

DIVISION 92
STANDARDS FOR THE SITING OF URANIUM MILLS IN OREGON

345-092-0010

Purpose

The purpose of these rules is to establish standards for uranium mills and related and supporting facilities. The Council will apply these standards in reaching a decision for or against issuance of a site certificate for the construction and operation of a uranium mill and its related or supporting facilities, as defined in OAR 345-092-0025. The Council may adopt additional standards.

Stat. Auth.: ORS 469.556

Stats. Implemented: ORS 469.553

345-092-0012

Applicability and Statutory Authority

(1) In addition to the standards in OAR Chapter 345, Divisions 22, 23 and 24, the standards in this Division are applicable to a site certificate application for a uranium mill and its related or supporting facilities as those terms are defined in OAR 345-092-0025.

(2) These standards are authorized under ORS 469.553, 469.556 and ORS 183 and should be interpreted so as to carry out the fundamental policy of 469.310.

Stat. Auth.: ORS 469.556

Stats. Implemented: ORS 469.553

345-092-0014

Mandatory Site Certificate Conditions

In addition to any other site certificate conditions that the Council may impose, the Council shall impose a site certificate condition that requires the certificate holder to design, build, operate and retire a uranium mill in accordance with the design standards contained in OAR 345-092-0031(1), (5) and (6), 345-092-0040(1), (2) and (3)(c) and 345-092-0050 and in accordance with any representations made in satisfaction of OAR 345-092-0031(6) and (7) and 345-092-0040(3)(a) and (d).

Stat. Auth.: ORS 469.556

Stats. Implemented: ORS 469.553

345-092-0025

Definitions

(1) The definitions set out in ORS 469.300 apply in interpreting rules in this division, unless the context requires otherwise or unless a term is specifically defined in this rule.

(2) “Uranium mill” means a site at which ore is milled primarily for the recovery of uranium by conventional methods, which involve the crushing, grinding and leaching (acid or alkaline) of the ore, followed by chemical separation and concentration of uranium. As used in this division, “uranium

mill” does not include facilities for the extraction of uranium by in situ mining or heap leaching.

(3) “Mill tailings” means the residues remaining after extraction of uranium from its ore at a uranium mill.

(4) “Related or supporting facilities” means, in addition to related or supporting facilities as defined in ORS 469.300, structures adjacent to and associated with a uranium mill including areas from which ore is mined to produce feed material for the mill, ponds designed for the storage of mill tailings or other materials and any sites for the permanent disposal of mill tailings and mine overburden.

(5) The term “facility” means a uranium mill and its related or supporting facilities.

(6) “Facility boundary” means the boundary within which the applicant or site certificate holder has the legal right to control the access of individuals.

Stat. Auth.: ORS 469.556

Stats. Implemented: ORS 469.553

345-092-0031

Standards Relating to Public Health and Safety of Uranium Mill Operation, Decommissioning and Waste Disposal

In determining whether a proposed facility satisfies the requirements of this rule, the Council will accept, where applicable, the assumptions and methods used or approved by the federal Nuclear Regulatory Commission (NRC) or the Environment Protection Agency (EPA) in evaluating compliance with their respective regulations, in the absence of clear and convincing evidence that the use of such assumptions and methods will not adequately protect the health and safety of the public. To issue a site certificate for a uranium mill, the Council must find that:

(1) The facility can be designed, constructed and operated such that there is reasonable assurance that:

(a) During normal operations of the facility, the annual radiation dose equivalent to any member of the public will not exceed the limits specified in OAR 345-095-0090(1).

(b) The release of airborne effluents will not result in ambient levels exceeding the limits in OAR 345-095-0090(2).

(c) The facility shall be located at a remote site. To be considered remote, the calculated population doses within a 50-mile radius of the mill resulting from all exposure pathways will not exceed:

(A) Whole Body -- 50 person rem/year;

(B) Lung -- 500 person rem/year;

(C) Bone -- 1250 person rem/year.

(2)(a) The site selected for final disposal is suitable for disposal of uranium mill tailings and wastes from decommissioning the uranium mill and the proposed amount thereof intended for disposal at the site. In order for the

Council to find the site to be suitable, the Council must find that the applicant has evaluated reasonable disposal methods for the site including, but not limited to, below ground disposal, fixation of tailings with asphalt or cement, single tailings dam and multiple dams or dikes.

(b) In the evaluation required under (a), the applicant must provide the data needed to determine the effect of the alternate disposal method on the economic viability of the facility. The applicant must demonstrate that reasonably expected wind and water erosion will not uncover uranium mill tailings and wastes from decommissioning the uranium mill and that surface and ground waters will not become contaminated with chemicals or radioactivity in excess of those levels specified in OAR 345-092-0040(4). The applicant must demonstrate that water contamination will not occur by use of a transport model that uses the existing aquifer boundaries, hydrogeologic flow rates, soil absorption phenomena (e.g., filtration, ion exchange, precipitation, etc.) and the leachability of materials from the uranium mill tailings under reasonably expected natural conditions at the site. The applicant must consider perturbations caused by reasonably expected hydrogeologic changes at the site.

