

# Chapter Seven: Governmental Powers to Regulate Oil and Gas

## Table of Contents

	<b>Page</b>
A. Alaska Department of Natural Resources.....	7-1
1. Alaska Coastal Management Plan (ACMP) Review .....	7-1
2. Plan of Operations Approval .....	7-2
3. Geophysical Exploration Permit.....	7-3
4. Pipeline Rights-of-Way .....	7-4
5. Temporary Water Use Authorization .....	7-4
6. Permit and Certificate to Appropriate Water.....	7-4
7. Land Use Permits .....	7-5
8. Material Sale Contract.....	7-5
9. Office of History and Archaeology .....	7-6
10. Petroleum Systems Integrity Office .....	7-6
B. Alaska Department of Environmental Conservation .....	7-7
1. Air Quality Permits.....	7-7
a. Title I (NSR) Construction Permits.....	7-8
i. Permit Description .....	7-8
ii. Review Process .....	7-8
b. Title V Operation Permits .....	7-8
i. Permit Description .....	7-8
ii. Review Process .....	7-8
2. Solid Waste Disposal Permit .....	7-8
3. Wastewater Disposal Permit.....	7-10
4. NPDES Certification .....	7-10
5. U.S. Army Corps of Engineers Section 10 and Section 404 Permit Certification .....	7-10
6. Oil Discharge Prevention and Contingency Plan .....	7-10
C. Alaska Department of Fish and Game .....	7-11
1. Waters Important to Anadromous Fish and Fish Passage .....	7-11
D. Alaska Oil and Gas Conservation Commission.....	7-11
1. Permit to Drill.....	7-11
a. Permit Description.....	7-11
b. Review Process .....	7-11
2. Disposal of Wastes .....	7-12
3. Annular Injection.....	7-12
4. Review Process.....	7-12
E. U.S. Environmental Protection Agency .....	7-13
1. Air Quality Permits.....	7-13
2. Hazardous Waste (RCRA) Permits .....	7-13
3. NPDES Permit.....	7-13
a. Permit Description.....	7-13
b. Review Process .....	7-14
4. UIC Class I and II Injection Well Permits.....	7-14
5. Spill Response Plan (C-Plan) .....	7-14
F. U.S. Army Corps of Engineers.....	7-15
1. Section 10 and Section 404 Permits .....	7-15
a. Permit Description.....	7-15

**Table of Contents (continued)**

	<b>Page</b>
b. Review Process .....	7-15
G. Pipeline and Hazardous Materials Safety Administration .....	7-16
H. North Slope Borough.....	7-16
I. Other Requirements .....	7-16
1. Native Allotments .....	7-16
2. U.S. Coast Guard.....	7-16
3. Rehabilitation Following Lease Expiration.....	7-17
4. Applicable Laws and Regulations .....	7-17
J. References.....	7-17

# Chapter Seven: Governmental Powers to Regulate Oil and Gas

All oil and gas activities (exploration, development, production, and transportation) are subject to numerous federal, state, and local laws, regulations, policies, and ordinances, with which the lessee is obligated to comply. This Chapter does not provide a comprehensive description of the multitude of laws and regulations that may be applicable to such activities, but it does illustrate the broad spectrum of authority various government agencies have to prohibit, regulate, and condition activities related to oil and gas. Important laws and regulations applicable to oil and gas activities are included in Appendix B. Each of the regulatory agencies (state, federal, and local) has a different role in the oversight and regulation of oil and gas activities, although some agencies may have overlapping authorities.

An oil and gas lease grants to the lessee the exclusive right to drill for, extract, remove, clean, process, and dispose of oil, gas, and associated substances. However, as discussed previously, except for activities that would not require a land use permit or operations undertaken under an approved unit plan of operations, a plan of operations must be approved before any operations may be undertaken on or in the leased area.

Each agency requires various permits and approvals, which are discussed below along with additional information on the review process. However, there is no “typical” project. Actual processes and terms and conditions will vary with time-certain, site-specific operations. Therefore, each agency has field monitors assigned to ensure that operations are conducted as approved. The appropriate statutes and regulations should be consulted when specifics are required.

## **A. Alaska Department of Natural Resources**

ADNR, through the Division of Oil and Gas, Division of Mining, Land and Water, Division of Coastal and Ocean Management, the Office of Project Management and Permitting, and the State Historic Preservation Office, reviews, coordinates, conditions, and approves plans of operations or development and other permits as required before on-site activities can take place. The department monitors activities through field inspection once they have begun. Each plan of operations is site-specific and must be tailored to the activity requiring the permit. A plan of operations is required to identify the specific measures, design criteria, and construction methods and standards to be employed so as to comply with the terms of the lease. Applications for other state or federal agency authorizations or permits must be submitted with the plan of operations.

### **1. Alaska Coastal Management Plan (ACMP) Review**

The Beaufort Sea Areawide lease sale area encompasses habitat in the North Slope Borough’s coastal zone. Therefore, lease related activities are subject to review under the 12 statewide standards of the Alaska Coastal Management Program (ACMP; AS 46.40, 11 AAC 110, 11 AAC 112) and the local coastal district plan. Currently, there is no district plan in effect for the North Slope Borough. Future exploration, development, and production activities requiring additional authorizations will undergo separate coastal zone consistency analyses if and when they are actually proposed. Future activities must comply with the ACMP and, once its plan is in effect, the enforceable policies of the North Slope Borough Coastal Management Program.

Permit applications for activities under the lease must be as detailed as necessary for a comprehensive agency review. If a project affects or occurs within the coastal zone, a review of the permit application will be conducted to determine whether the proposed activity is consistent with

the standards of the ACMP. Following the review, each agency will approve or deny the permit and determine whether any alternative measures (changes in the project description) or permit terms are required before approval.

Most permits needed for exploration well drilling require public notice. The ACMP permitting process goes through a 30- or 50-day review and, if other agencies or offices within ADNR require approval, the review is coordinated by the Division of Coastal and Ocean Management. This process provides for coordinated agency reviews and public input and ensures that proposed activities are consistent with the ACMP and local coastal plans.

The 50-day ACMP review process is initiated when the applicant applies for a state and/or federal permit(s). State authorizations subject to the ACMP are listed on the “C” list discussed below. Federal authorization subject to the ACMP are listed at 11 AAC 110. The various agencies initiate their internal consistency reviews and must send any requests for additional information to the coordinating agency within 25 days. Public and agency review comments are due on or before Day 30, and a proposed consistency finding is issued on or before Day 44. A request for additional time to complete the review must be received on or before Day 49, and the final consistency determination is issued on Day 50. However, if a reviewing agency objects to the proposed determination, it may elevate the decision to the commissioner. If the determination is elevated, the commissioner or delegee will issue a written decision with findings of fact within 45 days after the request for elevation. The 30-day review process has shorter time periods between action points.

