or add "Appendix A" to the header of Table 1.
94.	Appendix B		Appendix B is referred to as "RH-200A" and is to be used for documenting contamination on individuals. However, procedure RH-200 also has a form called "RH-200A" (titled a self survey form) but is a different form. Possibly, the form in Appendix B of RH-020 should be labeled "RH-020A". This change will require cross check with other procedures that reference the current form numbers. This form requires modification to describe the location of contamination. Possibly, extra blank lines could be added below each "name" line. Other common practice is to have a form that is used for just one individual and includes a diagram indicating the location of the contamination on the individual. This is useful in the event a dose reconstruction is necessary (i.e., skin contamination). The form should include information on the persons employer and contact number for non-EFR employees.
95.	Appendix C		This form references Table 2 of RH-070 for "Limits – Alternative", yet RH-070 does not contain Table 2. RH-070 contains only Table 1, and Table A2.
RH-030 POSTING PROCEDURE			
96.	3.1	1	This section should reference other procedures for performing sampling for airborne radioactivity and radiological surveys.
97.	4.1.3	1	This section incorrectly refers to a posting titled "Caution – Airborne Radioactive Materials". This is not in accordance with the wording of Section 4.28.4 of the Regulations. The correct posting is "Caution-Airborne Radioactivity Area".
98.	6.1	1	Typographical error in second bullet – the first occurrence of "or" should be replaced by the word "of".
99.	6.1	1	This section should also include definitions for "Caution-Radioactive Materials" since it is referenced in the Equipment section (4.1) of the procedure.
100.	6.3	2	The procedure does not provide for periodic review of postings to ensure the areas remain posted.
101.	7.1.3	2	The word "area" is missing from "…Airborne Radioactivity…."

102.			GENERAL COMMENT: This procedure does not adequately discuss general posting locations/requirements such as posting at the entrance to enclosed areas or using radiological boundary rope, or tape to ensure that individual workers can see them.
RH-040 RADIATION EXPOSURE ACTION LEVELS PROCEDURE			
103.			GENERAL COMMENTS: The procedure does not adequately discuss documenting the information when the various action levels are exceeded. When an action level is exceeded, where is the information documented? Also, neither this nor other procedures adequately address or contain routine/baseline personnel and area survey requirements. With regard to location and frequency, in what procedure are: (1) routine/periodic <u>area</u> contamination surveys captured?; and (2) non-RWP related, routine/baseline <u>personnel</u> surveys for personnel not exiting the restricted area discussed (such as exiting areas with higher contamination potential)? Other procedures specifically identify routine frequencies – daily, weekly, monthly, etc. – for air samples, radiation, and urinalysis for example but not area or personnel contamination surveys. Baseline requirements should be established by procedure with the ability to identify additional survey areas in the early phase of mill start up.
104.	3.1	1	This procedure should reference RH-030 for posting requirements and all other procedures referenced in the body of the procedure.
105.	6.1, 6.2	2	The table of limits and actions for gamma surveys > 100 mr/hr indicates a requirement to post as a "High Radiation Area", however, procedure RH-030 does not include the definition or posting requirements for this action. The title of Table 6.2 should be "contamination" action levels rather than radiation action levels, since all units/limits refer to contamination levels. Table 6.2 refers to contamination on "table surfaces" – what tables are being referred to?
106.	6.10 (Table)	7	This procedure incorrectly references procedure RH-180. Procedure number RH-180 does not appear to exist. Possibly, the reference should be to HS-131, which has a similar title.
107.	6.10 "Other Monitoring"	6	The procedure references procedure AD-050 regarding respirator use. Procedure AD-050 does not appear to exist. This procedure incorrectly references procedure RH-180. Procedure number RH-180 does not appear to exist. Possibly, the reference should be to HS-131, which has a similar title.

