

## MINING FACILITIES

### General Provisions

**NAC 445A.350 Definitions.** ([NRS 445A.425, 445A.465](#)) As used in [NAC 445A.350](#) to [445A.447](#), inclusive, unless the context otherwise requires, the words and terms defined in [NAC 445A.351](#) to [445A.385](#), inclusive, have the meanings ascribed to them in those sections.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.242)

**NAC 445A.351 “Area of review” defined.** ([NRS 445A.425, 445A.465](#)) “Area of review” means the area surrounding a facility which is to be evaluated.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24202)

**NAC 445A.352 “As-built drawings” defined.** ([NRS 445A.425, 445A.465](#)) “As-built drawings” means engineering drawings which reflect all changes made from original engineering drawings during the construction of a facility so that a representation of the facility as constructed is portrayed.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24204)

**NAC 445A.353 “Beneficiation” defined.** ([NRS 445A.425, 445A.465](#)) “Beneficiation” means the dressing or processing of ores for:

1. Regulating the size of a desired product;
2. Removing unwanted constituents; and
3. Improving the quality, purity or assay grade of a desired product.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24206)

**NAC 445A.354 “Best engineering judgment” defined.** ([NRS 445A.425, 445A.465](#)) “Best engineering judgment” means that decision by the Department which, after evaluating the available alternatives and levels of technology presented by the applicant, results in an acceptable design for containing contaminants from a facility in order to protect the waters of the State.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24208)

**NAC 445A.355 “Commission” defined.** ([NRS 445A.425, 445A.465](#)) “Commission” means the State Environmental Commission.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2421)

**NAC 445A.356 “Contaminant” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Contaminant” has the meaning ascribed to it in [NRS 445A.325](#).  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24212)

**NAC 445A.357 “Degrade” defined.** ([NRS 445A.425](#), [445A.465](#)) “Degrade” means to alter the physical or chemical properties of or to cause a change in the concentration of any substance in the waters of the State in violation of the standards established pursuant to [NAC 445A.424](#).  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24214)

**NAC 445A.358 “Department” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Department” means the State Department of Conservation and Natural Resources.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24216)

**NAC 445A.359 “Facility” defined.** ([NRS 445A.425](#), [445A.465](#)) “Facility” means all portions of a mining operation, including, but not limited to, the mine, waste rock piles, or piles, beneficiation process components, processed ore disposal sites, and all associated buildings and structures. The term does not include any process component or nonprocess component which is not used for mining or mineral production, and has not been used in the past for mining or mineral production as part of an operation which is active as of September 1, 1989.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24218)

**NAC 445A.360 “Fluid management system” defined.** ([NRS 445A.425](#), [445A.465](#)) “Fluid management system” means that portion of a facility which has been constructed to contain or transport process fluids.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.2422)

**NAC 445A.361 “Groundwater” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Groundwater” means all subsurface water comprising the zone of saturation, including perched zones of saturation, which could produce usable water.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24222)

**NAC 445A.362 “Liner” defined.** ([NRS 445A.425](#), [445A.465](#)) “Liner” means a continuous layer of man-made or reconstructed natural materials, or a combination thereof which restricts the downward or lateral movement of liquids.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24224)

**NAC 445A.363 “Meteoric waters” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Meteoric waters” means any form of precipitation falling from the earth’s atmosphere.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24226)

**NAC 445A.364 “Mining” defined.** ([NRS 445A.425](#), [445A.465](#)) “Mining” means the process of extracting ores from the earth.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24228)

**NAC 445A.365 “Modify materially” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Modify materially” means to make:

1. A change in the design or location of a process component, or the characteristics of the waste stream which significantly alters the potential to degrade the waters of the State; or

2. A significant change in the environmental monitoring systems which results in a reduction in the effectiveness of that monitoring system.

↳ The term does not include changes necessitated during construction to suit field conditions, or changes which do not affect point sources.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.2423)

**NAC 445A.366 “Ore” defined.** ([NRS 445A.425](#), [445A.465](#)) “Ore” means the naturally occurring material from which a metallic mineral of economic value can be extracted.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24232)

**NAC 445A.367 “Permanent closure” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Permanent closure” means that time in the operating life of a facility when activities for the final stabilization, removal or mitigation of sources are initiated.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24234)

**NAC 445A.368 “Permit” defined.** ([NRS 445A.425](#), [445A.465](#)) “Permit” means a written document issued pursuant to [NRS 445A.300](#) to [445A.730](#), inclusive, which describes the responsibilities and obligations of the holder of the permit during the construction, operation, and temporary or permanent closure of a facility.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24236)

**NAC 445A.369 “Person” defined.** ([NRS 445A.425](#), [445A.465](#)) “Person” has the meaning ascribed to it in [NRS 445A.390](#).

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24238)

**NAC 445A.370 “Pilot facility” and “testing facility” defined.** ([NRS 445A.425](#), [445A.465](#)) “Pilot facility” or “testing facility” means a facility which is constructed principally to obtain data on the effectiveness of the beneficiation process to determine:

1. The feasibility of developing a body of ore; or
2. The optimum operating conditions of the process.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.2424)

**NAC 445A.371 “Placer mining” defined.** ([NRS 445A.425](#), [445A.465](#)) “Placer mining” means the extraction and processing of ores solely by gravity separation methods.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24242)

**NAC 445A.372 “Point source” defined.** ([NRS 445A.425](#), [445A.465](#))

1. “Point source” has the meaning ascribed to it in [NRS 445A.395](#).
2. The term includes wheeled, track, stationary or floating equipment used for earth-moving activity from which pollutants are or may be discharged.

(Added to NAC by Environmental Comm’n, eff. 9-1-89; A by R096-01, 1-18-2002)

**NAC 445A.373 “Pollutant” defined.** ([NRS 445A.425](#), [445A.465](#)) “Pollutant” has the meaning ascribed to it in [NRS 445A.400](#).

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24246)

**NAC 445A.374 “Pond” defined.** ([NRS 445A.425](#), [445A.465](#)) “Pond” means a process component which stores, confines or otherwise significantly impedes the horizontal movement of process fluids. The term does not include tailings impoundments, vats, tanks or other nonearthen containers.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24248)

**NAC 445A.375 “Process component” defined.** ([NRS 445A.425](#), [445A.465](#)) “Process component” means a distinct portion of a constructed facility which is a point source.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.2425)

**NAC 445A.376 “Process fluid” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Process fluid” means any liquids, including meteoric waters, which are intentionally or unintentionally introduced into any portion of the beneficiation process components.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24252)

**NAC 445A.377 “Small-scale facility” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Small-scale facility” means a facility which chemically processes less than 36,500 tons of ore per year and no more than 120,000 tons of ore for the life of the project at any one permitted site.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89; A 9-6-91) — (Substituted in revision for NAC 445.24254)

**NAC 445A.378 “Source” defined.** ([NRS 445A.425](#), [445A.465](#)) “Source” means any building, structure, facility or installation from which there is or may be the discharge of pollutants.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24256)

**NAC 445A.379 “Stabilized” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Stabilized” means the condition which results when contaminants in a material are bound or contained so as to prevent them from degrading the waters of the State under the environmental conditions that may reasonably be expected to exist at a site.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24258)