The consistency determination process has been streamlined through the development of A, B, and C list activities.

“A list” activities are considered “categorically consistent,” do not result in significant impacts to coastal resources, and do not require a consistency review. On-pad placement of light poles, railings, electrical towers/poles, modules, and associated oil and gas buildings are examples of A list activities. A Coastal Project Questionnaire (CPQ) application is required for projects on the A list unless the A list says that a CPQ is not required.

“B list” reviews are classified as General Concurrences, and the activities are considered routine with standard alternative measures. B list activities adopting the alternative measures are consistent with the ACMP. Individual ACMP consistency reviews are not necessary for activities on the B list. However, a CPQ application is required for all projects on the B list.

The resource agency(s) will check the CPQ and plan of operations to ensure that the project qualifies for the A or B list. The coordinating agency will also review the standard alternative measures and any applicable procedures against the plan of operations submitted.

“C list” activities are activities not covered by the A or B lists, and reviews are classified as Individual Project Reviews. C list activities are subject to the 50- or 30-day review process described in this section.

## **2. Plan of Operations Approval**

Land use activities within oil and gas leases are regulated under 11 AAC 83.158 and paragraph 10 of the lease. These require the lessee to prepare plans of operations and development that must be approved by DO&G and by any other interest holder, if ownership is shared, before the lessee may commence any activities within the leased area. Except for uses and activities appearing on the list in 11 AAC 96.020, the lessee must prepare a plan of operations and obtain all required approvals and permits for each phase of exploration, development, or production before implementation of that activity. All permit applications and plans are available for public review and public notice will be given for all development plans of operations.

An application for approval of a plan of operations must contain sufficient information, based on data reasonably available at the time the plan is submitted for approval, for the commissioner to determine the surface use requirements and impacts directly associated with the proposed operations. An application must include statements and maps or drawings setting out the following:

- (1) the sequence and schedule of the operations to be conducted on or in the leased area, including the date operations are proposed to begin and their proposed duration;
- (2) projected use requirements directly associated with the proposed operations, including the location and design of well sites, material sites, water supplies, solid waste sites, buildings, roads, utilities, airstrips, and all other facilities and equipment necessary to conduct the proposed operations;
- (3) plans for rehabilitation of the affected leased area after completion of operations or phases of those operations; and
- (4) a description of operating procedures designed to prevent or minimize adverse effects on other natural resources and other uses of the leased area and adjacent areas, including fish and wildlife habitats, historic and archeological sites, and public use areas (11 AAC 83.158(d)).

When it considers a plan of operations, ADNR often requires stipulations, in addition to the mitigation measures developed through the best interest finding. These additional stipulations address site-specific concerns directly associated with the proposed project. The lease stipulations and the terms and conditions of the lease are attached to the plan of operations approval and are binding on the lessee. The lease also requires that the lessee keep the lease area open for inspection by authorized state officials. Activities are monitored in the field by ADNR, ADEC, ADF&G, and AOGCC to ensure compliance with each agency's respective permit terms. In addition, each permittee must post a bond before beginning operations (11 AAC 83.160). Lease operation approvals are generally granted for three years.

### **3. Geophysical Exploration Permit**

The geophysical exploration permit is a specific type of land use permit issued by DO&G under 11 AAC 96.010. Seismic surveys are the most common activity authorized by this permit. The purpose of the permit is to minimize adverse effects on the land and its resources while making important geological information available to the state (11 AAC 96.210). Under AS 38.05.035(a)(8)(C), the geological and geophysical data that are made available to the state are held confidential at the request of the permittee. If the seismic survey is part of an exploration well program, the permit will be reviewed as part of the exploration well permit package. The application must contain the following information in sufficient detail to allow evaluation of the planned activities' effects on the land:

- (1) a map at a sufficient scale showing the general location of all activities and routes of travel of all equipment for which a permit is required;
- (2) a description of the proposed activity, any associated structures, and the type of equipment that will be used. (11 AAC 96.030(a)).

Maps showing the precise location of the survey lines must also be provided, though this information is usually held confidential. A \$100,000 bond is required to conduct seismic work. The bond amount for other geophysical surveys is determined when the activity is proposed.

A geophysical exploration permit contains measures to protect the land and resources of the area. The permit is usually issued for a single survey season, but may be extended. If the permit is extended, the director may modify existing terms or add new ones. The permit is revocable for cause

for violation of a permit provision or of 11 AAC 96, and is revocable at will if the department determines that revocation is in the state's interest. A permit remains in effect for the term issued, unless revoked sooner. The department will give 30 days' notice before revoking a permit at will. A revocation for cause is effective immediately. (11 AAC 96.040(a)).

#### **4. Pipeline Rights-of-Way**

Most transportation facilities within the lease area or beyond the boundaries of the lease area must be authorized by ADNR under the Right-of-Way Leasing Act (AS 38.35). This act gives the commissioner broad authority to oversee and regulate the transportation of oil and gas by pipelines that are located in whole or in part on state land, to ensure the state's interests are protected. The Right-of-Way Leasing Act process is administered by the State Pipeline Coordinator's Office.

#### **5. Temporary Water Use Authorization**

Exploration activities may require a temporary water use authorization issued by DMLW. A temporary water use authorization is required under 11 AAC 93.035 before the temporary use of a significant amount of water, if the use continues for less than five consecutive years and the water applied for is not otherwise appropriated. The authorization may be extended one time for good cause for a period of time not to exceed five years. An application must include: (1) the application fee; (2) a map indicating the section, township, range, and meridian, and indicating the location, of the property, the point of withdrawal, diversion, or impoundment, and the point of use; (3) the quantity of water to be used; (4) the nature of the water use; (5) the time period during which the water is to be used; and (6) the type and size of equipment used to withdraw the water. DMLW may issue an authorization for the temporary use of water subject to conditions, including suspension or termination, considered necessary to protect the water rights of other persons or the public interest. Information on lake bathymetry, fish presence, and fish species may be required when winter water withdrawal is proposed to calculate the appropriate withdrawal limits.

#### **6. Permit and Certificate to Appropriate Water**

Industrial or commercial use of water requires a Permit to Appropriate Water under 11 AAC 93.120. The permit is issued for a period of time consistent with the public interest and adequate to finish construction and establish full use of water. The maximum time period for which a permit will be issued for industrial or commercial use is five years, unless the applicant proves or the commissioner independently determines that a longer period is required. The commissioner may issue a permit subject to terms, conditions, restrictions, and limitations necessary to protect the rights of others, and the public interest. Under 11 AAC 93.120(e), permits are subject to conditions such as requirements: that no certificate will be issued until evidence is presented of adequate easements or other means necessary to complete the appropriation; that the permittee measure the water use and report water use information to ADNR; and that the permittee maintain, or restrict from withdrawing, a specific quantity, rate of flow or volume of water to protect fish and wildlife habitat, recreation purposes, navigation, sanitation or water quality, prior appropriators, or any other purpose the department determines is in the public interest.