108.	6.6, 6.7	3-5	Since the content of these tables are also reflected in the limits of RH-050, the tables of RH-040 should use range values rather than singular “>” values. For example, the limit of “>15 ug/L” should be shown as “15 to 35 ug/L” for purposes of consistency between procedures.
RH-050 URANIUM BIOASSAY PROCEDURE			
109.	6.0	2	What is the purpose of/basis for recommending biohazard hepatitis shots in this procedure? For whom is it recommended?
110.	8.1.4	2	Typographical error “preformed” should be “performed”. Also, the following should be added as a condition which requires urinalysis “…needs to be verified…or respirator failure or other problem that may have compromised the effectiveness of respirator if suspected.”
111.	8.1.7	3	This procedure step requires delivery to the laboratory. It is our understanding the EFR will not have an on-site laboratory for urinalysis. This procedural step should be modified to reflect off-site shipment of urine samples and the necessary preparation. Or, clarify that the on-site counting laboratory will be used as the drop off location for urinalysis samples.
112.	8.3.4	5	This section of the procedure references sections 4.5.2, 4.5.3 of the regulations, but it is not clear why these sections are referenced. These specific regulatory sections are not related explicitly to bioassay activities.
113.	Form RH-050A		The form provides signatures for a laboratory analyst. It is our understanding that EFR will not have an on-site wet chemistry laboratory for performing urinalysis. Will this form be transmitted to the offsite laboratory with samples?
RH-060 RADIATION WORK PERMITS			
114.	2.0	1	This section of the procedure should include a requirement for an RWP when there is a potential for airborne radioactivity, such as welding, grinding, or similar activities.
115.	2.0	1	The “applicability” section should also include the requirement for an RWP for work in High Radiation Areas, Airborne Radioactivity Areas, and similar higher risk areas which present unique radiological conditions.
116.	3.0	1	The procedure should reference and utilize the job safety analysis procedure (AD-100) as a prerequisite for the RWP.

117.	4.1.7	2	This section of the procedure should include a provision that requires review and re-signing the RWP when radiological conditions, radiological controls, or work activities have changed during the job.
118.	Appendix A Form RWP-1		The RWP form should include a summary of the known and/or anticipated radiological conditions (contamination levels, postings, etc.) for the work area, and work activity.
RH-070 RELEASE OF EQUIPMENT TO UNRESTRICTED AREAS PROCEDURE			
119.			GENERAL COMMENT: This procedure contains similar steps for instrument operational checks as those of RH-020 (and other procedures). Consideration should be given to incorporate daily or pre-operational check steps into a single procedure which are then referred to by the applicable survey procedure(s).
120.	6.1.1	2	Typographical error - “or” should be used instead of “of”.
121.	7.6.1	7	The procedure should not refer to a docket from the past/another licensee. The basis for any particular or unique approach or calculation should be demonstrated by the applicant (EFR) within the procedure or through associated technical basis documents.
122.	7.9.2	9	This section should include the requirement to verify that the other licensee is authorized to receive the material under their license and the Energy Fuels Resources must have a copy of the recipients radioactive materials license. (Refer to Section 3.22 of the Regulations). The procedure should require approval by the RSO for offsite shipments of radioactive materials which cannot be released under the unrestricted release criteria.
123.	Appendix B RH-070A		The top of the form shows “conversion factors” without any lines to record the data. The bottom of the form has “correction factors” with a space to record the data. Will these items be used to record the same information? The top of the form provides a line for the RSO or Alternate RSO to approve the release. There is also a “release approved by” blank at the bottom of the form – will this be for the RSO/Alternate as well? This appears to be redundant. The final approvals should also include a date. This form does not contain or provide for “alternate” limits as does the (nearly identical) Appendix C release documentation form of RH-020. Why does this form not provide for the possibility of alternate limits since Table A1 of procedure RH-070 contains limits not shown on the form?

RH-100 SHIPMENT OF YELLOWCAKE, ORE, OR CONTAMINATED EQUIPMENT BY TRUCK			
124.			GENERAL COMMENT: The procedure is inadequate in that it does not discuss or specify the requirements for DOT training for employees involved in preparation or shipment of radioactive materials as discussed 49 CFR 172, Subpart H (Section 17.5 of the Colorado Regulations).
125.	3.0	1	The reference section should include Part 17 of the Colorado Rules and Regulations Pertaining to Radiation Control.
126.	1st Table	3	In accordance with 49 CFR 172, Table 1, the proper shipping name for SCO items should include the appropriate "-I" or "-II" (e.g., SC O-II) when abbreviated.
127.	Line 2 in 1st Table	3	The second row of this table references LSA items. This should reference 49 CFR 173.403 for SCO items rather than LSA items.
128.	Line 6 in 1st Table	3	This table references 49 CFR 172.203(d)(i) for the radionuclide name – this should be changed to reference 172.203(d)(1). The "i" under 172.203 (d)(i) shown in the procedure does not exist in the DOT regulations.
129.	Lines 7-8 in 1st Table	3	The items in this table reference 49 CFR 172.203(d)(i) and (ii) – this should be changed to reference 172.203(d)(2) for the physical and chemical form. The "ii" shown in the procedure under 172.203 (d)(i) or (ii) does not exist in the DOT regulations.
130.	Lines 9-11 in 1st Table	3	49 CFR 172.202(a)(5) requires that the total quantity of hazardous materials covered by the description on the shipping papers be "…by activity for Class 7 materials". As Class 7 materials, listing the total quantity by mass or number of containers for Yellowcake/Ore/SCO contaminated equipment does not appear to be in accordance with the requirements.
131.	Line 12-13 in 1st Table	4	The reference to 49 CFR 172.203(d)(4) for "Activity of Radioactive Material" is incorrect and should be changed to 172.203(d)(**3**).
132.		3-4	GENERAL COMMENT: The regulatory references to 49 CFR appear incorrect for some items in this table and should be verified against the DOT regulatory requirements.
133.	7.1.2.1	5	GENERAL COMMENT: The regulatory references to 49 CFR appear incorrect for some items in this table and should be verified against the DOT regulatory requirements. Additionally, the regulatory requirements for labeling, etc. may not be correct as a result of this.