**NAC 445A.380 “Storm event” defined.** ([NRS 445A.425](#), [445A.465](#)) “Storm event” means a precipitation event with a specified frequency of return and specified period of duration as defined in *Precipitation-Frequency Atlas of the Western United States*, vol. VII-Nevada.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.2426)

**NAC 445A.381 “Tailings impoundment” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Tailings impoundment” means a process component which is the final depository for processed ore discharged from a mill.  
(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24262)

**NAC 445A.382 “Temporary closure” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Temporary closure” means the cessation of the operation of a process component for more than 30 days as a result of a planned or unplanned activity.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24264)

**NAC 445A.383 “WAD cyanide” defined.** ([NRS 445A.425](#), [445A.465](#))  
“WAD cyanide” means the cyanide concentration as determined by Method C, Weak Acid Dissociable Cyanide, D2036-082, Part 31 of *American Society of Testing Materials Book of Standards*.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24266)

**NAC 445A.384 “Waters of the State” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Waters of the State” has the meaning ascribed to it in [NRS 445A.415](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24268)

**NAC 445A.385 “Zero discharge” defined.** ([NRS 445A.425](#), [445A.465](#))  
“Zero discharge” means the standard of performance for the protection of surface waters which requires the containment of all process fluids.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2427)

**NAC 445A.386 Adoption of publication by reference.** ([NRS 445A.425](#), [445A.465](#)) The Department hereby adopts by reference *Precipitation-Frequency Atlas of the Western United States*, vol. VII-Nevada, stock number 0317-00161, prepared by the National Weather Service and National Oceanic and Atmospheric Administration, United States Department of Commerce. The publication may be obtained by mail from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 979050, St. Louis, Missouri 63197-9000, or by toll-free telephone at (866) 512-1800, at a cost of \$8.45.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24272)

**NAC 445A.387 Scope; effect of noncompliance.** ([NRS 445A.425](#), [445A.465](#))  
1. [NAC 445A.350](#) to [445A.447](#), inclusive, apply to facilities that have the potential to degrade the waters of the State. Surface disturbance activities such as stripping and the stockpiling of ore, when conducted in a manner which presents an insignificant potential to degrade waters of the State are not subject to those sections. [NAC 445A.350](#) to [445A.447](#), inclusive, do not apply to facilities involved solely in the mining and processing of sand and gravel, cinders, diatomaceous earth, slate, shale, gypsum, clay or crushed stone.

2. [NAC 445A.350](#) to [445A.447](#), inclusive, do not replace or in any way affect the responsibility of a person to comply with any other regulations and rules of practice and procedure administered by the Department or any other governmental agency.

3. A permit issued pursuant to [NAC 445A.350](#) to [445A.447](#), inclusive, may be revoked for noncompliance with the provisions of [NAC 445A.350](#) to [445A.447](#), inclusive, in accordance with the procedures established in [NRS 445A.600](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24274)

**NAC 445A.388 Appeal of action taken by Department.** ([NRS 445A.425](#), [445A.465](#), [445A.605](#)) Any person aggrieved by an action taken by the Department pursuant to [NAC 445A.350](#) to [445A.447](#), inclusive, may appeal to the Commission in accordance with [NRS 445A.605](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24276)

#### Permits for Facilities

**NAC 445A.390 Permit required; operation under existing permit.** ([NRS 445A.425](#), [445A.465](#))

1. All facilities in existence on September 1, 1989, must obtain a valid permit within 3 years after September 1, 1989.

2. After July 1, 1990, no person may begin construction of a new process component, or materially modify an existing process component, without first obtaining a permit or permit modification, or the concurrence of the Department that the construction or modification is in conformance with the existing permit.

3. The operator of a process component for which a permit has been obtained may continue to operate that process component under the conditions of the existing permit. This applies to all process components which have been reviewed and approved by the Department but have not yet been issued a permit and are either in the process of being constructed or are operating in accordance with an approval granted as of September 1, 1989. Where detailed plans have not yet been submitted to the Department for a process component that has been conceptually approved under either an existing permit or approved without an existing permit, the process component must meet the regulations in effect when construction of the new process component is initiated.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2428)

**NAC 445A.391 Application for permit: Preliminary meeting with representative of Department.** ([NRS 445A.425](#), [445A.465](#)) Before submitting an application for a permit, a prospective applicant must meet with a representative of the Department to discuss:

1. The proposed location of the facility;

2. The operating plans for the process components; and
3. The physical characteristics of the facility's proposed site as required on the application for the permit.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24282)

**NAC 445A.392 Application for permit: Construction or modification of process component; abbreviated application. (NRS 445A.425, 445A.465)**

1. Except as otherwise provided in subsection 2, a person wishing to construct or modify materially a process component at a facility must file an application for a permit pursuant to [NAC 445A.394](#).

2. Persons wishing to construct a small-scale, pilot, testing, placer or other facility which relies solely on physical separation methods to process ore may file an abbreviated application for a permit pursuant to [NAC 445A.410](#), [445A.412](#) and [445A.414](#). The application must be accompanied by the appropriate fee as required by [NAC 445A.232](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24284)

**NAC 445A.393 Application for permit: Definition of site conditions, process materials, characteristics of waste and impacts. (NRS 445A.425, 445A.465)** The failure or the inability to define adequately site conditions, process materials and the probable characteristics of the waste in the application for a permit may result in the Department requiring a higher standard of engineered containment or monitoring, or both. Persons wishing to materially modify a facility must submit all information necessary to define and describe the probable impacts of the modification or new process components on the area of review.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24286)

**NAC 445A.394 Application for permit: Submission; contents. (NRS 445A.425, 445A.465)**

1. To obtain a permit to construct, operate and close permanently a facility, the owner or operator of the proposed facility or the designated agent of the owner or operator must submit to the Department a written application signed by the owner or, if the owner does not operate the facility, the operator of the facility or his or her designated agent. The application must be accompanied by the appropriate fee established pursuant to [NAC 445A.232](#).

2. An application for a permit must contain:
  - (a) The name, location and mailing address of the:
    - (1) Facility.
    - (2) Owner.

- (3) Operator.
- (4) Authorized agent.

(b) The legal structure of the applicant, including, but not limited to, whether the applicant is a sole proprietorship, partnership or corporation.

(c) The name of the owner of the land or mining claim or claims on which the facility will be located.

(d) Documentation that notice of the proposed development has been provided to the local board of county commissioners.

(e) The rate at which the facility is anticipated to be chemically processing ore in tons of ore per year.

(f) An assessment of the area of review as required by [NAC 445A.395](#).

(g) A meteorological report as required by [NAC 445A.396](#).

(h) An engineering design report as required by [NAC 445A.397](#).

(i) A copy of the draft operating plans for the facility as required by [NAC 445A.398](#).

(j) A report of the sample analysis as required by [NAC 445A.396](#).

3. New applications or requests for major modifications to existing permits must be submitted to the Department at least 165 days before the date on which the applicant wishes to initiate construction.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24288)

**NAC 445A.395 Contents of application: Assessment of area of review. ([NRS 445A.425](#), [445A.465](#))**

1. An assessment of the area of review must include:

(a) Hydrogeological and lithological information which defines the subsurface conditions of the site beneath and adjacent to all point sources to a minimum depth of 100 feet.