A Certificate of Appropriation will be issued under 11 AAC 93.130 if the permit holder: (1) submits a statement of beneficial use stating that the means necessary for the taking of water have been developed and the permit holder is beneficially using the quantity of water to be certified, along with the required fee; and (2) has substantially complied with all permit conditions. Again, the commissioner will, in his or her discretion, issue a certificate subject to conditions necessary to protect the public interest. For example, conditions to maintain a specific quantity of water at a given point on a stream or water body, or in a specified stretch of stream, throughout the year or for specified times of the year, to protect fish and wildlife habitat, recreation, navigation, sanitation and

water quality, and prior appropriators, or any other purpose the commissioner determines is in the public interest (11 AAC 93.130(c)(1)).

## 7. Land Use Permits

Land use permits are issued by DMLW and may be required for exploration, development, and production activities. Land use permits can be issued for periods up to five years depending on the activity, but ADNR anticipates permits issued in conjunction with the lease will likely be for a period of one year.

In accordance with 11 AAC 96.025, a generally allowed use listed in 11 AAC 96.020 is subject to the following conditions:

- (1) activities employing wheeled or tracked vehicles must be conducted in a manner that minimizes surface damage;
- (2) vehicles must use existing roads and trails whenever possible;
- (3) activities must be conducted in a manner that minimizes
  - (A) disturbance of vegetation, soil stability, or drainage systems;
  - (B) changing the character of, polluting, or introducing silt and sediment into streams, lakes, ponds, water holes, seeps, and marshes; and
  - (C) disturbance of fish and wildlife resources;
- (4) cuts, fills, and other activities causing a disturbance listed in (3)(A) - (C) of this section must be repaired immediately, and corrective action must be undertaken as may be required by the department;
- (5) trails and campsites must be kept clean; garbage and foreign debris must be removed; combustibles may be burned on site unless the department has closed the area to fires during the fire season;
- (6) survey monuments, witness corners, reference monuments, mining location posts, homestead entry corner posts, and bearing trees must be protected against destruction, obliteration, and damage; any damaged or obliterated markers must be reestablished as required by the department under AS 34.65.020 and AS 34.65.040;
- (7) every reasonable effort must be made to prevent, control, and suppress any fire in the operating area; uncontrolled fires must be immediately reported;
- (8) holes, pits, and excavations must be repaired as soon as possible; holes, pits, and excavations necessary to verify discovery on prospecting sites, mining claims, or mining leasehold locations may be left open but must be maintained in a manner that protects public safety;
- (9) on lands subject to a mineral or land estate property interest, entry by a person other than the holder of a property interest, or the holder's authorized representative, must be made in a manner that prevents unnecessary or unreasonable interference with the rights of the holder of the property interest.

## 8. Material Sale Contract

If the operator proposes to use state-owned gravel or other materials for construction of pads and roads, a DMLW material sale contract is required. The contract must include a description of the sale area, the volume of material to be removed from the sale area, the method of payment by the purchaser, the method of removal of the material, the bonds and deposits required of the purchaser,

the method of scaling to be used by the purchaser, the purchaser's liability under the contract, the improvements to and occupancy of the sale area required of the purchaser, and the reservation of material within the sale area to DMLW. A material sale contract must also include the purchaser's site-specific operating requirements, including requirements relating to boundary markers and survey monument protection; erosion control and protection of water; fire prevention and control; roads; sale area supervision; protection of fish, wildlife, and recreational values; sale area access; and public safety. A contract must state the date upon which the severance or extraction of material under the contract is to be completed. A contract may be extended before its expiration if the director determines that the delay in completing the contract is due to unforeseen events beyond the purchaser's control, or the extension is in the best interests of the state.

In connection with a material sale, the DMLW director may require the purchaser to provide a performance bond that guarantees performance of the terms of the contract. If the director requires a performance bond, the bond amount will be based on the total value of the sale. The performance bond must remain in effect for the duration of the contract unless released in writing by the director.

## 9. Office of History and Archaeology

The Alaska Heritage Resources Survey (AHRS) is an inventory of all reported historic and prehistoric sites within the state and is maintained by ADNR's Office of History and Archaeology. This inventory of cultural resources includes objects, structures, buildings, sites, districts, and travel ways, with a general provision that they are over 50 years old. To date, over 22,000 sites have been reported within Alaska (however, this is probably only a small percentage of the sites that may actually exist but are as yet unreported). The fundamental use of the AHRS is to protect cultural resource sites from unwanted destruction. Before beginning a project, information regarding important cultural and historic sites can be obtained by contacting the Office of History and Archaeology.

AS 41.35.010, the Alaska Historic Preservation Act says that "It is the policy of the state to preserve and protect the historic, prehistoric, and archaeological resources of Alaska from loss, desecration, and destruction so that the scientific, historic, and cultural heritage embodied in those resources may pass undiminished to future generations." Existing statutes, which apply to both known sites and newly discovered sites, include:

**AS 41.35.200.** Unlawful acts. A person may not appropriate, excavate, remove, injure, or destroy, without a permit from the commissioner, any historic, prehistoric, or archaeological resources of the state. "Historic, prehistoric, or archaeological resources" includes deposits, structures, ruins, sites, buildings, graves, artifacts, fossils, or other objects of antiquity which provide information pertaining to the historical or prehistorical culture of people in the state as well as to the natural history of the state (AS 41.35.230(2)).

**AS 41.35.210.** Criminal penalties. A person who is convicted of violating a provision of AS 41-35.010 – 41.35.240 is guilty of a class A misdemeanor.

**AS 41.35.215.** Civil penalties. In addition to other penalties and remedies provided by law, a person who violates a provision of AS 41.35.010 – 41.35.240 is subject to a maximum civil penalty of \$100,000 for each violation.

## 10. Petroleum Systems Integrity Office

The Petroleum Systems Integrity Office (PSIO) is the lead state agency in exercising oversight of the maintenance of facilities, equipment, and infrastructure for the sustained production and transportation of oil and natural gas resources in this state, including such facilities, equipment, and infrastructure not currently within the jurisdiction of another state or federal agency. Through designated agency liaisons, PSIO leads interagency efforts to evaluate industry oversight. Designated

agencies, to the extent authorized through legal authorities, require oil and gas producers and operators to provide a comprehensive description of current practices that includes the quality control, quality assurance, monitoring, inspection, and other practices used to ensure the integrity and reliability of oil and natural gas facilities, equipment, infrastructure and activities. The PSIO shall make recommendations to the commissioner of ADNR regarding ADNR enforcement actions and cases to be referred to other state, local, or federal agencies for appropriate civil or criminal penalties available under the law.