(3) The amount of uranium mill tailings and waste that would result from decommissioning the uranium mill must be disposed of at the site in Oregon, rather than permitting their uncontrolled abandonment, to protect the environment and the health, safety and welfare of the people of the state from such wastes.

(4) There is no available, economically feasible alternative to the applicant's proposal for disposal of uranium mill tailings and wastes from decommissioning the uranium mill, in the proposed amounts, inside or outside of the state. The applicant must evaluate alternatives including, but not limited to return of tailings to the mine, creation of a regional disposal facility, disposal in an out-of-state commercial disposal site and at least 2 alternative sites within 20 miles. The Council will not consider an alternative to be available unless such alternative provides superior protection to the public health and safety than the proposed site.

(5) The proposed amount of uranium mill tailings and wastes from decommissioning the uranium mill can be disposed of at the site in a manner compatible with the regulatory programs of the federal government in existence on the date of adoption of these standards for disposal of such wastes.

(6) The proposed amount of uranium mill tailings and wastes from decommissioning the uranium mill can be disposed of at the site in a manner that is coordinated with the regulatory programs of adjacent states in existence on the date of adoption of these standards for disposal of such wastes. To support a Council finding that the manner of disposal can be coordinated with regulatory programs of adjacent states, the applicant must demonstrate that radiological impacts in adjacent states from disposal of uranium mill tailings and wastes from decommissioning the uranium mill are not likely to exceed the

applicable standards for disposal of these wastes that are in effect in the adjacent state on the effective date of this standard.

(7) After disposal of uranium mill tailings and wastes from decommissioning the uranium mill, the calculated radon emanation rates at the site are likely to be no greater than 2 picocuries per square meter per second above natural background levels that existed at the site prior to disposal of any wastes, and calculated gamma radiation levels are not likely to be statistically different from background levels that existed at the site prior to disposal of any wastes.

(8) The applicant has identified all reasonably expected loads, including but not limited to seismic events and liquefaction, hydrostatic, flood, wind and ice loads expected to be placed on any dike or dams associated with the facility, and the applicant has demonstrated that such dikes and dams can withstand these loads without failure.

Stat. Auth.: ORS 469

Stats. Implemented:

345-092-0040

Standards Relating to Environmental Impacts of Uranium Mill Operation

To issue a site certificate for a uranium mill, the Council must find that:

(1) Release of airborne particulates from the facility can be controlled through the use of baghouses or equivalent methods to the maximum extent consistent with existing milling technology and without increasing occupational health and safety risks.

(2) All mill ponds used for the collection and storage of mill tailings and chemical agents can be designed or sited in such a manner as to preclude seepage into any groundwater aquifers to the maximum extent consistent with existing impoundment technology.

(3) Studies have been performed characterizing the relative abundance and diversity of the plant and animal species at the proposed site of the facility and:

(a) The proposed facility is not likely to jeopardize the continued wildlife use of deer, elk and antelope wintering ranges or migration routes of migratory wildlife.

(b) The above ground portions of the proposed facility are not located on antelope fawning areas, sage grouse strutting and nesting areas or waterfowl nesting and rearing areas that are necessary to sustain the existing local or migratory populations of such species.

(c) Areas within the boundary of the facility site with unstable or fragile soils have been satisfactorily identified and available construction techniques can be employed to reduce adverse impacts such as erosion and compaction.

(d) The bird species using the area affected by the proposed facility have been identified, and the facility is not likely to jeopardize the continued existence of local or migratory populations of such bird species.

Stat. Auth.: ORS 469.556

Stats. Implemented: ORS 469.553

345-092-0050

Standards Relating to Beneficial Use of Wastes

To issue a site certificate for a uranium mill and related and supporting facilities, the Council must find that liquids from the facility can be recycled consistent with existing and economic technology and process requirements.

Stat. Auth.: ORS 469.556

Stats. Implemented: ORS 469.553

345-092-0110

Applications and Site Certificate Conditions

(1) Any person who intends to apply for a site certificate for a uranium mill shall submit a notice of intent subject to the requirements and procedures described in OAR Chapter 345, Division 20.

(2) An applicant for a site certificate shall submit an application subject to the requirements and procedures of OAR Chapter 345, Division 21.

(3) The Department of Energy shall apply the requirements and procedures described in OAR Chapter 345, Division 15, for review of the notice of intent and an application for a site certificate for a uranium mill.

(4) The holder of a site certificate for a uranium mill is subject to the requirements of OAR 345-026-0005 through OAR 345-026-0170 and OAR Chapter 345, Divisions 27 and 29.

Stat. Auth.: ORS 469.556

Stats. Implemented: ORS 469.553