(b) A geological map covering the area within a 1-mile radius of the process components.

(c) A topographic map which identifies:

(1) All known surface waterways, streams, springs and seeps within a 1-mile radius of the facility;

(2) All existing habitable buildings within a 1-mile radius of the facility;

(3) The boundaries and area of the upgradient watershed and the degree to which the 100-year, 24-hour storm event will affect the process components; and

(4) All wells constructed for supplies of drinking water within 5 miles downgradient of the site identified in the records of the Division of Water Resources of the Department or known to the applicant.

2. The Department may require that a greater or lesser area of review be prescribed in an application for a permit based upon:

- (a) The ability of the geologic formation at the site of the facility to inhibit contaminant migration;
- (b) The size of the human population in the area;
- (c) The depth from the surface to all groundwater;
- (d) The distance to all surrounding bodies of surface water; and
- (e) The quality, uses and potential uses of the ground and surface water within the area of review.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2429)

**NAC 445A.396 Contents of application: Meteorological report; analysis of samples.** ([NRS 445A.425](#), [445A.465](#)) An application for a permit must include:

1. A summary of the historical monthly averages of rainfall obtained from the nearest recording station to the site adjusted for conditions at the site;
2. The 24-hour storm events with an interval of recurrence of 10 years, 25 years, and 100 years;
3. The diurnal temperature variation from the nearest recording station to the site adjusted for conditions at the site; and
4. Results from testing samples from the facility's mine site which are representative of the overburden, waste rock and ore at the proposed mine site that have:
  - (a) Characterized the samples by a multi-element spectrographic assay or an equivalent analytical procedure; and
  - (b) Evaluated the samples for their potential to release pollutants.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24292)

**NAC 445A.397 Contents of application: Engineering design report; specifications for fluid management system.** ([NRS 445A.425](#), [445A.465](#))

1. An engineering design report must be prepared and submitted to the Department by a professional engineer registered in Nevada. The report must include the following information, if applicable:
  - (a) Engineering plans for the process components used for beneficiation;
  - (b) The general specifications and calculations for the process components;
  - (c) Topographic maps showing the location of all potential sources at the facility including, but not limited to:
    - (1) The extraction sites;
    - (2) The process components used for beneficiation;
    - (3) The disposal sites for waste rock; and
    - (4) The disposal sites for spent ore;
  - (d) Drawings which indicate the layout of the structures and devices for controlling process fluids;
  - (e) Methods for the control of storm flow runoff;

(f) The existing geological and hydrogeological conditions beneath and adjacent to the site of the fluid management system and waste rock disposal sites and the degree to which these conditions provide natural containment, preferential flow pathways and structural stability;

(g) A description of the liner material and installation procedures for all leach pads, ponds and ditches, including a description of the subbase preparation;

(h) Details of leak detection and site-monitoring systems; and

(i) Process schematics of the facility.

2. Specifications for constructing the fluid management system and for the material to be used must be submitted to the Department with the application for a permit, and must include, but not be limited to, the methods to be utilized for inspecting, testing, and quality assurance and control.

3. The information required by subsections 1 and 2 must be of sufficient detail to allow the Department to make the following factual determinations:

(a) Which of the potential sources at the facility are to be considered process components for the purposes of [NAC 445A.350](#) to [445A.447](#), inclusive;

(b) That the design of the process components is sufficient to protect the waters of the State from degradation; and

(c) That the monitoring system is adequate to determine if the process components are operating so as to protect the waters of the State from degradation.

↪ Any material modification to a process component requires the approval of the Department before construction begins.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24294)

**NAC 445A.398 Contents of application: Proposed operating plans.** ([NRS 445A.425](#), [445A.465](#)) The proposed operating plans for a facility must include:

1. A description of the mineral processing circuit which includes a flow chart of the facility and the range of operating conditions for which the process components were designed.

2. A plan for the management of process fluids which describes the methods to be used for the monitoring and controlling of all process fluids. The plan must provide a description of the means to evaluate the conditions in the fluid management system so as to be able to quantify the available storage capacity for meteoric waters and to define when and to what extent the designed containment capacity has been exceeded.

3. A plan for monitoring the facility which describes:

(a) The water quality in the area;

(b) The monitoring locations the applicant proposes to sample routinely in order to evaluate surface and groundwater at the site that may be affected by the operation of the facility;

(c) An analytical profile of each surface and groundwater that may be affected by the operation of the facility; and

(d) The locations of the leak detection systems, the frequency for sampling these systems and the analytical profile to be used for evaluation of the samples.

4. A plan for responding to emergencies which:

(a) Describes what actions must be initiated and by whom as a result of various possible failures in the fluid management system which would result in releases of pollutants; and

(b) Is designed to minimize the environmental impact resulting from the release of process fluids.

5. A temporary closure plan resulting from conditions described in subsection 1 of [NAC 445A.444](#) which describes the activities which must be maintained during the time of closure.

6. A tentative plan for the permanent closure of the facility which describes the procedures, methods and schedule for stabilizing spent process materials. The plan must include:

(a) Procedures for characterizing spent process materials as they are generated; and

(b) The procedures to stabilize all process components with an emphasis on stabilizing spent process materials and the estimated cost for the procedures.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24296)

**NAC 445A.399 Preparation of plan for seasonal closure of process components.** ([NRS 445A.425](#), [445A.465](#)) If the facility is located in an area where the mean diurnal temperature does not exceed 0 degrees Centigrade for 30 days or more a plan for the seasonal closure of the process components must be prepared. The plan must describe:

1. The impact this change in the weather will have on the process components, including, but not limited to, a discussion of the possible closure of individual process components;

2. Those activities which must be undertaken to prepare those process components which may be potentially affected by the low temperatures;

3. The activities which will be maintained during this time of closure; and

4. The conditions that would allow operations to resume.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24298)

**NAC 445A.400 Initial review of application and notification of applicant; failure to provide information; submission of incorrect information.** ([NRS 445A.425](#), [445A.465](#))

1. The Department shall, within 30 days after receiving an application for a permit, notify the applicant in writing:

- (a) That the application is procedurally complete or specify any deficiencies; and
- (b) Which nonfluid management system sources will not initially be considered as process components for the purposes of [NAC 445A.350](#) to [445A.447](#), inclusive.

↳ This review is solely to determine if all the information required by [NAC 445A.394](#) to [445A.398](#), inclusive, has been submitted and is not a determination as to the adequacy of the information.

2. Failure to provide all information required for a determination of completeness within 1 year after the application date renders an application void and requires the submittal of a new application and fee. A new application and fee will not be required if the Department fails to act in a timely manner or if the applicant can demonstrate that circumstances beyond the applicant's control prevented him or her from developing the additional information.

3. If an applicant becomes aware that he or she failed to submit any relevant information or submitted incorrect information in an application, the applicant must promptly submit such information to the Department.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.243)

**NAC 445A.401 Action by Department upon application. ([NRS 445A.425](#), [445A.465](#))**

1. After determining that an application is procedurally complete, the Department shall, within 90 days, determine whether the application is technically complete, and prepare and issue:

- (a) A draft permit or a notice of intent to deny the application;
- (b) A fact sheet which:
  - (1) Identifies the location of the facility;
  - (2) Describes the proposed sources;
  - (3) Provides a description of the facility and monitoring systems;
  - (4) Identifies the probable receiving water; and
  - (5) Describes the procedures for public comment; and
- (c) A public notice for each draft permit or intent to deny an application for a permit to construct, operate and close a mining and beneficiation facility.