## **B. Alaska Department of Environmental Conservation**

ADEC has statutory responsibility for controlling air, land, and water pollution, and oil spill prevention and response. ADEC implements and coordinates several federal regulatory programs in addition to state laws.

### **1. Air Quality Permits**

ADEC administers an air quality program under a federally-approved State Implementation Plan. Through this plan, federal requirements of the Clean Air Act are met including National Ambient Air Quality Standards, New Source Review (NSR), New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants, and Prevention of Significant Deterioration. ADEC also monitors air quality and compliance.

The National Ambient Air Quality Standards set limits on pollutants considered harmful to public health and the environment (EPA 2008b). Limits have been defined for principal pollutants, or criteria pollutants: carbon monoxide, lead, nitrogen dioxide, particulate matter (PM<sub>10</sub>), particulate matter (PM<sub>2.5</sub>), ozone, and sulfur dioxide. NSR, a permitting program required for new construction projects, ensures that air quality is not degraded by the new project, and that large new or modified industrial sources will be as clean as possible (EPA 2008e). New Source Performance Standards are intended to promote use of the best air pollution control technologies available, and they take into account the cost of the technology and any other non-air quality, health, and environmental impact and energy requirements (EPA 2008d). The National Emissions Standards for Hazardous Air Pollutants are set for air pollutants that are not covered by National Ambient Air Quality Standards, but that may be harmful (EPA 2008c). The standards are categorized by type of source, and require the maximum degree of reduction in emissions that is achievable, as determined by the EPA. The purpose of the Prevention of Significant Deterioration program is:

...to protect public health and welfare; preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value; insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources; and assure that any decision to permit increased air pollution...is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision making process. (EPA 2008e.)

The two primary types of permits issued to meet these requirements are Title I Construction Permits and Title V Operation Permits (EPA 2008a). Permits are legal documents that the applicant must follow. Permits specify what activities are allowed, what emission limits must be met, and may specify how the facility must be operated. Permits may contain monitoring, recordkeeping, and reporting requirements to ensure that the applicant meets the permit requirements (EPA 2008e).

## **a. Title I (NSR) Construction Permits**

### ***i. Permit Description***

Title I permits incorporate air quality requirements for the Prevention of Significant Deterioration as well as other requirements of the Clean Air Act. This permit must be obtained before onsite construction can begin. Title I permits are required for projects that are new major sources for pollutants, or major modifications at existing sources. Prevention of Significant Deterioration requires installation of the "Best Available Control Technology (BACT)"; an air quality analysis; an additional impacts analysis; and public involvement (EPA 2008e).

BACT is determined on a case-by-case basis and takes into account energy, environmental, and economic impacts. BACT includes add-on control equipment, or modifications to production processes or methods. Examples include fuel cleaning or treatment, innovative fuel combustion techniques; and design, equipment, work practice, or operational standards (EPA 2008e).

An air quality analysis is required to show that new emissions will not violate air quality standards. In general, an assessment of existing air quality and predictions of future air quality that will result from the project are required (EPA 2008e).

### ***ii. Review Process***

The permitting process includes a pre-application meeting between the applicant and ADEC, several ADEC reviews and a Technical Analysis Report, and a 30-day public comment period, after which ADEC may issue a final permit. The final permit includes a final Technical Analysis Report and response to comments. The process for a Title I process can take up to three years, depending on the amount of meteorological data collection required. The permit must be obtained before construction may begin.

## **b. Title V Operation Permits**

### ***i. Permit Description***

The federal Clean Air Act of 1970, and its subsequent 1990 revision and expansions (42 USC §§7401-7661), give EPA the authority to limit emissions from point sources (EPA 2007). EPA regulations require facilities that emit certain pollutants or hazardous substances to obtain a permit to operate the facility, known as a Title V permit. In Alaska, ADEC is responsible for issuing Title V permits and making compliance inspections (ADEC 2008a; 18 AAC 50, and AS 46.14). Permits are legally binding and include enforceable conditions with which the operator must comply. The permit establishes limits on the type and amount of emissions allowed, requirements for pollution control devices and prevention activities, and monitoring and record keeping requirements (EPA 2008f).

### ***ii. Review Process***

Operators have 12 months to submit their completed Title V permit after commencing their operations, which can continue while ADEC processes the application. However, significant revisions to an existing permitted facility cannot be made until the permit revision is approved by ADEC. Processing time for permit revisions can be up to 6 months. Title V permits and revisions can be processed concurrently with Title I permits.

## **2. Solid Waste Disposal Permit**

ADEC regulates solid waste storage, treatment, transportation, and disposal under 18 AAC 60. EPA regulates RCRA hazardous wastes and UIC Class I injection wells, and the AOGCC regulates UIC Class II oil and gas wells.

For all solid waste disposal facilities regulated by ADEC, a comprehensive disposal plan is required, which must include engineering design criteria and drawings, specifications, calculations, and a

discussion demonstrating how the various design features (liners, berms, dikes) will ensure compliance with regulations. Before approval, solid waste disposal permit applications are reviewed for compliance with air and water quality standards, wastewater disposal, and drinking water standards, as well as for their consistency with the Alaska Historic Preservation Act. The application for a waste disposal permit must include a map or aerial photograph (indicating relevant topographical, geological, hydrological, biological, and archaeological features) with a cover letter describing type, estimated quantity, and source of the waste, as well as the type of facility proposed. Roads, drinking water systems, and airports within a two-mile radius of the site must be identified, along with all residential drinking water wells within one-half mile. There must also be a site plan with cross-sectional drawings that indicate the location of existing and proposed containment structures, material storage areas, monitoring devices, area improvements, and on-site equipment. An evaluation of the potential for generating leachate must be presented as well. For above-grade disposal options, baseline water-quality data may be needed to establish the physical and chemical characteristics of the site before installing a containment cell.

Non-drilling-related solid waste must be disposed of in an approved municipal solid waste landfill (MSWLF). MSWLFs are regulated under 18 AAC 60.300-.398. All other solid waste (except for hazardous materials) must be disposed of in an approved monofill (18 AAC 60.400-.495). A monofill is a landfill or drilling waste disposal facility that receives primarily one type of solid waste and that is not an inactive reserve pit (18 AAC 60.990(80)). An inactive reserve pit is a drilling waste disposal area, containment structure, or group of containment structures where drilling waste has not been disposed of after January 26, 1996, and at which the owner or operator does not plan to continue disposing of drilling waste (18 AAC 60.990(62)). Closure of inactive reserve pits is regulated under 18 AAC 60.440.

