



Research, Development, and Demonstration Permit Application

Alaska Department of Environmental Conservation
Solid Waste Program

ADEC Office Only:

Facility Name: _____

Authorization #: _____

Instructions:

This application is for a new permit or permit renewal for a Research, Development, and Demonstration (RD&D) project at a Class I Municipal Solid Waste (MSW) Landfill. It applies only to Class I MSW landfills with a leachate collection system and State-approved liner system.

A RD&D permit allows for the following variances from State and Federal MSW landfill requirements:

- The run-on control system in 40 CFR 258.26(a)(1) and 18 AAC 60.225(c); and
- The liquids restriction in 40 CFR 258.28(a) and 18 AAC 60.360(a)(2).

In the application, the term **“facility”** refers to all land, structures, other appurtenances, and improvements on land used for treatment, storage, or disposal of solid waste.

If a required item is not applicable, please explain why. Include all the applicable information for each item regardless if it has been previously submitted.

The application must be stamped and signed by a registered engineer, in accordance with 18 AAC 60.210(c).

You may prepare a draft application with a list of questions and schedule a meeting with the ADEC Solid Waste Program.

Section 1. Property Information

Facility Name:		MSWLF Permit #:	
Facility Address:			
City:		Zip:	
Legal Property Description:			
Section:	Township:	Range:	Meridian:
General Property Description:			
Latitude:		Longitude:	
Landowner:		Contact Name:	
Address:	City:	State:	Zip:
Email:	Phone:		

Section 2. Contact Information**Permit Applicant** (Co. or Entity):

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Type of Entity:

Government

Corporation

Other:

State of Incorporation or Registration:

Alaska Business License Number:

IRS Tax ID Number:

Facility Owner (if different than applicant):

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Facility Operator (if different than applicant):

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Agent/Consultant:

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Section 3. Fees

A check or money order for the appropriate fees [listed in 18 AAC 60.700(a) Table E-1] must be submitted with the permit application. If not included, the application will be returned to the applicant.

Submit payment for the first year's annual fee with the initial application for a facility. No application fee is required for permit renewal applications; annual fees will be billed each year.

You will be billed separately for time spent reviewing waiver requests.

This application is for a:

New Permit

Permit renewal

Section 4. Cover Letter and Certifications

A cover letter must be provided with the application and must include the following information and signature.

1.	A statement indicating you wish to obtain a permit for a RD&D project at a Class I MSWLF.
2.	A statement indicating which variance you are seeking under a RD&D permit: <ul style="list-style-type: none">• The run-on control system in 40 CFR 258.26(a)(1) and 18 AAC 60.225(c); and/or• The liquids restriction in 40 CFR 258.28(a) and 18 AAC 60.360(a)(2).
3.	A brief general description of the topography, geology, climate, surface hydrology and groundwater hydrology at the facility.
5.	The applicant must sign the cover letter.
6.	The applicant must submit the following signed statement, which may be added exactly as shown in the box below to the cover letter, or the applicant may sign this sheet and submit it as an attachment to the cover letter.

I certify, under penalty of perjury, that all of the information and exhibits in this cover letter and application are true, accurate, and complete.

Printed Name:	Title:
Signature:	Date:

All applications must be signed as follows per 18 AAC 15.030:

- **Corporations:** A principal executive officer, an officer that is no lower than the level of vice president, or a duly authorized representative who is responsible for the overall management of the project or operation.
- **Municipal, state, federal, or other public entity:** A principal executive officer, ranking elected official, or duly authorized employee.
- **Partnerships:** A general partner.
- **Sole proprietorship:** The proprietor

Section 5. Waste Handling and Processing Information [18 AAC 60.210]

1. **List the approximate quantities of waste you expect to receive at the facility that are disposed in the RD&D project area each year:**

<u>Quantity</u>		<u>Waste</u>
Tons	Cubic yds.	
		Municipal Solid Waste (MSW)
		Ash from MSW
		Construction and Demolition Waste
		Non-Regulated Asbestos-Containing Material (non-RACM)
		Regulated Asbestos-Containing Material (RACM)
		Sewage Solids or Biosolids
		Treated Medical Waste
		Polluted Soil
		Animal Carcasses
		Commercial Fish Waste
		Commercial Woodwaste
		Other Ash
		Other:
		Other:
		Other:
		TOTAL

Section 6. Requirements

Each application for a RD&D permit must include documentation that the landfill's design and operations will comply with the requirements of the RD&D rule and that the proposed project has a research component that includes quantitative measurements of some aspect of the project, as per 18 AAC 60.213(b)(3) and (d)(1).