2. The 90-day time for action by the Department may be extended by the amount of time necessary for the applicant to submit additional information necessary to make the application technically complete.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24302)

**NAC 445A.402 Notice of intent to issue permit or deny application. ([NRS 445A.425](#), [445A.465](#), [445A.590](#))**

1. The Department shall, at least 30 days before the issuance of a permit or denial of an application:

(a) Circulate a public notice in a manner intended to inform interested and potentially interested persons.

(b) Cause to be published in a newspaper of general circulation within the geographic area of a proposed facility, a notice of the intent to issue the permit or deny the application.

(c) Mail to the applicant and the landowner, if other than the applicant, members of the board of county commissioners of the county in which the facility is to be located, the Division of Minerals, the Division of Water Resources of the Department, and any other person or group who so requests, written notice of the intent to issue a permit or deny the application.

2. Notice given pursuant to subsection 1 must include:

(a) The name, address and telephone number of the Department;

(b) The name and address of the applicant;

(c) The location of the proposed facility;

(d) The tentative decision of the Department to issue a permit or deny the application;

(e) A description of the procedure for:

(1) Making a final decision, which must include 30 days for interested persons to submit to the Department written comments on the tentative decision to issue a permit or deny the application; and

(2) Requesting a public hearing, if one has not been scheduled; and

(f) The specific location where interested persons may obtain further information or inspect and copy the draft permit, statement and fact sheet, and other relevant forms or documents.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24304)

**NAC 445A.403 Request for hearing on application; submission of comments on draft permit.** ([NRS 445A.425](#), [445A.465](#), [445A.595](#)) The applicant or any interested person may:

1. Request a public hearing on any application for a permit during the 30 days allowed for public comment if a hearing has not been scheduled. The request must be in writing and state the nature of the issues to be raised at the hearing.

2. Submit written comments on the draft permit to the Department within 30 days after notice is given pursuant to [NAC 445A.402](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24306)

**NAC 445A.404 Scheduling of public hearing on application.** ([NRS 445A.425](#), [445A.465](#), [445A.595](#)) The Department:

1. Shall schedule a public hearing on an application for a permit if it determines that there is a significant degree of public interest in the matter; or

2. May schedule a public hearing on its own initiative.  
(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24308)

**NAC 445A.405 Notice of hearing: Publication; contents.** ([NRS 445A.425](#), [445A.465](#), [445A.595](#)) The Department shall cause to be published a notice for a hearing at least 30 days before the hearing in the manner prescribed by [NAC 445A.402](#). In addition to the information required by [NAC 445A.402](#), the notice must include:

1. The date on which the previous public notice was given concerning the permit pursuant to [NAC 445A.402](#);
2. The date, time and place of the hearing; and
3. A brief description of the nature and purpose of the hearing and the applicable rules and procedures.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2431)

**NAC 445A.406 Submission of testimony at hearing.** ([NRS 445A.425](#), [445A.465](#), [445A.595](#))

1. Any person may submit to the Department at a public hearing held by the Department on the application for a permit, an oral or written statement or other information which relates to the draft of the permit.
2. The Department may:
  - (a) Set reasonable limits upon the time allowed for oral statements; and
  - (b) Require persons submitting oral statements to submit statements in writing.
3. The 30-day period for comment is automatically extended to the close of the hearing on that matter.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24312)

**NAC 445A.407 Issuance of statement responding to comments on draft permit.** ([NRS 445A.425](#), [445A.465](#)) If a final permit is issued, the Department shall issue a statement responding to the comments received on the matter. A copy of the statement must be sent to the applicant and persons submitting comments, and will be made available for inspection by the public. This statement must:

1. Specify which provisions, if any, in the draft of the permit that have been changed in the final permit, and the reasons for the change;
2. Briefly describe and respond to all significant comments submitted during the time established for public comment on the draft of the permit; and
3. Provide that any person aggrieved by the Department's decision may appeal the decision pursuant to [NRS 445A.605](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24314)

**NAC 445A.408 Action by Director of Department after period for public comment.** ([NRS 445A.425](#), [445A.465](#)) Within 15 days after the end of the time for public comment regarding the issuance or renewal of a permit, the Director of the Department shall issue the final permit or provide written notice to the applicant why the final permit will not be issued at that time. This notice must set forth the time allowed for an aggrieved party to appeal the Department's decision.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24316)

**NAC 445A.409 Issuance and maintenance of permit; maximum term and renewal of permit.** ([NRS 445A.425](#), [445A.465](#), [445A.495](#))

1. If an application is approved, a single permit must be issued for the construction, operation and closure of the facility. A valid permit must be maintained until permanent closure is complete.

2. A permit may be issued for a maximum term of 5 years, at which time the holder of the permit may apply for renewal.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24318)

**NAC 445A.410 Permit for small-scale facility: Contents of application; limitation on holding; applicability of minimum design criteria.** ([NRS 445A.425](#), [445A.465](#))

1. An application for a permit to construct, operate and close permanently a small-scale facility must contain:

(a) The information required by paragraphs (a) to (e), inclusive, of subsection 2 of [NAC 445A.394](#);

(b) Site information consisting of:

(1) The distance from the surface to groundwater;

(2) A topographic map which identifies all surface waters, waterways and springs within 1/2 mile of the site; and

(3) A description of the general character of the soil and geologic formations which lie beneath and adjacent to the proposed processing site;

(c) A description of and the criteria for the design of the containment system for the individual process components, including plans, schematics and cross-section diagrams of the process components which identify those components which provide for the containment of process fluids; and

(d) A copy of the draft operating plan for the facility which describes:

(1) The chemicals to be used in the beneficiation process;

(2) The methods which are proposed for controlling process fluids so that no discharges occur;

(3) The systems which are proposed for detecting leaks and monitoring the facility;

(4) The actions that will be taken if process fluids escape the fluid management system;

(5) The methods which are proposed to stabilize processed materials before they are disposed of or during the permanent closure of the facility; and

(6) The procedures which are to be instituted to ensure that the facility poses no threat to the environment when there is no activity at the facility or when there is a temporary closure.

2. A person may not concurrently hold more than one permit for a small-scale facility if the facilities are within 1 mile of each other.