Drilling waste disposal is specifically regulated under 18 AAC 60.430. Design and monitoring requirements for drilling waste disposal facilities are identified in 18 AAC 60.430(c) and (d), respectively. Under 18 AAC 60.430(c)(1), the design must take into account the location of the seasonal high groundwater table, surface water, and continuous permafrost, as well as proximity to human population and to public water systems, with the goal of avoiding any adverse effect on these resources. The facility must be designed to prevent the escape of drilling waste and leachate; be of the minimum volume necessary for drilling waste disposal and emergency relief volume; prevent overflow from, or damage to, containment structures or other waste management areas, from operations, annual average precipitation, wind or wave action; ensure that drilling waste, leachate, or eroded soil from the facility does not cause a violation of applicable water quality standards at the surface water point of compliance or at the uppermost aquifer at the groundwater point of compliance. The plans for the proposed design and construction of the drilling waste disposal facility and the fluid management plan must be approved, signed, and sealed by a registered engineer per 18 AAC 60.430(c)(5).

Presently, the preferred practice is to dispose of drilling fluids by reinjection deep into the ground; however, EPA and ADEC may authorize limited discharge of waste streams under the NPDES permit system. All produced waters must be re-injected or treated to meet Alaska Water Quality Standards before discharge. Before a well may be permitted under 20 AAC 25.005, a proper and appropriate reserve pit, also known as a solid waste disposal cell, must be constructed or appropriate tankage installed for the reception and confinement of drilling fluids and cuttings, to facilitate the safety of the drilling operation, and to prevent contamination of freshwater and damage to the surface environment (20 AAC 25.047).

Typically, a reserve pit is a containment cell lined with an impermeable barrier compatible with both hydrocarbons and drilling mud. Average dimensions are approximately 130 feet wide by 150 feet long by 12 feet deep, although specific configurations vary by site. The cell may receive only drilling and production wastes associated with the exploration, development, or production of crude oil,

natural gas or hydrocarbon-contaminated solids. The disposal of hazardous or other waste in a containment cell is prohibited. After the well is deepened, the residue in the reserve pit is often dewatered and the fluids are injected into the well annulus. An inventory of injection operations including volume, date, type, and source of material injected is maintained by requirement. Following completion of well activities, the material remaining in the pit is permanently encapsulated in the impermeable liner. Fill and organic soil is placed over it and proper drainage is re-established. Surface impoundments within 1,500 feet are sampled on a periodic basis and analyzed. In addition, groundwater-monitoring wells are drilled and sampled on a regular basis. If there are uncontained releases during operations, or if water samples indicate an increase in the compounds being monitored, additional observation may be required.

Substances proposed for disposal that are classified as “hazardous” undergo a more rigorous and thorough permitting and review process by both ADEC, per 18 AAC 62 and 63, and the EPA.

### **3. Wastewater Disposal Permit**

Domestic graywater must be disposed of properly at the surface and requires a Wastewater Disposal Permit per 18 AAC 72. Typically, waste is processed through an on-site plant and disinfected before discharge. ADEC sets fluid volume limitations and threshold concentrations for biochemical oxygen demand (BOD), suspended solids, pH, oil and grease, fecal coliform, and chlorine residual. Monitoring records must be available for inspection, and a written report may be required upon completion of operations.

### **4. NPDES Certification**

ADEC participates in the federal National Pollution Discharge Elimination System (NPDES) program that is administered by EPA (see Section E(3) below). ADEC certifies that discharges permitted under NPDES meet state and federal water quality standards. When an application for an NPDES permit is made to EPA, a duplicate must also be filed with ADEC for certification. The permit may impose stipulations and conditions on the facility and operations, such as monitoring and/or mixing zone requirements. Once operations begin, both EPA and ADEC have the responsibility to monitor the project for compliance with the terms of the permit.

Both EPA and require opportunities for public participation (40 CFR 124.10 - .14; 18 AAC 15.140; 18 AAC 15.150).

EPA administered the NPDES program in Alaska, but on October 31, 2008, EPA approved the state’s application to assume issuing and enforcing permits for wastewater discharges issued under the Clean Water Act. Transfer of authority for the program will be phased in over three years, from November 2008 – November 2011; authority for oil and gas facilities will be transferred to ADEC by 2011 (ADEC 2008b; SOA 2008).

### **5. U.S. Army Corps of Engineers Section 10 and Section 404 Permit Certification**

ADEC participates in the permit review process for U.S. Army Corps of Engineers Section 10 and Section 404 permits (see Section F(1)) by reviewing permit applications to ensure that proposed projects will comply with Alaska water quality standards. If it is determined that the project will comply, ADEC issues a Clean Water Act Section 401 Certification for the project.

### **6. Oil Discharge Prevention and Contingency Plan**

Lessees must comply with the requirements of AS 46.04.010 - .900, Oil and Hazardous Substance Pollution Control. This requirement includes the preparation and approval by ADEC of an Oil

Discharge Prevention and Contingency Plan (C-Plan) (AS 46.04.030; 18 AAC 75.445). Details on the contents of the plan are in Chapter Six.

## **C. Alaska Department of Fish and Game**

ADF&G, Division of Habitat, evaluates the potential effect of any activity on fish and wildlife, their habitat, and the users of those resources.

### **1. Waters Important to Anadromous Fish and Fish Passage**

The ADF&G, Division of Habitat administers the permitting process for activities that may affect anadromous fish streams. Under this program, a Fish Habitat Permit is required before using, diverting, obstructing, polluting, or changing the natural flow or bed of an anadromous fish water body as required in AS 16.05.871(b). A Fish Habitat Permit is likewise required for any activity that may affect the efficient passage of resident fish as per AS 16.05.841.

## **D. Alaska Oil and Gas Conservation Commission**

AS 31.05, the Alaska Oil and Gas Conservation Act, created the Alaska Oil and Gas Conservation Commission (AOGCC). AOGCC acts to prohibit the physical waste of crude oil and natural gas, ensure a greater ultimate resource recovery, and protect the correlative rights of persons owning oil and gas interest in lands subject to Alaska's police powers. It also administers the Underground Injection Control (UIC) program for oil and gas wells in Alaska, and oversees metering operations to determine the quality and quantity of oil and gas produced in the state. AOGCC holds hearings and adjudicates decisions, which require the combined expertise of petroleum geology and petroleum engineering (AOGCC 2008).

### **1. Permit to Drill**

#### **a. Permit Description**

In order to drill a well for oil or gas in Alaska, a person must obtain a Permit to Drill from AOGCC. This requirement applies not only to exploratory, stratigraphic test, and development wells, but also to injection and other service wells related to oil and gas activities. AOGCC does not manage or decide whether to develop state owned resources. Rather, it regulates certain oil and gas operations anywhere in Alaska, whether on state, federal, or private land.