134.	7.1.3.1	6	The reference to 173.441(a)"(1)" is not correct. There is no such subsection "(1)" in this section of 49 CFR.
135.	Line 4 of Table	6	The limits specified in line/item 4 of this table pertaining to surveys of exclusive use vehicles do not appear to be worded correctly in accordance with the DOT regulations referenced. The requirements of DOT pertain to surveys of the interior surfaces of the empty vehicle (being returned to service) on contact (at surface) and at 1 meter.
RH-110 BETA AND/OR GAMMA CONTAMINATION SURVEYS			
136.	3.1	1	The references for this procedure should include: RH-030 for Posting.
137.	6.3	2	The following should be added to Section 6.3 of the procedure: Pre and post job surveys should be completed as needed in support of work activities, to verify changing radiological conditions, or at the direction of the RSO or Alternate RSO.
138.	7.1.6	3	This section of the procedure indicates a semi-annual frequency for surveys of the mill, yet this specific survey frequency is not mentioned in Section 6.3. All survey frequencies should be identified in Section 6.3 of the procedure, including those with unknown/variable frequencies. Consideration should be given to list such survey frequencies in a "table" format for easy review by procedure user.
139.	7.1.7	3	The procedure should be modified to reference the posting procedure. (e.g., "…post the area as…in accordance with RH-030").
140.	7.2	4	This section should include requirements to update area postings, and Radiological Work Permit (RWP) information as necessary. A copy of the radiological survey should also be posted in radiation areas and high radiation areas to allow personnel to review conditions. The procedure should include a requirement to notify the RSO or Alternate RSO of any significant changes in radiological conditions.
141.			GENERAL COMMENT: The procedure does not specifically identify the process of how the survey documentation will be handled, processed, reviewed nor does it discuss a retention period. Sections 4.7, 4.18, 4.19, and 4.42 of the Colorado Regulations discuss requirements pertaining to radiological surveys.
142.	RH-110A Form		The survey form is inadequate and does not follow general nuclear industry standards. The form should be modified to

			include the following: 1. Line(s) for the individual that completed the survey (name, employee number, and signature) 2. A space for the user to document a diagram of the radiological area boundaries. 3. Line(s) for review of the survey (name, employee number and signature)
RH-120 ALPHA BETA GAMMA CONTAMINATION SURVEYS			
143.	4.1	1	The procedure does not include a requirement to wear gloves when performing contamination surveys. This should be added to the equipment list (4.1) and in the applicable procedural steps.
144.	6.2.2	2	Section 6.2.2 of the procedure should be modified to include: Pre and post job surveys should be completed as needed in support of work activities/RWPs, to verify changing radiological conditions, or at the direction of the RSO or Alternate RSO.
145.	7.4	6	This section does not include adequate information on signature requirements, disposition, and retention requirements. (Also refer to comments for RH-110).
146.	Appendix A / Form RH-120A		The "instrument calibration date" blank in the upper right corner of the form should be moved adjacent to the specific instrument being used as multiple instruments with different calibration dates may be used for contamination instruments.
147.	Appendix A / Form RH-120A		The survey form is inadequate and does not follow general nuclear industry standards. The form should be modified to include the following: 1. The form should include information on instrument background should there be a need to perform recalculations of measurements. 2. The line(s) for the individual that completed the survey should be expanded to include name, employee number, and signature 3. The line(s) for the individual(s) who review/approve the survey should be expanded to include the name, employee number and signature. 4. A space for the user to document a diagram of the radiological area boundaries should be added to identify prior or ongoing contamination locations.
148.	Appendix B / Table 1		The contamination limit table should be incorporated into the body of the procedure to facilitate the procedure user.