3. The minimum design criteria in [NAC 445A.433](#) to [445A.438](#), inclusive, apply to small-scale facilities.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2432)

**NAC 445A.411 Pilot facility or testing facility: Conditions for issuance of permit.** ([NRS 445A.425](#), [445A.465](#)) The Department may issue a permit to construct, operate and close permanently a pilot facility or testing facility if:

1. The facility is to evaluate less than 10,000 tons of ore, except that a greater amount may be permitted if the applicant demonstrates that the greater amount is necessary for a specific purpose in the testing program; and

2. The applicant has clearly shown that the facility will not degrade the waters of the State.

↪ A permit to operate a pilot facility or testing facility may not exceed 1 year for a single test or 2 years for a facility that has several tests to conduct.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24322)

**NAC 445A.412 Pilot facility or testing facility: Contents of application for permit.** ([NRS 445A.425](#), [445A.465](#)) An application for a permit to construct, operate and close permanently a pilot facility or testing facility must include:

1. The information required in paragraphs (a) to (d), inclusive, of subsection 2 of [NAC 445A.394](#);

2. The quantity of the material to be evaluated;

3. The time required to complete all testing;

4. The type and quantity of chemicals to be utilized in the testing process;

5. A copy of the plans for the system and individual process components;

6. A description of the monitoring systems which are to be used to satisfy the requirements of [NAC 445A.424](#);

7. A description of the procedures to be used to stabilize and dispose of the spent ore;
8. A topographic map of the area for the test site;
9. A description of hydrogeologic conditions at the site; and
10. A draft plan for the permanent closure of the facility, including a plan to stabilize areas disturbed by the operations of the facility.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24324)

**NAC 445A.413 Pilot facility or testing facility: Construction of application indicating need to conduct testing beyond 2 years.** ([NRS 445A.425](#), [445A.465](#)) An application for a permit to operate a pilot facility or testing facility which indicates a need to conduct testing beyond 2 years will be construed to be a request to operate a facility subject to the filing requirements of [NAC 445A.394](#) to [445A.398](#), inclusive.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24326)

**NAC 445A.414 Permit for facility using physical separation methods.** ([NRS 445A.425](#), [445A.465](#))

1. An applicant for a permit to construct, operate and close permanently a facility which utilizes physical separation methods of concentrating ore such as placer mining and flotation methods and which uses only coagulants, flocculants and reagents submitted to and approved by the Department, must submit to the Department:

(a) The information required by paragraphs (a) to (e), inclusive, of subsection 2 of [NAC 445A.394](#);

(b) An abbreviated area of review which covers only the site and the adjacent area, including an identification of all surface water within 1/2 mile of the site and the depth and quality of all groundwater beneath the site;

(c) A draft operating plan which describes the circuit for concentrating the ores and identifies all process components;

(d) A multi-element spectrographic assay or other approved method of analysis which characterizes the ore body;

(e) The results of an analysis of the process make up water and process water for the inorganic constituents listed in [NAC 445A.453](#) and [445A.455](#) to determine which and to what extent the process water burden of these elements is increased; and

(f) A certification that the applicant will not utilize any chemicals in the process except those submitted to and approved by the Department.

2. The use of a chemical not approved by the Department removes the facility from this category of operation and requires the holder of the permit to meet the requirements established in [NAC 445A.394](#) to [445A.398](#), inclusive.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24328)

**NAC 445A.415 Granting of permit which allows lower level of engineered containment than required by minimum design criteria. (NRS 445A.425, 445A.465)** After receiving a petition from an applicant, the Department may grant a permit which allows a lower level of engineered containment than is required in [NAC 445A.434](#) to [445A.438](#), inclusive, if the applicant clearly demonstrates:

1. That the groundwater at the facility is exempted from the standards established in paragraphs (b) and (c) of subsection 1 of [NAC 445A.424](#);

2. The following:

(a) The depth from the surface to groundwater is greater than 200 feet and the upper portion of the existing geologic formation has a coefficient of permeability which is not more than that exhibited by 50 feet of material with a coefficient of permeability of  $1 \times 10^{-6}$  cm/sec;

(b) No open fractured or faulted geologic conditions exist from the surface to the groundwater; and

(c) All exploratory and condemnation borings beneath the site have been adequately sealed; or

3. That the conditions which exist at the site may allow a lower level of designed containment and still ensure that the waters of the State will not be degraded by providing, in addition to the information required by [NAC 445A.394](#) to [445A.398](#), inclusive:

(a) An assessment of the combined effect of all relevant characteristics, including:

(1) The depth to all groundwater and the distance to all surface water;

(2) The hydrogeology and stratigraphy of the site; and

(3) The quality, characteristics, and existing and potential beneficial uses of any ground and surface water which may be potentially affected by the proposed facility.

(b) An engineering assessment of the combined effect of such relevant factors as:

(1) The proposed design of each process component, including the type and thickness of the liner or base;

(2) Other construction specifications;

(3) The type of materials to be used and the methods for placement of those materials;

(4) All structures, devices and techniques for controlling drainage and minimizing solution loss;

(5) The method to be used for controlling the internal hydraulic head;

(6) The system to detect and monitor leaks; and

(7) The types of quality assurance and quality control procedures to be used.

(c) An assessment of the potential for the facility to degrade the waters of the State, including an analysis of the potential for process fluids from each component to reach waters of the State, and the potential impact of such fluids on these waters.

↪ The Department may require the applicant to bear the cost of a third-party review of the application to determine whether it meets the requirements of this subsection. The Department shall develop and maintain a list of qualified reviewers from which the applicant can select. The Department must concur with the selection and all direction to the third party must be given by the Department. The time allotted to the Department to determine the completeness of an application pursuant to [NAC 445A.401](#) may be extended by the amount of time necessary to complete the third-party review.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2433)

**NAC 445A.4155 Conditions pursuant to which modification to design of facility with existing permit does not require new public notice; extension of term of existing permit disallowed. ([NRS 445A.425](#), [445A.465](#))**

1. A modification to the design of a facility for which a permit has been granted by the Department does not require a new public notice if:

(a) The modification requires review by the Department pursuant to [NAC 445A.350](#) to [445A.447](#), inclusive; and

(b) The Commission determines that the modification is not a modification of such significance as to constitute a “minor modification” or a “major modification,” as those terms are described in [NAC 445A.416](#) and [445A.417](#), respectively.

2. Such a modification may not extend the term of the permit.

(Added to NAC by Environmental Comm'n, eff. 10-29-97)

**NAC 445A.416 Minor modification of existing permit; modification of operating plans. ([NRS 445A.425](#), [445A.465](#), [445A.600](#))**

1. A minor modification to an existing permit does not require a new public notice.

2. A minor modification to an existing permit may not extend the term of the permit.

3. A modification to the operating plans does not require a modification to the permit if the change will not result in an increased potential for the facility to degrade waters of the State.

4. For the purposes of this section, “minor modifications” include, but are not limited to:

(a) The phased expansion of the milling and tailings impoundment or the leach pads using the same or equivalent technologies that presently exist at a site which was adequately characterized in the original application but for which detailed design plans were not submitted in the original application.

(b) A significant modification to a monitoring system which does not result in a lessening of the effectiveness of that system.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24332)

**NAC 445A.417 Major modification of existing permit. (NRS 445A.425, 445A.465, 445A.600)**

1. A major modification to an existing permit requires a public notice.
2. A major modification to an existing permit may extend the term of the permit for not more than 5 years.
3. For the purposes of this section, “major modifications” include:
  - (a) The addition of a new beneficiation process which includes, but is not limited to, heap leaching and process components for milling, which was not identified in the original application.
  - (b) A significant change in the location of a proposed process component or site condition which was not adequately described in the original application.
  - (c) A change in the proposed beneficiation process that significantly alters the characteristics of the waste stream which significantly increases the potential to degrade the waters of the State.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24334)

**NAC 445A.418 Fee for modification of permit. (NRS 445A.425, 445A.430, 445A.465)**

1. The fee for a minor modification to a permit is one-half the amount of the renewal fee for a permit, up to a maximum fee of \$5,000.
  2. The fee for a major modification to a permit is equal to the amount of the renewal fee for a permit.
  3. The fee for the type of a modification described in [NAC 445A.4155](#) is \$500.
- (Added to NAC by Environmental Comm’n, eff. 9-1-89; A 10-29-97)

**NAC 445A.419 Transfer of permit to new owner or operator. (NRS 445A.425, 445A.465)**

1. A permit may be transferred to a new owner or operator.
2. Before the ownership or operation of a facility may be transferred during the term of a permit, the holder of the permit must inform the new owner or operator in writing of the requirements of the current permit and the requirements of [NAC 445A.350](#) to [445A.447](#), inclusive.
3. A copy of that written notice must be sent to the Department.
4. The new owner or operator must state in writing to the Department that he or she will comply with the existing operating plans or provide revised plans to the Department for review and approval.
5. Until notice is given by the Department that the permit has been transferred, the current operator or owner named on the permit is responsible for complying with [NAC 445A.350](#) to [445A.447](#), inclusive.