AOGCC's oversight of drilling operations focuses on ensuring that appropriate equipment is used and appropriate practices are followed to maintain well control, protect groundwater, avoid waste of oil or gas, and promote efficient reservoir development. AOGCC is not authorized to deny a Permit to Drill on the basis of land use concerns or conflicts between surface and subsurface interests.

AOGCC is one of several state agencies that has a role in reviewing and approving oil and gas activities. AOGCC's issuance of a Permit to Drill does not relieve the applicant of any obligations to comply with the permit or regulatory requirements of other state, local, or federal agencies before drilling (AOGCC 2008).

#### **b. Review Process**

A Permit to Drill from AOGCC is often the last step in the overall approval process, and usually all of the other concerned agencies have given their approval. The application must be accompanied by the items set out in 20 AAC 25.005(c). A geologist and a drilling engineer review the entire application in detail using a multi-question checklist to ensure the application is complete, accurate, and conforms to all applicable regulations.

AOGCC will notify the operator if there are any deficiencies in the application. The operator will either supplement the original application with revised or additional information, or, in the event that substantive changes are needed, resubmit the entire application. If unanticipated exceptions to regulations or AOGCC orders are needed, such as a well spacing exception, the operator will be notified. Usually such exceptions are handled through a public notice process, with an opportunity for a hearing. If the permit is approved, it will include any operational or environmental safety stipulations identified by AOGCC (AOGCC 2008).

## **2. Disposal of Wastes**

AOGCC must also review and take appropriate action on proposals for the underground disposal of Class II oil field wastes (20 AAC 25.252). Before receiving an approval, an operator must demonstrate that the movement of injected fluids into freshwater sources will not occur. Disposal or storage wells must be cased and the casing cemented in a manner that will isolate the disposal or storage zone and protect oil, gas, and freshwater sources.

Along with a plat showing the location of other wells within one-quarter mile, the disposal injection order application must include information about surface owners located within one-quarter mile of the injection well(s). The disposal injection order application must also contain the name, description, depth, thickness, lithologic description, and geological data of the disposal formation and adjacent confining zones. A description of the fluid to be injected, including composition, source, daily amount, and disposal pressures, and sufficient information and analysis, must be presented demonstrating that the disposal well will not initiate or propagate fractures through the confining zones that allow fluids to migrate. Under certain circumstances a freshwater aquifer exemption may be granted (20 AAC 25.440).

Following approval, liquid waste from drilling operations may be injected through a dedicated tubing string into the approved subsurface zone. The pumping of drilling wastes through the annular space of a well is an operation incidental to drilling of the well, and is not a disposal operation subject to regulation as a Class II well. AOGCC approval of annular disposal operations is required before commencing pumping operations (20 AAC 25.080).

## **3. Annular Injection**

An AOGCC permit is required if fluid is to be injected into a well annulus. The material must be incidental to the drilling of a well (muds and cuttings). AOGCC may take all actions necessary to allow the state to acquire the primary enforcement responsibility for the control of underground disposal related to the recovery and production of oil and natural gas. ADEC considers the volume, depth, and other physical and chemical characteristics of the formation designated to receive the waste. Annular disposal is not permitted into water-bearing zones where dissolved solids or salinity concentrations fall below predetermined threshold limits. Waste not generated from a hydrocarbon reservoir cannot be injected into a reservoir.

## **4. Review Process**

AOGCC actions that have statewide application, such as adopting regulations, are conducted in accordance with the Administrative Procedures Act. Major actions that result in conservation orders that apply to a single well or field receive public notice by publication in a newspaper and a public hearing may be held (20 AAC 25.540). In addition, a public mailing list is maintained for the purpose of sending appropriate notices, orders, and publications to persons who request to be put on these lists (20 AAC 25.545).

## **E. U.S. Environmental Protection Agency**

The U.S. Environmental Protection Agency (EPA) protects human health and the environment by implementing, administering, or overseeing programs and regulations promulgated in federal environmental legislation. These programs, some of which are delegated to the states, safeguard the air, land, and water environments.

### **1. Air Quality Permits**

The federal Clean Air Act includes a number of air quality standards and requirements, including National Ambient Air Quality Standards, New Source Review (NSR), New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants, and Prevention of Significant Deterioration. The two primary types of permits are issued to meet these requirements: Title I Construction Permits, which must be obtained before onsite construction can begin, and Title V Operation Permits, which regulate facilities that emit certain pollutants or hazardous substances.

ADEC administers an air quality program under a federally-approved State Implementation Plan that applies these standards. See Section B(1) for further details.

### **2. Hazardous Waste (RCRA) Permits**

The federal Resource Conservation and Recovery Act (RCRA) established a program for managing hazardous wastes to ensure the protection of human health and the environment, with the EPA as the regulatory authority. Regulations established by the EPA direct procedures for transporting, storing, and disposing of hazardous wastes, and for designing and operating treatment, storage, and disposal facilities safely. A corrective action program guides investigations and cleanups of contaminated air, groundwater, surface water, or soil. Regulations are enforced through inspections, monitoring of waste handlers, taking legal action for noncompliance, and providing compliance incentives and assistance (EPA 2008h).

States may receive authorization to implement the program, which requires that the state standards be at least as strict as the federal standards. Alaska is not authorized for this program, and therefore it is implemented by the EPA in Alaska.

### **3. NPDES Permit**

#### **a. Permit Description**

Effluents discharged by the oil and gas industry into waters and wetlands are regulated through EPA's NPDES program as required by the federal Clean Water Act. The NPDES program, which covers other industries and waters as well, ensures that state and federal clean water quality standards are maintained by requiring a permit to discharge wastes into the nation's waters (EPA 2008j). NPDES permits specify the type and amount of pollutant, and include monitoring and reporting requirements, to ensure that discharges are not harmful to water quality and human health (EPA 2008f). Some permits may be subject to procedures of the National Environmental Policy Act (EPA 2008g). Alaska is in the process of gaining implementation authority for the program. EPA is scheduled to transfer authority for the program in phases over three years, from November 2008 – November 2011 (ADEC 2008b).

NPDES covers a broad range of pollutants, which are defined as “any type of industrial, municipal, and agricultural waste discharged into water” (EPA 2008j). Examples of oil and gas industry effluents regulated by NPDES include drilling muds, cuttings and wash water, deck drainage, sanitary and domestic wastes, desalination unit waste, blow-out preventer fluids, boiler blowdown, fire control system test water, non-contact cooling water, uncontaminated ballast and bilge waters,

excess cement slurry, water flooding discharges, produced waters, well treatment fluids, and produced solids.