RH-130 OCCUPATIONAL GENERAL AIR PARTICULATE SURVEY			
149.	3.1	1	The reference section should include reference to the posting procedure RH-030, and the radiation exposure action level procedure RH-040.
150.	3.1.3	1	The title of the procedure RH-302 referenced here does not match the title shown on procedure RH-302 and requires correction.
151.	6.2	2	A safety precaution should be added to the procedure to address use of air samplers in locations of combustible gases, etc. where intrinsically safe equipment should be used.
152.	6.3	2-3	The procedure should include provisions for performing airflow pattern studies (smoke or similar studies) to determine downwind locations/proper placement for air samplers where airflow is uncertain or difficult to determine through observation alone.
153.	Table 1	3-4	Table 1 specifies an lower limit of detection (LLD) for various types of sampling and for different areas of the mill/processing stages. The LLD values differ by ~ a factor of 10 for the Ore and Yellowcake areas while the DAC values of RH-302 differ only by ~50 %. It is not clear how the LLD values were derived and whether they are based on the DAC values of Part 4 of the Colorado Regulations or some other values.? These should be explained/discussed as part of a larger technical basis document for air sampling and/or bioassay. Additionally, in NRC Regulatory Guide 8.30, the LLD should be established at ~10 % (or less) of the DAC for the isotope(s) of interest. However, procedure RH-302 indicates the same DAC value for ore handling areas and uranium production areas and may contradict the values/approach used in RH-130 for air sampling. Please review (and revise as necessary) procedures RH-130 and RH-302 to ensure they agree in their approach to air sampling and provide an explanation of the basis for and determination of the LLD values of RH-130 for the instruments planned for use at the EFR facility.
154.	7.7	5	The procedure references the sample submittal and tracking form number, but does not mention where/how to obtain it nor does it appear to have a location on the RH-130A form to record it.
155.	7.11	5	A bullet item should be added to include evaluation of the need to change area postings as a result of the air sampling data.

156.	Appendix A; Form RH-130A (General Air Sample Data Form)		The procedure and form should be modified to include the following to be consistent with nuclear industry practices: 1. Both start and stop flow rates and the method to calculate the average airflow. 2. Printed name, employee number, signature and date of person(s) responsible for review and approval of the air sampling data. 3. The form should be numbered (RH-130A) to be consistent with the procedure that calls out the form. (See section 3.2 of RH-130).
157.			GENERAL COMMENT: The procedure and form reference an "Location ID Number" for each sample but the procedure does not address where this number is obtained or how it is determined.
RH-140 RADON-222/RADON-220 DECAY PRODUCT SURVEYS			
158.			GENERAL COMMENT: As commented for other survey/sampling procedures, this procedure also does not appear to address the management review process and retention requirements in the procedure. The procedure should be modified to include this information/requirements.
159.			GENERAL COMMENT: Measurement for thoron (Rn-220) may not be necessary if EFR will not be processing ores containing Thorium in significant quantities. The need for Rn-220 measurement should be evaluated further.
160.	4.2.1	1	This section of the procedure references an RDP concentration worksheet. However, there does not appear to be a form included in the procedure.
161.	5.2.4		This section of the procedure references recording of data. However, there does not appear to be a form included in the procedure for recording the data.
RH-150 OCCUPATIONAL BREATHING ZONE MONITORING			
162.	1.0; 6.3	1-2	These sections of the procedure give the impression that breathing zone air sampling is only used for Radon progeny and not Uranium sampling. The procedure should be modified to more clearly address sampling for non-Radon materials as well.
163.			GENERAL COMMENT: Consistent with other comments pertaining to surveys and sampling, the procedure should include a reference to the document retention requirements.
164.	Appendix A Form		GENERAL COMMENT: Consistent with other comments pertaining to surveys and sampling, the data form should include the name, employee number, signature and date for the

	RH300A		individual(s) responsible for review/approval of the data.
RH-151 CALIBRATION OF AIR SAMPLERS USING THE BUBBLE METHOD			
165.	6.1.1	2	Why is the term PAS (Personal Air Sampler) introduced here for the first time? If to be used, this term should be utilized in other air sampling procedures to avoid multiple terms for the same equipment/type of sampling. (Breathing Zone sampler appears to be used in prior procedures).
166.			GENERAL COMMENT: Consideration should be given to obtain a commercial bubble calibrator at nominal cost. These off-the-shelf calibrators are generally easier and simpler to use and will automatically determine the flow rate by timing the bubble movement. The procedure should be written to accommodate both the "in-house" made calibrator and one that is commercially available. (NOTE: The sampler calibration form appears to reference other methods/calibration equipment, but the procedure itself does not).
167.	Appendix A (Air Sampler Calibration Form)		Consistent with comments on other survey/sampling related procedures and consistent with nuclear industry practices, the procedure and form should be modified to include the following: 1. Printed name, employee number, signature and date of person(s) responsible for performing the air sampler calibration. 2. Printed name, employee number, signature and date of person(s) responsible for review and approval of the air sampler calibration data.
RH-160 SOURCE LEAK TEST, SHUTTER TEST, AND INVENTORY PROCEDURE			
168.			GENERAL COMMENT: The procedure should clarify that the inventory will be performed at the time a leak test is performed (if that is the intent and if permitted by the device evaluation and/or Department). However, note that there may be a different frequency for leak tests and inventories prescribed by the gauge sealed source and device (SSD) evaluation and/or the Department. For example, NRC's NUREG-1556, Vol. 4 suggests a 6 month inventory frequency for fixed gauge users.
169.			GENERAL COMMENT: The form (160-A) for recording leak test information should be titled "leak test and inventory" if the form has a dual purpose. Other sections of the procedure would also require modification to address a change in form title.
170.			GENERAL COMMENT: The procedure does not adequately address or provide steps to perform the shutter test. Shutter tests are typically specific to the device and therefore reference should be made to perform shutter tests in accordance with