(Added to NAC by Environmental Comm’n, eff. 9-1-89) — (Substituted in revision for NAC 445.24338)

**NAC 445A.420 Renewal of permit; operation of facility pending issuance of new permit. ([NRS 445A.425](#), [445A.465](#), [445A.495](#))**

1. A permit may be renewed by the Department if the holder of the permit submits an application to renew the permit. The application must:

- (a) Be filed at least 120 days before the expiration of the existing permit;
- (b) Include the renewal fee required by [NAC 445A.232](#); and
- (c) Include any new information to update information previously submitted to the Department.

2. A permit for a facility which is inactive because of an unplanned closure may be renewed once if the holder of the permit demonstrates that the conditions under which the permit was issued will continue and the design life of the process components will not be exceeded.

3. If the Department has not issued a new permit as of the expiration of the existing permit, the holder of the permit may continue to operate the facility pursuant to the terms and conditions of the existing permit until a new permit is issued by the Department.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2434)

**Operation and Design of Facilities**

**NAC 445A.424 Limitations on degradation of water; exemptions. ([NRS 445A.425](#), [445A.465](#))**

1. A facility, regardless of size or type, may not degrade the waters of the State to the extent that:

- (a) The quality of surface water is lowered below that allowed by [NRS 445A.565](#).
- (b) For groundwater:
  - (1) The quality is lowered below a state or federal regulation prescribing standards for drinking water; or
  - (2) The concentration of WAD cyanide exceeds 0.2 mg/L.

↪ The Department may establish a numerical limit for any constituent not regulated by subparagraphs (1) and (2) which may reasonably be expected to be discharged by the facility in sufficient volume and concentration to cause an adverse impact on human health.

(c) The quality of those waters of the State which already exceed the criteria established by subsection 2 is lowered to a level that the Department finds would render those waters unsuitable for the existing or potential municipal, industrial, domestic or agricultural use.

2. The Department may exempt a body of groundwater or portion thereof from the standards established in subsection 1 if the request for an exemption to the groundwater standards and the supporting information is submitted as part of the application for the permit. The following criteria will be considered by the Department in determining

whether to exempt a potentially impacted body of groundwater from the standards in subsection 1:

(a) The impacted groundwater does not currently serve as a source of drinking water and because of the following reasons the groundwater will not serve as a source of drinking water:

(1) The groundwater produces a mineral, hydrocarbon or geothermal fluid which the applicant can demonstrate to the satisfaction of the Department exists at a concentration that is expected to be capable of commercial production and that releases by the facility will not affect this production;

(2) The groundwater is situated at a depth or location which makes recovery of water for drinking economically or technologically impractical; or

(3) It would be economically or technologically impractical to render the water fit for human consumption; or

(b) The total dissolved solids in the groundwater is more than 10,000 milligrams per liter and the groundwater is not reasonably expected to become a supply of drinking water.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24342)

**NAC 445A.425 Process components in existence on September 1, 1989: Standards; additional monitoring. ([NRS 445A.425](#), [445A.465](#))**

1. A process component in existence on September 1, 1989, is not required to meet more stringent engineering containment standards during the design life of that component if the applicant can demonstrate that:

(a) The process component meets and will continue to meet its design criteria; and

(b) There have been no significant changes in the characteristics of the material to be contained by the process component which would increase the potential to degrade the waters of the State.

2. Upon issuing a permit for a process component in existence on September 1, 1989, the Department may require additional monitoring of the site to verify that the conditions of this section are being met. A process component found to have had releases of process fluid as a result of this monitoring must comply with the requirements of [NAC 445A.441](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24344)

**NAC 445A.426 Notice of intent to commence active operation of process component. ([NRS 445A.425](#), [445A.465](#))** At least 30 days before the introduction of process solutions into a new process component or an existing process component which has been materially modified, the holder of the permit must notify the Department of the intent to commence active operation of that process component.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24346)

**NAC 445A.427 Duties of holder of permit upon construction or modification of process component.** ([NRS 445A.425](#), [445A.465](#)) Within 30 days after completing construction on a new process component or materially modifying an existing process component, the holder of the permit shall submit to the Department:

1. As-built drawings of the process component;
2. A summary of the quality control procedures which were carried out during construction; and
3. The final operating plans required by [NAC 445A.398](#) which have been revised to reflect modifications made during construction.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24348)

**NAC 445A.428 Level of containment required for placer mining or flotation facilities.** ([NRS 445A.425](#), [445A.465](#)) For placer mining or flotation facilities, the level of containment required by the Department for process fluids will depend upon the characteristics of the ore and process water.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2435)

**NAC 445A.429 Procedures required to prevent release of contaminants; requirements concerning impoundments.** ([NRS 445A.425](#), [445A.465](#))

1. The holder of the permit must institute appropriate procedures to ensure that all mined areas do not release contaminants that have the potential to degrade the waters of the State.

2. Open pit mines must, to the extent practicable, be free-draining or left in a manner which minimizes the impoundment of surface drainage and the potential for contaminants to be transported and degrade the waters of the State.

3. Bodies of water which are a result of mine pits penetrating the water table must not create an impoundment which:

(a) Has the potential to degrade the groundwaters of the State; or

(b) Has the potential to affect adversely the health of human, terrestrial or avian life.

4. The holder of a permit may apply to the Commission to establish a beneficial use with a level of protection less than that required by paragraph (b) of subsection 3 for water impounded in a specific mine pit.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24352)

**NAC 445A.430 Stabilization of spent ore.** ([NRS 445A.425](#), [445A.465](#))

1. Spent ore which has been left on pads or which will be removed from a pad must first demonstrate stability of the discharge effluent from the pads or from the spent ore such that:

(a) WAD cyanide levels in the effluent are less than 0.2 mg/L;

(b) The pH level of the effluent is between 6.0 and 9.0; and

(c) Contaminants in any effluent from the processed ore which would result from meteoric waters would not degrade waters of the State.

2. If the requirements established in subsection 1 cannot be achieved, the Department will grant a variance to those conditions if the holder of the permit can demonstrate that:

(a) The remaining solid material, when representatively sampled, does not contain levels of contaminants that are likely to become mobile and degrade the waters of the State under the conditions that will exist at the site; or

(b) The spent ore is stabilized in such a fashion as to inhibit meteoric waters from migrating through the material and transporting contaminants that have the potential to degrade the waters of the State.