There are two basic types of NPDES permits: general permits and individual permits. General permits cover multiple facilities that are similar, for example, oil and gas facilities on the North Slope. General permits are efficient and cost effective because they eliminate redundancy of multiple permits for the same type of facility and discharges (EPA 2008j). They also ensure consistency among similar facilities. Individual permits apply to a specific facility and are tailored to that facility's characteristics. Individual permits are issued for a defined time period, not exceeding five years, and the facility must reapply for the permit before it expires (EPA 2008j).

### **b. Review Process**

The process for issuing a general permit begins when it is determined that there is a group of facilities in an area that share similar characteristics and discharges. The permitting authority develops a draft permit and fact sheet, which documents the decision-making process for developing effluent limits (EPA 2008j). The permitting authority then issues a public notice, providing opportunity for interested parties to submit comments on the draft permit. After considering public input, the permitting authority issues the final permit. The process for an individual permit is similar.

After a general permit is issued, facilities wishing to be included under the general permit submit a "Notice of Intent" to the permitting authority. Additional information describing the facility may be required. The facility may be notified that it is covered by the general permit or the facility may be required to apply for an individual permit (EPA 2008j).

## **4. UIC Class I and II Injection Well Permits**

EPA is responsible for regulating injection wells, which are used to dispose of fluid wastes by injecting the waste underground (EPA 2008i). Authorized as part of the federal Safe Drinking Water Act of 1974, EPA's Underground Injection Control (UIC) program protects underground sources of drinking water from contamination by injection wells. Injection wells are categorized into five classes; Class I and II are most common in the oil and gas industry. EPA may delegate authority for implementing the program to states that meet federal standards. Authority for Class II oil and gas wells has been delegated to AOGCC in Alaska (see Section D(2)); EPA implements the program in Alaska for Class I wells.

All injections falling into Class I must be authorized through EPA's UIC Class I program. Class I wells must operate under a permit that is valid for up to 10 years. Permits stipulate requirements such as siting, construction, operation, monitoring and testing, reporting and record keeping, and closure. Requirements differ for wells depending on whether they accept hazardous or non-hazardous wastes (EPA 2008i).

## **5. Spill Response Plan (C-Plan)**

Owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, or consuming oil and oil products must prepare a spill prevention control and countermeasures plan (C-Plan) in accordance with 40 CFR §112. The definition of facility includes drilling rigs and pipelines. The purpose of the C-Plan is to prevent discharges of oil into navigable waters of the U.S. and the adjoining shorelines. The plan must address three areas:

- operating procedures installed by the facility to prevent oil spills;
- control measures installed to prevent a spill from entering navigable waters; and

- countermeasures to contain, clean up, and mitigate the effects of an oil spill that impacts navigable waters.

The C-Plan is facility-specific and is part of the required documentation that must be present at the facility for inspection. The owner or operator must have the plan certified by a registered engineer but does not submit it to EPA for approval before the beginning of operations. If the facility discharges more than 1,000 gallons or harmful quantities of oil in one event or experiences more than two discharges in a twelve-month period, the operator must submit the C-Plan to the EPA and ADEC for review. The C-Plan differs from the facility response plans (FRP) required by the federal Oil Pollution Act of 1990 in that the C-Plan focuses on prevention and the FRP focuses on response.

## **F. U.S. Army Corps of Engineers**

### **1. Section 10 and Section 404 Permits**

#### **a. Permit Description**

The U.S. Army Corps of Engineers (Corps) has regulatory authority over construction, excavation, or deposition of materials in, over, or under navigable waters of the United States, or any work which would affect the course, location, condition, or capacity of those waters (Rivers and Harbors Acts of 1890 [superseded] and 1899 [33 USC 401, et seq.; Section 10 [33 USC 403]; USACOE 2008b). Termed Section 10 permits, oil and gas activities requiring this type of authorization include exploration drilling from jack-up drill rigs and installation of production platforms.

Section 404 of the Clean Water Act established a program to regulate the discharge of dredged and fill material into waters and wetlands of the United States. This program is administered by the Corps, which is authorized to issue Section 404 permits for discharging dredge and fill materials.

Individual permits (issued for specific projects) are the basic type of permit issued. General permits (including programmatic, nationwide, and regional general permits) authorize activities that are minor and will result in minimal individual and cumulative adverse effects. General permits carry a standard set of stipulations and mitigation measures. Letters of permission, another type of project authorization, are used when the proposed project is minor, will not have significant individual or cumulative environmental impact, and appreciable opposition is not expected. The process for these authorizations is similar (USACOE 2008a, b).

#### **b. Review Process**

Section 404 and Section 10 permits follow a similar three-step review process: pre-application consultation (for major projects), formal project review, and decision making.

During the pre-application consultation, the applicant meets with Corps staff from the local district, interested resource agencies (federal, state, or local), and at times, interested public. These meetings provide informal discussions about the proposal before the applicant commits resources such as funds and detailed designs to the project; provide the applicant with possible alternatives and measures for reducing project impacts; and provide the applicant with information about factors the Corps considers in the permitting process (USACOE 2008a, b).

After receiving a formal application, the first step in the Corps' project review is to obtain public input, which is central to the permitting process. The project is public noticed, and comments and information are requested that will assist with evaluating the positive and negative effects on the public interest. Public hearings may be held if substantial issues are raised that warrant additional public input. USFWS, NMFS, ADNR, and ADF&G may also submit comments to the Corps (USACOE 2008a, b).

Next, the Corps evaluates the project's impacts, considers all comments received, negotiates changes to the project as required, and drafts documentation supporting a recommended permit decision including environmental impacts of the project, findings of public input, and other special evaluations depending on the type of project (USACOE 2008a, b).

In making a final decision on whether to issue a permit, the Corps weighs all relevant factors, which can include conservation, economics, aesthetics, wetlands, cultural values, navigation, fish and wildlife values, water supply, water quality, and other factors judged important to the needs and welfare of the people (USACOE 2008a, b).

The process for letters of permission is abbreviated. In this situation, the proposal is coordinated with fish and wildlife agencies and adjacent property owners who might be affected by the project, but the public at large is not notified (USACOE 2008a, b).

ADEC participates in the permit review process by reviewing the permit application to ensure that the proposed project will comply with Alaska water quality standards. ADEC then approves of the permit through a Clean Water Act Section 401 Certification. Permits may also receive review by other agencies, such as the USFWS and NMFS, to ensure compliance with other laws such as the Endangered Species Act, the National Environmental Policy Act, and Essential Fish Habitat Provisions of the Magnuson-Stevens Act.

