

Summary of Alaska's Financial Assurance Requirements for Mineral Development Activities

The Alaska Department of Natural Resources (ADNR) is the lead state agency for all matters related to the exploration, development, and management of mining (AS 27.05.010 and AS 38.05.020(b)(9)). For large or complex mines, ADNR coordinates with the Alaska Departments of Environmental Conservation (ADEC), Fish and Game (ADFG),¹ and other federal, state, and local government agencies, using a multi-discipline, team approach known as the Large Mine Permitting Team (LMPT). The LMPT ensures effective inter-governmental communication, less duplication of efforts, and consistent administration of jurisdictional authorities compared to multiple, uncoordinated, single-agency reviews for proposed or operating mineral development projects in Alaska.

The State of Alaska (State) administers a suite of Alaska Statutes (AS) and Alaska Administrative Code (AAC) regulations that govern mineral development activities on federal, state, municipal, and private lands in Alaska. Three specific programs carry requirements for mine operators to provide financial assurance: Mining Reclamation (AS 27.19.040 and 11 AAC 97.400-450) and the Alaska Dam Safety Program (AS 46.17.040 and 11 AAC 93.171-172), both administered by ADNR, and Solid Waste Management (AS 46.03.100 and 18 AAC 60.265) administered by ADEC. Additionally, the Alaska Department of Revenue (ADOR) manages the Mine Reclamation Trust Fund (AS 37.14.800-840).

Mining Reclamation

Alaska's Reclamation Standard (AS 27.19.020) states that "[a] mining operation shall be conducted in a manner that prevents unnecessary and undue degradation² of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition."³

Specific land reclamation performance standards (11 AAC 97.200) further define regulatory expectations related to mine reclamation, topsoil management, revegetation and stabilization.

For mining operations that would result in five acres or more of unreclaimed area in any given year, an approved reclamation plan⁴ is required prior to starting operations (AS 27.19.030 and 11 AAC 97.300).

¹ In particular, DEC and DNR work with Alaska Fish and Game regarding the requirements of AS 16.05.841 (fishway required for dam or other obstruction) and AS 16.05.871 (protection of fish and game).

² "unnecessary and undue degradation", per AS 27.19.100(9),

(A) means surface disturbance greater than would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and considering site specific conditions;

(B) includes the failure to initiate and complete reasonable reclamation under the reclamation standard of AS 27.19.020 or an approved reclamation plan under AS 27.19.030(a).

³ "stable condition" means the rehabilitation, where feasible, of the physical environment of the site to a condition that allows for the reestablishment of renewable resources on the site within a reasonable period of time by natural processes. AS 27.19.100(7).

⁴ "reclamation plan" means a plan submitted by a miner under regulations adopted by the [ADNR] commissioner for the reclamation of a proposed mining operation. AS 27.19.100(6).

When a reclamation plan is required,

[the ADNR] commissioner shall require an individual financial assurance in an amount not to exceed an amount reasonably necessary to ensure the faithful performance of the requirements of the approved reclamation plan. The commissioner shall establish the amount of the financial assurance to reflect the reasonable and probable costs of reclamation. The assurance amount may not exceed \$750 for each acre of mined area, except that the \$750 an acre limitation does not apply to the assurance amount required for a lode mine⁵. (AS 27.19.040(a); see also 11 AAC 97.420)

A miner⁶ may satisfy the requirement for an individual financial assurance by providing, in a form acceptable to and approved by the ADNR commissioner, any of the following (AS 27.19.040(e) and 11 AAC 97.400-410):

- Surety bond;
- Letter of credit;
- Certificate of deposit;
- Corporate guarantee
- Payment and deposits into a trust fund established in AS 37.14.800; or
- Any other form of financial assurance that meets the financial test or other conditions set in regulation by the ADNR commissioner

Nine lode mines in Alaska have provided required individual financial assurances totaling \$821,751,184 (Table 1).