3. The Department may approve an alternate method for stabilizing ore that has been leached if the holder of the permit can clearly demonstrate that the condition in which the materials will be left will not create a potential for the waters of the State to be degraded.

(Added to NAC by Environmental Comm'n, eff. 9-1-89; A by R141-06, 10-31-2007)

**NAC 445A.431 Stabilization of tailings.** ([NRS 445A.425, 445A.465](#)) Upon termination of the active use of a tailings impoundment, representative samples of the material deposited in the impoundment must be collected and characterized. The tailings must be stabilized during the final closure of a facility so as to inhibit the migration of any contaminant that has the potential to degrade the waters of the State.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24356)

**NAC 445A.432 Minimum design criteria: Generally.** ([NRS 445A.425, 445A.465](#)) [NAC 445A.433](#) to [445A.438](#), inclusive, define the minimum design criteria required of each process component and the site and operating conditions which are considered to exist when these criteria are applied. These provisions establish minimum contaminant control technologies and define the site and operating conditions which must be evaluated. Based on site characterization, best engineering judgment will be applied to determine the degree to which designs must provide more or less protection through engineered containment.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24358)

**NAC 445A.433 Minimum design criteria: Universal requirements; areas where groundwater is near surface; proximity of new process components to dwellings; liability for degradation of water. (NRS 445A.425, 445A.465)**

1. The following minimum design requirements apply to all process components:

(a) In areas where annual evaporation exceeds annual precipitation, a process component must achieve zero discharge.

(b) All sources must be designed to minimize releases of contaminants into groundwaters or subsurface migration pathways so that any release from the facility will not degrade waters of the State.

(c) All process components must be designed to withstand the runoff from a 24-hour storm event with a 100-year recurrence interval.

(d) The primary fluid management system must be designed to be able to remain fully functional and fully contain all process fluids including all accumulations resulting from a 24-hour storm event with a 25-year recurrence interval. The Department may require additional containment based on the following factors:

(1) Proximity to surface water bodies;

(2) Depth to groundwater; and

(3) Proximity to population.

↪ Contingency plans for managing process contaminated flows in excess of the design quantity must be described in the appropriate operating plans.

(e) The fluid management system must be designed to be functional for 5 years after the projected operating life of the process component and permanent closure period.

(f) The design of the process components must take into consideration the proposed range of operating conditions for each component and the history of seismic events at the site in order to preclude any differential movement or shifting of the subbase, liner or contained material which endangers primary or secondary containment integrity.

2. Additional containment of process fluids may be required in areas where groundwater is considered to be near the surface. Groundwater is considered to be near the surface if:

(a) The depth from the surface to groundwater is less than 100 feet and the top 100 feet of the existing formation has a coefficient of permeability greater than that exhibited by 100 feet of  $1 \times 10^{-5}$  cm/sec material;

(b) Open fractured or faulted geologic conditions exist in the bedrock from the surface to the groundwater; or

(c) There is an inability to document that all exploratory and condemnation borings beneath the site have been adequately sealed.

3. No new process component containing process fluids may be located within 1,000 feet of any dwelling which is occupied at least part of the year and which is not a part of the facility. This restriction does not apply to modifications at a facility which predate such a dwelling.

4. The application of minimum design criteria does not release the holder of a permit from liability for degradation to waters of the State caused by the facility.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2436)

**NAC 445A.434 Minimum design criteria: Leach pads and other nonimpounding surfaces designed to contain and promote horizontal flow of process fluids. (NRS 445A.425, 445A.465)** Leach pads and other nonimpounding surfaces which are designed to contain, not impound, process fluids and to promote the horizontal flow of process fluids must meet the following requirements:

1. Process fluids must exert only minimal hydraulic head on the liner.
2. Containment of process fluids must consist of an engineered liner system which provides containment equal to or greater than that provided by a synthetic liner placed on top of a prepared subbase of 12 inches of native, imported or amended soil, which has a maximum recomacted in place coefficient of permeability:
  - (a) Of  $1 \times 10^{-6}$  cm/sec; or
  - (b) Of  $1 \times 10^{-5}$  cm/sec when combined with a system for the detection of leaks which must be located at least beneath those portions of the liner which have the greater potential for leakage. The potential for leakage must be determined by:
    - (1) The extent of the hydraulic head exerted on a portion of the liner; and
    - (2) The period of time a portion of the liner is exposed to process fluids.
3. If leach pads or other nonimpounding surfaces are located above areas where groundwater is considered near the surface, the Department may require a liner system with a higher level of engineered containment.
4. When a material or system which provides hydraulic relief is installed beneath a single liner, including, but not limited to, sand, french drains and geotextiles, regardless of the intent of its design, it must function as a leak detection system and include a means for recovering process fluids.
5. Depending on the methods and materials used for their construction, the Department may require all open channels which routinely transport process fluids to be traced by a leak detection system.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24362)

**NAC 445A.435 Minimum design criteria: Ponds. (NRS 445A.425, 445A.465)**

1. All ponds which are intended to contain process fluids must have a primary synthetic liner and a secondary liner. Between the liners there must be a material which has the ability to rapidly transport any fluids entering it to a collection point which:
  - (a) Is accessible; and
  - (b) Has a system for recovering those fluids.

2. When the material between the liners is unable to collect, transport and remove all liquids at a rate that will prevent hydraulic head transference from the primary liner to the secondary liner, the pond must be shut down.

3. Ponds which are primarily designed to contain excess quantities of process fluids that result from storm events for limited periods may be constructed with a single liner if approved by the Department.

4. Ponds containing nonprocess fluids may be required to be lined depending on their potential to degrade waters of the State.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24364)

**NAC 445A.436 Minimum design criteria: Vats, tanks and other containers which confine process fluids.** ([NRS 445A.425](#), [445A.465](#)) Vats, tanks and other containers which confine process fluids and can be inspected for leaks visually do not require double liners if an area for secondary containment equal to 110 percent of the largest container is provided. Vats, tanks or other containers that are partially buried and cannot be visually inspected must have a system to detect leaks.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24366)

**NAC 445A.437 Minimum design criteria: Tailings impoundments.** ([NRS 445A.425](#), [445A.465](#))

1. A tailings impoundment must utilize a system of containment equivalent to:

- (a) Twelve inches of recompact native, imported, or amended soils which have an in place recompact coefficient of permeability of no more than  $1 \times 10^{-6}$  cm/sec; or
- (b) Competent bedrock or other geologic formations underlying the site which has been demonstrated to provide a degree of containment equivalent to paragraph (a).

2. An alternate level of containment may be required by the Department for all of the tailings impoundment or for a portion thereof after considering the following factors:

- (a) The anticipated characteristics of the material to be deposited;
- (b) The characteristics of the soil and geology of the site;
- (c) The degree to which the hydraulic head on the impoundment liner is minimized;
- (d) The extent and methods used for recycling or detoxifying fluids;
- (e) Pond area and volume;
- (f) The depth from the surface to all groundwater; and
- (g) The methods employed in depositing the impounded material.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24368)

**NAC 445A.438 Minimum design criteria: Liners.** ([NRS 445A.425](#), [445A.465](#))

1. When placed on native materials, soil liners must have a minimum thickness of 12 inches and be compacted in lifts which are no more than 6 inches thick. Except when used in tailing impoundments, a soil liner must have a permeability of not more than that exhibited by 12 inches of  $1 \times 10^{-7}$  cm/sec material.