## **G. Pipeline and Hazardous Materials Safety Administration**

The federal Office of Pipeline Safety (OPS) in the Pipeline and Hazardous Materials Safety Administration (PHMSA), an agency of the U.S. Department of Transportation, is responsible for regulating movement of hazardous materials by pipe (PHMSA 2008). OPS develops regulations and other approaches to risk management to assure safety in design, construction, testing, operation, maintenance, and emergency response of pipeline facilities (PHMSA 2008). Alaska is not a member of OPS' national pipeline inspection and enforcement program.

## **H. North Slope Borough**

The North Slope Borough has adopted a comprehensive plan and land management regulations under Title 29 of the Alaska Statutes (AS 29.40.020-040). These regulations are Title 19 of the NSB Municipal Code and require borough approval for certain activities necessary for exploration and development of oil and gas leases. The borough may assert its land management powers to the fullest extent permissible under law to address any outstanding concerns regarding impacts to the area's fish and wildlife species, habitat, and subsistence activities.

## **I. Other Requirements**

### **1. Native Allotments**

Lessees must comply with applicable federal law concerning Native allotments. Activities proposed in a plan of operations must not unreasonably diminish the use and enjoyment of lands within a Native allotment. Before entering onto lands subject to a pending or approved Native allotment, lessees must contact the Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM) and obtain approval to enter.

### **2. U.S. Coast Guard**

The U.S. Coast Guard has authority to regulate offshore oil pollution under 33 CFR §§153-157 and to make a determination of a hazard to navigation under 33 CFR §64.31.

### 3. Rehabilitation Following Lease Expiration

Upon expiration or termination of the lease, paragraph 21 of the lease contract requires the lessee to rehabilitate the lease area to the satisfaction of the state. The lessee is granted one year from the date of expiration or termination to remove all equipment from the lease area and deliver up the lease area in good condition.

### 4. Applicable Laws and Regulations

In addition to existing laws and regulations applicable to oil and gas activities, DO&G requires, under paragraph 26 of the state's standard lease contract, that leases be subject to all applicable state and federal statutes and regulations in effect on the effective date of the lease. Leases will also be subject to all future laws and regulations placed in effect after the effective date of the leases to the full extent constitutionally permissible and will be affected by any changes to the responsibilities of oversight agencies.

## J. References

### **ADEC (Alaska Department of Environmental Conservation)**

2008a Division of Air Quality information. <http://www.dec.state.ak.us/air/> Accessed July 22, 2008.

### **ADEC (Alaska Department of Environmental Conservation)**

2008b NPDES Primacy Program. Division of Water.  
<http://www.dec.state.ak.us/water/npdes/index.htm> Accessed August 26, 2008.

### **AOGCC (Alaska Oil and Gas Conservation Commission)**

2008 Commission functions and processes.  
<http://www.aogcc.alaska.gov/functions/OvrSurvIndex.shtml#UIC> Accessed August 27, 2008.

### **EPA (Environmental Protection Agency)**

2007 The plain English guide to the Clean Air Act. Office of Air Quality Planning and Standards, Publication No. EPA-456/K-07-001. <http://www.epa.gov/air/caa/peg/>

### **EPA (Environmental Protection Agency)**

2008a Air permits homepage. Air Quality in the Pacific Northwest and Alaska.  
<http://yosemite.epa.gov/R10/AIRPAGE.NSF/webpage/Air+Permits+Homepage> Accessed July 24, 2008.

### **EPA (Environmental Protection Agency)**

2008b National Ambient Air Quality Standards (NAAQS). Air and Radiation.  
<http://www.epa.gov/air/criteria.html> Accessed August 25, 2008.

### **EPA (Environmental Protection Agency)**

2008c National Emission Standards for Hazardous Air Pollutants (NESHAP). Technology Transfer Network, Air Toxics Website. <http://www.epa.gov/ttn/atw/mactfnlalph.html> Accessed August 25, 2008.

### **EPA (Environmental Protection Agency)**

2008d New Source Performance Standards. Region 7 Air Program.  
<http://www.epa.gov/region07/programs/artd/air/nsps/nsps.htm> Accessed August 25, 2008.

**EPA (Environmental Protection Agency)**

2008e New Source Review (NSR). New Source Review. <http://www.epa.gov/nsr/info.html>  
Accessed August 25, 2008.

**EPA (Environmental Protection Agency)**

2008f NPDES permit program basics: Frequently asked questions. National Pollutant Discharge Elimination System. [http://cfpub1.epa.gov/npdes/faqs.cfm?program\\_id=45#119](http://cfpub1.epa.gov/npdes/faqs.cfm?program_id=45#119) Accessed April 23, 2008.

**EPA (Environmental Protection Agency)**

2008g Other federal laws. National Pollutant Discharge Elimination System (NPDES). [http://cfpub1.epa.gov/npdes/fedlaws.cfm?program\\_id=45](http://cfpub1.epa.gov/npdes/fedlaws.cfm?program_id=45) Accessed August 28, 2008.

**EPA (Environmental Protection Agency)**

2008h Resource Conservation and Recovery Act (RCRA) Subtitle C: managing hazardous waste from cradle to grave. Region 10: The Pacific Northwest. [http://yosemite.epa.gov/R10/OWCM.NSF/webpage/Resource+Conservation+and+Recovery+Act+\(RCRA\)+Subtitle+C:+Managing+Hazardous+Waste+from+Cradle+to+Grave?OpenDocument](http://yosemite.epa.gov/R10/OWCM.NSF/webpage/Resource+Conservation+and+Recovery+Act+(RCRA)+Subtitle+C:+Managing+Hazardous+Waste+from+Cradle+to+Grave?OpenDocument) Accessed August 27, 2008.

**EPA (Environmental Protection Agency)**

2008i Underground injection control program. <http://www.epa.gov/safewater/uic/index.html>  
Accessed August 27, 2008.

**EPA (Environmental Protection Agency)**

2008j Water permitting 101. Office of Wastewater Management - Water Permitting. <http://www.epa.gov/npdes/pubs/101page.pdf> Accessed April 23, 2008.

**PHMSA (Pipeline and Hazardous Materials Safety Administration)**

2008 Pipeline and Hazardous Materials Safety Administration. U.S. Department of Transportation. <http://www.dec.state.ak.us/spar/perp/grs/home.htm> Accessed August 28, 2008.

**SOA (State of Alaska)**

2008 Alaska water permit program approved. Office of the Governor, Press Release No. 08-177, October 31, 2008. <http://www.gov.state.ak.us/archive.php?id=1541&type=1> Accessed December 17, 2008.

**USACOE (U.S. Army Corps of Engineers)**

2008a Do I need a permit? Alaska District. <http://www.poa.usace.army.mil/reg/NeedPermit.htm>  
Accessed August 26, 2008.

**USACOE (U.S. Army Corps of Engineers)**

2008b Regulatory program overview. Alaska District. <http://www.poa.usace.army.mil/reg/regover.htm> Accessed August 26, 2008.