			manufacturers instructions.
171.			GENERAL COMMENTS: The procedure should include statements to address the following: 1. Only personnel specifically trained in accordance with manufacturers instructions are permitted to perform leak tests and shutter tests and reference procedure RH-170. (Note: the SSD evaluation may require initial training to be performed by the manufacturer). 2. A caution that maintenance, removal, repair, etc. of fixed gauges and other non-routine activities are to be performed by an entity specifically authorized by NRC or Agreement State license to perform such activities. (Refer to NRC NUREG-1556, Vol. 4) The procedure should again reference procedure RH-170. 3. An evaluation of the overall condition of the gauge to ensure it is not damaged, radiation labels are present, etc. This should be added to the inventory form as well. 4. Immediate notification requirements (RSO, and CDPHE) in the event that a source is found to be missing from its location/inventory.
172.	2.0	1	Will this procedure also be used for leak testing/inventory of non-gauge related sources, such as non-exempt instrument calibration or quality control sources? If so, the applicability section should be revised to include such tasks/sources addressed by the procedure. Otherwise, a procedure should be developed for inventory and leak testing of non-gauge, non-exempt sources.
173.	3.1	1	This section should also include a reference to the Sealed Source and Device (SSD) evaluation that is issued for each source and device distributed in the United States. The SSD generally will dictate the leak test frequency unless otherwise dictated by the Department. (Licensees should have a copy of the SSD registry on file for all devices they have. These should be obtained through the manufacturer of the specific device that is purchased.).
174.	5.2.4	1	The retention period for leak test records is 5 years in accordance with Section 4.43 of the Colorado Regulations. Please incorporate this retention period into the procedure.
175.	6.2	2	See prior comment pertaining to SSDs. The SSD or Department may dictate a different frequencies for shutter tests, leak tests, or inventories. Note that the “base” leak test frequency in the Colorado Regulations (Section 4.16) is every 6 months, but the

			SSD may permit another frequency. The procedure should be written such that leak tests (and other frequencies) will be in accordance with the SSD or alternate frequency specifically as specifically approved by the Department.
176.	6.2.2	2	Consistent with the guidance of NRC's NUREG-1556, Vol. 4, Section 8.10.3, inventories of fixed gauges should be conducted every 6 months. The procedure should be modified to incorporate a 6 month cycle for inventories of such devices.
177.	Appendix A Form		The form references an action level of "1465 (net) cpm." Please provide the basis for this number as it applies to the instrumentation (to be) used at the EFR mill. As stated in other comments, and consistent with nuclear industry standards the form should include the name, employee number, signature, and date for the individuals completing the form and for those individuals reviewing/approving the survey.
RH-170 NUCLEAR DENSITY GAUGES PROCEDURE			
178.			GENERAL COMMENTS: As written, this procedure is inadequate. The procedure states that its purpose is to "specify how to install nuclear density and nuclear level gauges." However, the procedure contains almost no useful or protective/safety information pertaining to these tasks. The procedure should include additional information, including: 1. Specific steps to perform to remove/install gauges that parallel those of the manufacturers instructions. 2. Requirements for notifications to other mill personnel to inform them that the gauge is being placed off-line/on-line. 3. Requirements for updating radioactive materials inventories to reflect (new) location of gauge(s). 4. Specific precautions pertaining to radiation hazards associated with maintenance/relocation of such devices (e.g., closing shutter mechanism, etc.); 5. Whether use of a Radiological Work Permit is required to perform such activities. (As written, the procedure is not adequate to perform the activity safely and therefore an RWP would be necessary.) 6. Whether the procedure is to be used to perform maintenance activities on the gauges, such as routine cleaning, electronics maintenance, etc. 7. Additional precautions for consideration due to location of gauges, and reference to other applicable procedures/requirements (RWP, lock-out tag-out, safety hazard analysis, ladder safety, etc.)