Project	Status	Amount	Type
Greens Creek Mine	Operating	\$72,831,187	Surety Bond
Red Dog Mine	Operating	\$558,350,000	Letters of Credit
Fort Knox Mine	Operating	\$96,645,691	Letter of Credit
Kensington Mine	Operating	\$28,727,011	Surety Bond
Pogo Mine	Operating	\$57,104,000	Letter of Credit
Nixon Fork	Operating	\$6,033,000	Surety Bond
Niblack Exploration Project	Temporary suspension of operations	\$1,409,959	Surety Bond
True North	Post-closure	\$620,336	Letter of Credit
Rock Creek ("Nanuuq") Mine	Post-closure	\$30,000	Letter of Credit
TOTAL		\$821,751,184	

⁵ "lode mine" means a mining operation that removes the minerals from consolidated rock rather than from a placer deposit. AS 27.19.100(1).

⁶ "miner" means the owner, operator, or leaseholder of a mining operation. AS 27.19.100(4).

ADNR may enter into a cooperative management agreement with the federal government or a state agency to implement mine reclamation requirements (AS 27.19.060). Currently, ADNR maintains two cooperative management agreements with ADEC and the U.S. Forest Service for the Kensington Gold Mine and Greens Creek Mine located in portions of the Tongass National Forest in southeast Alaska. The purpose of both agreements are to "...document the cooperation between the parties regarding reclamation, closure, and post-closure bonding requirements..."^{7, 8}

A miner who violates or permits a violation of an approved reclamation plan and fails to comply with a lawful order of ADNR forfeits the financial assurance and is liable to the State in a civil action for the full amount of reclamation and administrative costs incurred by the State related to the action (AS 27.19.070). Moreover, ADNR may suspend or revoke permits or approvals of operations not being conducted per the approved reclamation plan and deny future authorizations for failure by the miner to reclaim the mining operations to Alaska's Reclamation Standard.

Mine Reclamation Trust Fund

The Mine Reclamation Trust Fund is established as a separate trust fund of the State. The principal and earnings of the fund are held by the State "for the purpose of protecting the public interest in reclaiming mine sites in the state." The fund is composed of the "mine reclamation trust fund income account" and the "mine reclamation trust fund operating account" (AS 37.14.800(a)).

The mine reclamation trust fund income account consists of payments and deposits made by miners "to satisfy the miners' reclamation bonding or financial assurance obligation under AS 27.19.040 ... and earnings on the income account." The mine reclamation trust fund operating account consists of "appropriations by the [Alaska] legislature of the annual balance of the mine reclamation trust fund income account and any earnings on those appropriations while in the operating account" (AS 37.14.800(b)).

ADNR may execute a memorandum of understanding with a miner that outlines a schedule of expected payments into the trust fund income account and the relationship of the payments and accumulated earnings in the trust fund to reclamation obligations of the miner. The memorandum of understanding may also address expected use of the fund under AS 37.14.820. If the memorandum of understanding addresses investment of the fund with respect to payments made by the miner, the commissioner of ADOR must also sign the memorandum (AS 37.14.800(c)).

The commissioner of ADOR is a fiduciary to the fund and will manage both the mine reclamation trust fund income account and the mine reclamation trust fund operating account; investing their assets in accordance with established state law (AS 37.14.810).

⁷ MOU between ADNR, ADEC, and US Forest Service Concerning Reclamation/Closure/Post-Closure Bonding for the Kensington Mine (2012). Found at <http://dnr.alaska.gov/mlw/mining/largemine/kensington/>

⁸ MOU between ADNR, ADEC, and US Forest Service Concerning Reclamation/Closure/Post-Closure Bonding for the Greens Creek Mine (2014). Found at <http://dnr.alaska.gov/mlw/mining/largemine/greencreek/>

The ADNR commissioner may make expenditures from the mine reclamation trust fund operating account for the following purposes (AS 37.14.820(a)):

- Reclamation of mining operations for which a payment or deposit has been made into the fund;
- Maintenance of dams and other permanent features related to a mining operation;
- Monitoring of site stability and water quality related to a mining operation;
- Control and treatment of acid rock drainage and other leachate related to a mining operation;
- Protection and treatment of surface water and groundwater related to a mining operation;
- Long-term site management of a mining operation;
- Refunds to miners of the deposits to the fund upon satisfactory completion of reclamation tasks as determined by the ADNR.