A RD&D permit will be issued for a research project only. The research plan is the central element of the permit application and should provide sufficient detail and information to clearly demonstrate the objectives of the project. The research plan is a flexible document that should be reviewed annually and updated/modified, as necessary. The following items represent the general requirements for all RD&D projects and include the minimum requirements for the research plan. A copy of the research plan should be kept at the landfill for use by facility staff [18 AAC 60.213(b)]

Please identify the PDF page that addresses each requested item

1.	Maps – Attach maps and/or aerial photographs as needed to show the following items.	PDF page
	a. All landfill areas included in the RD&D project	
	b. Groundwater monitoring wells associated with the landfill	
	c. Surface water monitoring points associated with the landfill	
	d. All monitoring devices specifically related to the RD&D project.	
2.	Leachate Head	
	Provide documentation demonstrating that the leachate collection system at the landfill will maintain a leachate depth on the liner of no more than 12 inches.	
3.	Geotechnical Analysis	
	Provide information to demonstrate that conducting the RD&D project will not cause instability within the waste or to landfill structures.	
4.	Research plan	
	a. A detailed description of the proposed research project.	
	b. A detailed statement of the project goals.	
	c. A detailed description of the monitoring systems used as part of the RD&D project.	
	d. A detailed description of what data will be collected and how progress toward project goals will be evaluated through the data.	
	e. Quality assurance/quality control procedures that will be used for collecting data.	
	f. An outline for the semi-annual reports to be submitted to ADEC. The first report will be due 6 months after issuance of the RD&D permit, and subsequent reports will be due every 6 months following. The reports must include: <ul style="list-style-type: none"> • A description of progress toward the stated project goals. • A summary of all monitoring and testing results. • Operating information required by ADEC as permit conditions. • Any problems encountered during the report period. 	

Section 6. Requirements (continued)	
5.	Project operations and contingency plan:
For a project involving a liquids restriction variance , the plan should include:	
	a. A detailed description of how the liquid will be introduced into the landfill.
	b. Plans for how the water will be managed if a system upset or other problem makes it impossible to introduce water for a period of time.
	c. A description of the available options for immediate water management if ADEC or other permit holder determines the RD&D project must be cancelled.
For a project involving a run-on control system variance , the plan should include:	
	d. A detailed description of how both storm water and leachate will be managed at the project site.
	e. A description of the available options for managing storm water and leachate if ADEC or the permit holder determines the RD&D project must be cancelled.
6.	Attach documentation to demonstrate that operating the landfill under the variance will not increase risk to human health or the environment over operating the landfill without the variance. This should include the following:
	a. The results of Hydrologic Evaluation of Landfill Performance (HELP) modeling, or the equivalent, to estimate the buildup of leachate on the liner.
	b. The results of laboratory analysis of leachate characteristics to support Multimedia Exposure Assessment (MULTIMED) modeling, or equivalent.
	c. The results of MULTIMED modeling, or the equivalent, to estimate water quality at the point of compliance.
7.	Corrective Action Plan
	a. A corrective action plan that describes procedures that will be taken if the proposed research, development, and demonstration project results in landfill damage, environmental damage, or improper waste disposal;

Section 7. Project-Specific Design	
A complete set of design drawings for the RD&D project must be submitted showing all the following information: [18 AAC 60.213(b)]	
1.	Plan review drawings with contour lines <u>and</u> cross sections that show:
	a. The existing conditions within the RD&D project area(s).
	b. All changes that will be made and structures that will be installed to accommodate the RD&D project.
	c. The final appearance of the RD&D project area upon completion of the project.
2.	Construction detail drawings <u>and</u> cross sections
	a. All site changes.
	b. New structures or devices that will be installed.
	c. Landfill gas or leachate handling systems that will be part of the RD&D project.
3.	Quality assurance plan for the installation of any liners associated with the RD&D project.

Section 8. Monitoring Plan

The monitoring plan must include sufficient detail to allow all monitoring to be completed in full compliance with the applicable regulations and permit conditions. It must include the following information and a statement for each monitoring type that explains why the monitoring is being performed.

1.	Project specific monitoring plan [18 AAC 60.213(b)(7)]	<u>PDF page</u>
	a. Provide a monitoring plan/QAPP that includes any monitoring specific to the proposed research, development, and demonstration project	
	Visual monitoring plan [18 AAC 60.210; 18 AAC 60.800]	
	a. Description of the procedures for visual monitoring of the RD&D project area.	
	b. Checklist that includes the specific RD&D monitoring requirements.	
2.	Surface water monitoring plan (if required by ADEC) [18 AAC 60.210; 18 AAC 60.810]	
	a. Provide an updated surface water monitoring plan/QAPP to include any requirements specific to the RD&D project.	
3.	Groundwater monitoring plan [18 AAC 60.210; 18 AAC 60.217; 18 AAC 60.820-860]	
	a. Provide an updated groundwater monitoring plan/QAPP to include any requirements specific to the RD&D project.	
4.	Explosive gas monitoring plan [18 AAC 60.210; 18 AAC 60.805]	
	a. Provide an updated gas monitoring plan/QAPP to include any requirements specific to the RD&D project.	
5.	Other Monitoring [18 AAC 60.215]	
	a. For other monitoring required at the facility provide and updated monitoring plan/QAPP to include any requirement specific to the RD&D project	

Section 9. Closure Plan and Cost Estimate

If the proposed RD&D project will affect the closure of the landfill, a person that conducts a RD&D project involving a variance from the run-on control or liquids restriction regulations must submit a closure plan, or revise an existing closure plan:

1.	For landfills with variances from the run-on control or liquids restriction regulations:	
	a. Make changes to the facility closure plan, as necessary, to reflect any impact on closure of the facility caused by the operating variance.	
	b. Provide a copy of the revised closure plan (including cost estimate) with the permit application. Identify what changes were made to the closure plan as part of the submittal.	

Additional information

Attach any additional information necessary to accurately reflect the location, construction, and operations of the facility related to the RD&D project.