			8. Training on the sealed source and device (SSD) evaluation specific to the device(s) in use.
179.	3.1	1	As with procedure RH-160, this procedure should also reference the Sealed Source and Device (SSD) evaluation either generically or specifically for the devices in use at EFR.
RH-200 PERSONNEL CONTAMINATION SURVEYS			
180.			GENERAL COMMENT: This procedure could be streamlined significantly by combining similar steps such as verification of current calibration, performing an MDA calculation, etc. since these steps are generally the same/very similar regardless of instruments. Subsections could be retained for the individual measurement methods that differ slightly. Additionally, if this procedure is intended for all personnel and possibly visitors (as outlined in Section 5.3), the procedure will be confusing to the regular worker and others such as visitors with limited experience radiological safety. The procedure contains too much detail for such individuals. Consideration should be given to incorporate a posted set of instructions for users at the location where surveys are to be conducted. The procedure should be divided amongst tasks that are required of the RST and those tasks that are to be performed by mill workers and visitors.
181.	7.1 7.2		The procedure requires the RST or designee to check instrument operation. While this is adequate prior to a daily check, will non-RST (mill workers, visitors) users of the instrument also be required to check instrument operation before use? That is, anyone using the instrument should be responsible for verifying the operation of the instrument. Unlike Section 7.1, Section 7.2 however does not specify that the RST/designee perform the operational checks. This is an inconsistency.
182.	7.1.4	3	Instructions should be added to tag and place any instruments that are not operating properly out of service. An equipment tag out process should be developed and incorporated into the procedure.
183.	7.1.7.1 7.2.6.1 7.3.6.1 7.4.6	4,6, 8, 9	This procedure does not describe how frequently the MDA calculations should be performed. Are these calculations performed daily? Weekly? Monthly? Annually?

184.	Appendix A "Self-survey form"		The form should include additional blanks such as company name and contact number in the event the contaminated individual is a non-EFR employee and EFR would need to contact them due to a possible exposure/contamination event. The form should include a blank area to describe the location of contamination (on the person) should a dose reconstruction be necessary. Currently the form has no place to record such information. A second form may be necessary to be used specifically for contaminated individuals. Consideration should be given to rename this form – Personnel Survey Form, or Individual Survey Form, since individuals such as visitors or vendors may not be surveying themselves (especially in the event they become contaminated).
185.	Appendix B RH-200B		This form has limits stated on the form depending upon the material encountered (ore, tailings). However, these limits appear different than/conflict with the requirement of "no contamination above background" stated in RH-020.
186.	ALL	ALL	GENERAL COMMENT: Although not referenced in Section 3.2, multiple sections (7.1.5.2, 7.1.6, 7.1.11, etc.) of this procedure reference forms 200A, B, or C. There is no 200C form provided or included in the procedure. In light of prior comments made for procedure RH-020, possibly one of the forms in that procedure should be part of RH-200.?
RH-210 PERSONAL RADIATION DOSIMETERS PROCEDURE			
187.			GENERAL COMMENT: In multiple areas of the procedure, the word vender is spelled incorrectly and should be "vendor".
188.			GENERAL COMMENT: The procedure should reference the use of dosimeters for monitoring of beta emissions (in addition to gamma emissions) in certain locations and/or for certain activities in the mill. Specifically, beta emissions may be an issue should handling aged yellowcake be necessary such as for repackaging (as discussed in Regulatory Guide 8.30). The procedure should also discuss the possibility of use of extremity dosimeters for certain operations/as required by RWP and that these are to be handled similarly to whole body badges.
189.			GENERAL COMMENT: The procedure does not adequately discuss document retention periods for dosimeter reports, investigation reports, notifications, etc.