However, ADNR may not spend money deposited in the fund for one mining operation at another mining operation (AS 37.14.820(c)).

To date, the Illinois Creek Mine is the only mine in Alaska to have established a trust fund under AS 37.14.800. The Illinois Creek Mine (now in post-closure) is located on state lands approximately 51 air-miles south of Galena, Alaska. Reclamation was completed in 2005 and an initial deposit of \$838,000 was made to the Mine Reclamation Trust Fund to fund annual water quality and reclamation monitoring, per a memorandum of understanding between ADNR, ADEC, and ADOR. At the end of Fiscal Year 2016 (the most current figures), ADOR reported net invested assets of \$950,000 in the Mine Reclamation Trust Fund.⁹ Funds have been transferred from the income account to the operating account by the Alaska Legislature since its establishment to fund annual on-site reclamation and water quality monitoring activities by ADNR and ADEC.

Alaska Dam Safety Program

The Alaska Dam Safety Program (ADSP) is administered as a cooperative effort between ADNR and the various persons, businesses, agencies, and other interests that are involved in the design, construction, and operation of dams in Alaska. The mission of the ADSP is “to protect life and property in Alaska through the effective collection, evaluation, understanding and sharing of the information necessary to identify, estimate and mitigate the risks created by dams.”¹⁰

AS 46.17.020 requires ADNR to employ a professional engineer to “supervise the safety of dams and reservoirs” in Alaska. The State Dam Safety Engineer is the authorized representative of the commissioner of ADNR responsible for the following:

- Adopting regulations and issuing orders necessary for ensuring dam safety;

⁹ ADOR, Treasury Division, “Invested Assets Under the Investment Authority of the Commissioner of Revenue”, June 30, 2016. Available at <http://treasury.dor.alaska.gov/Investments/Annual-Investment-Reports.aspx>

¹⁰ <http://dnr.alaska.gov/miw/water/dams/index.cfm>

- Providing routine administration of the ADSP and the Dam Safety and Construction Unit in ADNR;
- Classifying dams based on the potential hazard to lives and property created by the dam;
- Approving the design, construction, operation, and inspection of dams through “certificates of approval,” which are issued based on specific information submitted to Dam Safety for review;
- Identifying unsafe dams that compromise the mission of the ADSP, and taking the necessary steps to mitigate those risks;
- Raising the level of compliance for jurisdictional dams that are out of compliance with state dam safety regulations;
- Enforcing the dam safety statutes and regulations through appropriate legal actions, if necessary, including issuing injunctions, assuming operational control of the dam, breaching the dam, or other activities necessary to mitigate the risk;
- Providing information and educational material about dams in Alaska and dams in general, including the Alaska Dam Inventory, Training Aids for Dam Safety, conference proceedings, and other resources.

Because a dam is a unique and complex engineered structure that has certain associated risks, an experienced engineer is required to ensure that a dam is designed, built, and operated with appropriate concerns for safety. A “qualified engineer” is defined in 11 AAC 93.193 as an individual civil engineer currently licensed to practice in Alaska under the State Board of Registration for Architects, Engineers, and Land Surveyors and must have at least five years of experience as a licensed or registered professional civil engineer. In addition, an engineer who may certify hazard potential classifications, design engineering reports, design and construction drawings, construction completion reports, and construction record drawings must have “significant work experience in the design, construction, inspection and safety of dams” (11 AAC 93.193(a)(3)).

The regulations allow a slightly lower qualification for engineers who may conduct and certify Periodic Safety Inspections (PSIs) of dams under 11 AAC 93.159. Those engineers must have “sufficient work experience to determine the safety of the particular dam being inspected and to make reliable recommendations regarding the operations and maintenance of that dam, inspections of that dam, and other matters related to the safety of that dam.” *Id.* AS 46.17.050 indicates that qualified engineers who conduct PSIs must be approved by Dam Safety.