2. Synthetic liners must be rated as having a resistance to the passage of process fluids equal to a coefficient of permeability of  $1 \times 10^{-11}$  cm/sec.

3. The Department shall review for completeness the applicant's evaluation of the following design parameters, where applicable, for a liner:

- (a) The type of foundation, slope and stability;
- (b) The over liner protection and provisions for hydraulic relief;
- (c) The load and means of applying load;
- (d) The compatibility of a liner with process solutions;
- (e) The complexity of the leak detection and recovery systems;
- (f) The depth from the surface to all groundwater; and
- (g) The liner's ability to remain functionally competent until permanent closure has been completed.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2437)

**NAC 445A.439 Program required to control quality of construction of liner systems.** ([NRS 445A.425](#), [445A.465](#)) A quality assurance and quality control program must be developed and carried out for the construction of all liner systems. A summary of the quality control data must be submitted to the Department with the as-built drawings.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24372)

**NAC 445A.440 Monitoring: Site of facility.** ([NRS 445A.425](#), [445A.465](#))

1. The program to monitor the site of a facility must be designed to monitor the quality of all ground and surface water which may be affected by the facility. The type, number and location of the monitoring points must be described in the application as part of the monitoring plan and must be approved by the Department.

2. Final monitoring requirements must be established by the Department.

3. Baseline data must be collected before operation of the facility.

4. In areas where there is a substantial separation between the process components and the groundwater, a system for monitoring highly probable escape pathways in the unsaturated zone may be required by the Department.

5. The decision where to locate the monitoring points for the site must be made after considering the site's geology and hydrogeology.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24374)

**NAC 445A.441 Monitoring: Procedure upon variation in parameter or element being monitored.** ([NRS 445A.425](#), [445A.465](#)) If the Department determines that there has been a variation in a parameter or element being monitored by the site-monitoring system as required in [NAC 445A.440](#) which is caused by the facility and has the potential to degrade the waters of the State:

1. The holder of the permit shall conduct and submit an evaluation to the Department which:

- (a) Identifies the source and escape pathways of the elements of concern;
- (b) Determines the type, extent and ability of a system needed to contain or confine any migrating contaminant; and
- (c) Identifies methods which can be carried out to remediate the contamination during the continued operation of the facility or at permanent closure.

2. The Department shall, based on the information provided pursuant to subsection 1:

- (a) Require the immediate shut down of the process component and the immediate initiation of cleanup activities;
- (b) Allow continued operation of the process component which is the source of the elements of concern with concurrent cleanup activities;
- (c) Allow continued operation of the process component which is the source of the elements of concern while requiring the facility to continue to control the migration of the contaminant while cleanup activities are postponed; or
- (d) Determine that no remedial action is warranted at the present time.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24376)

**NAC 445A.442 Monitoring: Process components.** ([NRS 445A.425](#), [445A.465](#))

1. The Department shall determine the extent and complexity to which the holder of a permit must monitor individual process components for the release of contaminants after reviewing site and process controlled design conditions. Systems designed to detect and control leaks from process components must be located at the interface of the unit process components and the adjacent environment and be able to provide the first indication that pollutants or contaminants have escaped their primary containment.

2. The program to monitor the process components must include:

- (a) A schedule of activities;
- (b) A roster of current job titles for persons responsible for and involved in the monitoring program; and
- (c) The form and frequency of reports to be submitted to the Department.

↪ The Department may randomly collect information or samples for reference. The cost of analyzing samples may be placed upon the holder of the permit.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24378)

**NAC 445A.443 Monitoring: Beneficiation process.** ([NRS 445A.425](#), [445A.465](#)) Monitoring of the beneficiation process must include the routine characterization of those process materials which will be disposed. The data obtained must be used by the holder of the permit to evaluate periodically and, when necessary, to refine the plan for the permanent closure of the facility.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.2438)

**NAC 445A.444 Examples of planned and unplanned temporary closures.** ([NRS 445A.425](#), [445A.465](#))

1. The following are examples of planned temporary closures which have specific conditions defining their beginning and end:

(a) Seasonal closures because of normal weather cycles.

(b) Interruptions in the active beneficiation processes to provide planned periods of quiescence for metallurgical or operating reasons.

(c) Any other planned process condition which will interrupt the active beneficiation process.

2. The following are examples of unplanned temporary closures:

(a) A closure because of unforeseen weather events.

(b) A failure in a major system component or a process failure which causes the fluid management system or a portion thereof to shut down.

(c) The discontinuation of a facility's operations because of litigation.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24382)

**NAC 445A.445 Procedure upon unplanned temporary closure of process component.** ([NRS 445A.425](#), [445A.465](#))

1. In the event of an unplanned temporary closure of one or more process components, the holder of the permit shall:

(a) Within 30 days after an unplanned temporary closure begins, inform the Department of the closure and describe the procedures and controls which have been carried out to maintain the process components during this period.

(b) Within 90 days after the Department has been notified of the unplanned temporary closure:

(1) Begin to evaluate the procedures which will be required to carry out a permanent closure of the process components affected and petition the Department to approve one or more procedures needed for the permanent closure of the process components affected; or

(2) For just cause, request that the Department grant an extension and delay permanent closure. Except as otherwise provided in subsection 2 of [NAC 445A.420](#), the extension may not be longer than the remaining term of the existing permit or for 3 years, whichever is greater.

2. The Department shall approve or disapprove the proposed procedures for permanent closure within 30 days after they are submitted to the Department.

3. Unless the Department has granted an extension pursuant to subparagraph (2) of paragraph (b) of subsection 1 within 270 days after the Department has been notified of the unplanned temporary closure, the holder of the permit shall initiate the approved procedures for permanent closure.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24384)

**NAC 445A.446 Permanent closure of facility. (NRS 445A.425, 445A.465)**

1. The permanent closure of a facility must be initiated:

(a) Following the request of the holder of the permit;

(b) For a facility which is under a temporary closure, no later than at the end of one renewal of a 5-year permit which has been issued pursuant to subsection 2 of [NAC 445A.420](#); or

(c) When the end of the design life of that process component is reached.

2. Permanent closure is complete when the requirements contained in [NAC 445A.429](#), [445A.430](#) and [445A.431](#) have been achieved.

3. The time required for monitoring the facility following permanent closure depends upon the particular site and process characteristics, but in no event may the time required exceed 30 years.

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24386)

**NAC 445A.447 Plans for permanent closure; sources not classified as process components. (NRS 445A.425, 445A.465)**

1. Plans for permanent closure are required for all sources at a facility.

2. A final plan for permanent closure of any source which has been identified as a process component must be submitted to the Department at least 2 years before the anticipated permanent closure of that process component.

3. Sources which have not been classified as process components must be evaluated at the end of their operating life to determine the potential for pollutants from these sources to migrate and degrade the waters of the State under the final proposed site conditions and must be closed in accordance with the *State Handbook of Best Management Practices* prepared pursuant to [NAC 445A.336](#).

(Added to NAC by Environmental Comm'n, eff. 9-1-89) — (Substituted in revision for NAC 445.24388)