190.			GENERAL COMMENT: Unless addressed elsewhere/in other procedures, this procedure does not adequately discuss the provisions of Section 10.4 of the Colorado Regulations pertaining to providing dosimeter results to employees.
191.	1.0	1	The wording of the "purpose" of this procedure should be revised as it is misleading as written.
192.	3.1	1	This procedure should reference RH-040, since action levels and actions for dosimetry readings are discussed in that procedure.
193.	5.4.2	2	The procedure step is missing words, such as "…when a badge is reported… lost or damaged".
194.	6.2.2	2	This statement should also include "…or as required by the RWP" should there be a job specific need for specific dosimetry.
195.	7.1	2	The procedure should require that the individual be appropriately trained or that the applicable level training be verified prior to issuance of a dosimeter.
196.	7.1.1	2	The wording of this step is awkward and difficult to understand and should be revised.
197.	7.2.5	3	This section/procedure does not appear to address the shorter term reporting requirements of Part 4 of the regulations, including 24 hour notification when a legal dose limit is exceeded as required by Section 4.52 of the regulations. The procedure should be revised to include all applicable notification requirements and frequencies pertaining to dosimetry (or reference those procedures containing the notification requirements).
198.	5.1.3 7.2.3	1, 3	This section of the procedure should tie-in with RH-040 which discusses actions for specific action levels for elevated dosimeter badge readings.
199.	7.2.4	3	This section of the procedure addresses a high reading that is validated, but does not adequately describe/reference the process by which dose might be adjusted (reduced) due to a dose caused by a false exposure situation (e.g., badge left near source, etc.).
200.	Appendix A RH-210A		GENERAL COMMENT: As with other/prior comments, for every person completing or reviewing a radiological safety form, the following information should be included: printed name, signature, employee number, and date.

RH-300 RADIOLOGICAL DOSE CALCULATION PROCEDURE			
201.	1.0	1	The procedure makes reference to "three" sub procedures, but appears to only list two of them. RH-303 be included in this list (as shown in Section 6.0 of the procedure).
202.	2.0	1	This procedure references only "mill personnel." Does "mill personnel" include contractors (and potentially visitors) as well? (Numerous other procedures specifically reference or call out contract personnel).
203.			GENERAL COMMENT: The procedure does not adequately address how the information from the sub-procedures is brought together to determine dose to the individual.
RH-301 WORKER EXPOSURE TO LING-LIVED RADIONUCLIDES IN AIRBORNE PARTICULATE MATTER			
204.	6.0	3	The procedure should be clarified that as long as the individual has passed/met the requirements for the applicable fit test (quantitative or qualitative), that the protection factor (PF) from the regulations is used. As written in the procedure, the statements are a bit confusing and redundant.
205.	2.1	1	The BZ sample return report form is referred to as Appendix B, and form RH-301A, but the actual form is referenced as form RH-301"B". The forms referenced by the procedure should match appropriately. Additionally, this form seems partially redundant with the check out/return form contained in Appendix A of RH-150 for breathing zone samplers.?
206.	Appendix A Form RH-301B		This form was not included in the application for review.
RH-302 RADIONUCLIDE CONCENTRATIONS IN AIR SAMPLES PROCEDURE			
207.			GENERAL COMMENT: This procedure references ICRP 68 Dose Conversion Factors (DCF) for performing air sampling related calculations. However, Part 4 of the Colorado Regulations (and 10 CFR 20) specify DCFs that are based upon ICRP 30 requirements. The DCFs (from ICRP 68) you have proposed in this procedure would be a deviation from the current regulatory requirements. Therefore, in order to utilize ICRP 68 you must specifically request and justify a deviation from the current regulations.
208.	4.1-4.7	4	GENERAL COMMENT: While the procedure discusses the various "methods" that will be used to calculate airborne radioactivity, the assumptions that went into the calculations are

			not always clear or justified. A technical basis document should be developed and submitted that discusses and justifies the various methods for air sample analysis and apportionments so that the procedure may be fully evaluated.
209.	2.1	1	This procedure makes reference to areas where zirconium containing caldasite ore is handled. It is our understanding that carnotite, not caldasite ores will be more commonly processed at EFR. References to caldasite ores should be removed from the procedure if they will not be processed at the EFR mill.
210.	2.2.5	2	This section makes reference to existing analysis of air sample/stack sample data and implies it is from the current EFR facility. Since the EFR facility is not in operation, reference to existing facility specific data of this type is not possible or appropriate. The reference to existing data as a basis for portions of the calculations should be deleted from the procedure. Consideration may be given to reference information from technical literature or guidance documents, as appropriate and applicable.
211.	Table 3	8	This procedure/table makes reference to zirconium and caldasite ore. To the Departments' knowledge zirconium will not be processed at the EF mill. References to zirconium/caldasite ore (and adjustments in calculations) should be evaluated and removed from this and all other procedures where applicable.
RH-303 DOSE CALCULATION PROCEDURE			
212.			GENERAL COMMENT: Similar to prior comments, this procedure references ICRP 68. Although a cross-reference table to ICRP 30 and ICRP 68 terminology is provided, the Regulations are based on ICRP 30. A specific request and technical basis should be submitted to the Department if methodologies, and models other than those specified in the regulations are to be used.
213.	3.2	2	The procedure references dose calculations from 2001. References to past dates should be deleted as the mill is not yet operational. If necessary however, data can be retained as example data.
RH-310 PREGNANT WOMEN PROCEDURE			
214.			GENERAL COMMENT: To make it more user friendly, consideration should be given to change the title of this procedure to something like "Procedure for Declared Pregnancies" or "Declared Pregnant Worker Procedure" or something similar.