Before construction, repair, or modification of a dam, a person must apply to ADNR for a certificate of approval (11 AAC 93.171(a)). For construction of new dams or modifications that increase the size of the reservoir or raise the hazard potential classification determined in accordance with 11 AAC 93.157, the dam owner

must provide a performance bond or other financial assurance adequate to provide sufficient money to pay for the costs of safely breaching the dam at the end of the dam’s service life and restoring the stream channel and reservoir land to natural conditions, or for the costs of performing reclamation and post-closure monitoring and maintenance, as required under 11 AAC 93.172. (11 AAC93.171(f)(2)(C)(ii)).

In some cases, a dam may be abandoned without removing the dam; especially in the case of a mine tailings dam where abandonment is planned from the beginning of the project. Per 11 AAC 93.172, before removing or abandoning a dam, a person must apply to ADNR for a certificate of approval and provide a performance bond or other financial assurance as described above.

In practice, and in addition to the specific engineering plans submitted for approval by the ADSP, mine operators typically include plans for dam operation, maintenance, inspection, closure, reclamation, abandonment, and long-term care in the reclamation plan, and the associated costs are accounted for by the mine operator. If approved by ADNR, the mine operator may provide one of the acceptable forms of individual financial assurance under AS 27.19.040(e) for their total financial assurance obligation, as required by both the Mine Reclamation and ADSP statutes and regulations.

Solid Waste Management

It is the policy of the state (AS 46.03.010):

- a. "to conserve, improve, and protect its natural resources and environment and control water, land, and air pollution, in order to enhance the health, safety, and welfare of the people of the state and their overall economic and social well-being;"
- b. "to improve and coordinate the environmental plans, functions, powers, and programs of the state, in cooperation with the federal government, regions, local governments, other public and private organizations, and concerned individuals, and to develop and manage the basic resources of water, land, and air to the end that the state may fulfill its responsibility as trustee of the environment for the present and future generations."

A person who applies for an authorization to operate a mining waste disposal facility for an operation that chemically processes ores or has the potential to generate acid is required by AS 46.03.100(f) to furnish proof of financial responsibility to manage and close the facility in a manner that ADEC finds will control or minimize the risk of the release of unauthorized levels of pollutants from the facility to waters.

Proof of financial responsibility may be demonstrated to ADEC by any of the following mechanisms:

- Self-insurance;
- Insurance;
- Surety bond;
- Corporate guarantee;
- Letter of credit;
- Certificate of deposit; or
- Other proof of financial responsibility approved by ADEC, under regulations adopted by the department.

For a mining waste disposal facility, ADEC may accept as adequate to satisfy the requirement of AS 46.03.100(f) financial assurance for reclamation provided to a state or federal land management agency.

In practice, costs estimates for the management of solid wastes at mine sites in Alaska are typically included with the reclamation cost estimates and described in a waste management plan developed by the operator. If approved by ADEC, the actual financial assurance mechanism (e.g. letter of credit or surety bond) is held by either ADNR (Red Dog, Fort Knox, Pogo, Niblack, True North), the U.S. Forest Service (Greens Creek and Kensington), or the U.S. Bureau of Land Management (Nixon Fork).

Permit Terms and Conditions

Reclamation Plan Approvals issued by ADNR under AS 27.19 and 11 AAC 97 may be effective for any term not to exceed 10 years (11 AAC 97.320). However, in practice, ADNR typically issues Reclamation Plan Approvals for an effective term of five years to align with ADEC's Waste Management Permit for the same project, which has a maximum term of five years per AS 46.03.110(d). Therefore, reclamation and closure plans, waste management plans, monitoring plans and other supporting documents, including cost estimates for their full implementation, are reviewed at least every five years as part of the permit renewal process. Reviews can occur more frequently, if significant amendments to the mine operation or its associated facilities are proposed by the mine operator.

Additionally, ADNR and ADEC have broad authorities under 11 AAC 97.300 and AS 46.03.110(d), respectively, to condition their authorizations, as necessary, to manage the approved activities. For example, ADNR and ADEC have consistently included conditions on Reclamation Plan Approvals and Integrated Waste Management Permits requiring mine operators to complete a periodic third-party environmental audit to verify the operator's compliance with applicable environmental laws.