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215.	1.2, 2.1	3, 7	The term "Assistant" should be changed to Alternate RSO to be consistent with language used by the Departments' in its current licensing practices. Alternate RSO will be the terminology used on Radioactive Materials licenses issued by the Department. Also, this terminology should be used throughout the remaining EF procedures.
216.	Table 3	5-6	The first item in this table should include the potential for release of chemicals or hazardous materials as a result of a fire/explosion. The last item – severe weather – is incomplete. Hazards from severe weather should consider chemical/hazardous materials releases due to damage to containment systems (tanks, berms, etc.), safety systems, structures.
217.	Table 3	5-6	The table of initiating events should include reasonably postulated sabotage/terrorism event(s) and the resulting impacts and conditions. Criminal activities have occurred at other mill sites. Recovery following a terrorism type event may involve collection of or maintaining samples for criminal evidence purposes. This concept should be incorporated into the emergency plan.
218.	1.3.3	6	This section of the procedure discusses the notification requirements of Part 4 of the Regulations. Consideration should be given to also reference the radioactive materials license as additional notification provisions may be required by license condition.
219.	Table 5	9	The Colorado State Patrol (CSP) Hazardous Materials Unit should be added to this table. The CSP provides incident response on public highways and may provide additional on-site response as requested through local authorities. The CSP maintains 2 person Hazardous Materials teams throughout the State. (Note: Section 4.3 of the plan discusses notification of CSP, but is again, not in Table 5).
220.			GENERAL COMMENT: Consideration should be to physically post the assembly areas with signage or similar indicators on the mill site. This will remind employees and visitors to the site of the location of the assembly areas.

221.	5.2	46	How will offsite protective actions recommendations be developed/made by EFR? Has EFR run models or made similar determinations for the postulated/likely emergencies? EFR should perform modeling/calculations on the most likely release scenarios to aid in emergency planning.
222.	5.3.3	48-49	This section of the emergency plan references RH-050 for bioassay of off-site responders. However, review of RH-050 indicates that it does not lend itself to gathering samples for non-mill personnel under emergency type conditions. RH-050 does mention collection of samples for emergency purposes, but should be revised to include this possibility. All RH/safety procedures referenced by the mill emergency plan should be reviewed with an emergency planning/response perspective to determine if they adequately interface (where applicable) with the emergency plan under emergency conditions.
223.	6.5.2	49	Typographical error in the second paragraph of this section – "shout-down" should be "shut-down".
224.	6.5.3	51	This section refers to a containment inspection frequency of 3 years. This may change as a result of prior comments provided for Health and Safety procedures pertaining to inventory and leak testing of density gauge sources.
225.			GENERAL COMMENT: Review and correct typographical errors for the word "vender", which should be "vendor".
226.	Appendix A		The incident notification form of appendix A should be modified to include all of the "baseline" incidents addressed by the Emergency Plan as a check box at the top. Presently, only 3 emergency types are listed. Refer to Table 2 of the Emergency Plan.
227.	Appendix B		This appendix makes reference to completing a form in the event of an emergency during transportation. Will the Appendix A form be used for this purpose or is there a transportation incident specific form? There does not appear to be another form included with the application documentation?
228.			GENERAL COMMENT: The Emergency Response Plan does not have sufficient detail on items pertaining to recovery following an emergency. Also, to better integrate with other mill procedures, the emergency plan should reference the root cause analysis procedure as this may be necessary following an emergency on the mill site. Refer to Draft NRC Guide 3039.

229.			GENERAL COMMENTS: In some areas, the EFR July 2010 Emergency Response Plan lacks a level of detail recommended in NRC Draft RG-3039 (May 2010). The ER Plan should be reviewed and revised to meet the recommendations for detailed information contained in this document. Examples of areas where detail is lacking are: • Section 1.1 describes little about radiological hazards associated co-located with chemicals • Section 1.3 (~Table 3) does not describe where the postulated emergency/incidents are likely to occur due to location of hazardous materials; • Section 5.0 does not describe preplanned protective action recommendations for each postulated accident. • Additional process for returning systems to "normal" (pre-emergency conditions). Incidents may have damaged safety systems, process equipment, and structures and must be evaluated fully.
230.			GENERAL COMMENT: Have the local/regional emergency planning organization(s) reviewed the emergency plan and had an opportunity to comment/provide input on aspects of importance to them?
231.			GENERAL COMMENT: The redline version of the July 2010 response plan (currently posted on CDPHE website) does not appear to be complete and is missing the latter portion of the document. A complete document should be submitted.