



Summary of Licensing and Permitting for Weather Modification Operations in Montana



Prepared for Water Policy Interim Committee
September 10, 2019
Prepared by MT DNRC

Purpose

To assure that all weather modification operations within Montana are conducted by qualified operators and are in the public good.

Definitions

- * **Applicant** – Any person, political subdivision, public or private corporation, partnership, or other entity that wishes to obtain a weather modification license or permit.
- * **License** – Authorization to supervise the conduct of a weather modification operation.
- * **Operation** – Weather modification and control activities undertaken within one geographical area over a continuing time interval not to exceed 1 year.
- * **Permit** – Authorization to engage in a specific weather modification operation.
- * **Weather Modification and Control** – Changing or controlling or attempting to control, by artificial methods, the natural development of atmospheric cloud forms or precipitation forms that occur in the troposphere (lowest part of the atmosphere where most weather changes occur).

Historical Background

- * 1967 – 40th Legislature passed Montana’s first Weather Modification and Control Act.
- * 1970’s – MT participated in a weather modification research program known as HIPLEX (High Plains Cooperative Research Program). HIPLEX was sponsored by the Bureau of Reclamation and operated around Miles City, MT.
- * 1970’s – 1980’ – MT routinely granted a weather modification license and permit to North Dakota.
 - o North Dakota has an active summer time cloud seeding program involving 7 counties along the border with MT. North Dakota claims they must begin seeding clouds in MT air space to account for the lag time between seeding and the “production” of rain.
- * 1986 – 1987 – Snow pack augmentation program implemented in the Bridger Range near Bozeman.
- * 1993 – 53rd Legislature revised the licensing and permitting process (SB72) in response to citizens in eastern MT who were concerned that North Dakota was “stealing” rain from MT.
 - o SB72 added the requirement for DNRC to prepare an Environmental Impact Statement and for the applicant to demonstrate proof of financial responsibility. MT has not granted a weather modification permit since the passage of SB72.
- * 2003 – 58th Legislature attempted to revise the licensing and permitting process through HB644. The bill would have:
 - o Limited weather modification operations to winter time (Nov 1 – March 15).
 - o Removed permitting requirements.
 - o Removed requirement for Environmental Impact Statement.
 - o Passed House. Tabled in Senate Committee on Agriculture, Livestock and Irrigation.

Licensing and Permitting Process

- * MT requires a License and Permit to engage in weather modification and control activities.

❄ Exemptions –

- Research, development, and experiments conducted by qualified agencies and organizations. Qualified agencies and organizations include: State and federal agencies, institutions of higher learning, and nonprofit research organizations.
- Emergency activities for protection against fire, frost, sleet, or fog.
- Normal activities engaged in for purposes other than those of inducing, increasing, decreasing, or preventing precipitation or hail.

❄ Requirements for License

- Form No. 670-N-278.
- Fee - \$100
- Qualifications - Demonstrate competence in the field of weather modification and meteorology.
 - Competence can be shown through a combination of education and work experience in the conduct of weather modification operations. **Minimum** work experience is 1 full year in a responsible position involving the management and control of weather modification operations.
 - If the applicant is an organization, the qualification requirement applies to the individual who will oversee the operation for the applicant.

❄ Requirements for Permit

- Form No. 672-N-278.
- Fee - equivalent to 1% of the estimated cost of the operation.
- Proof of Financial Responsibility - \$10 million (bond, insurance, negotiable securities, cash, other).
 - Applicant must show ability to respond in damages for liability that might reasonably be attached to, or result from, the proposed weather modification and control activities.
 - Damages include, but are not limited to, losses from flood, lightning-induced fire, hail, or erosion, including those losses that develop after the operation is concluded.
- Operating Plan – The “who”, “what”, “when”, “where”, “why” and “how”.
- Notice of Intention – Public notification to undertake weather modification and control activities.

Application Review Process - DNRC

- ❄ Prepare a report and an Environmental Impact Statement (EIS).
- ❄ Conduct additional analyses as necessary to evaluate information provided by the applicant.
- ❄ Conduct at least 1 public meeting in the area affected by the proposed operation.
- ❄ Publish the Notice of Intention.
- ❄ Hold a public hearing.
- ❄ DNRC’s actual cost of preparing the EIS and report, conducting the public meeting(s), publishing the Notice of Intention, and holding the public hearing, must be paid by the applicant.

Threshold Criteria

- ❄ Applicant must establish by a preponderance of evidence that the operation:
 - Is for the general welfare and the public good.
 - Is reasonably designed to improve water quantity or quality, reduce loss from weather hazards, provide economic benefits for the people of Montana, or advance scientific knowledge.

- Is designed to include adequate safeguards to minimize or avoid possible damage to the public health, safety, and welfare and to the environment.
- Will not adversely affect another operation for which a permit has been issued.

Limitations

- ✳️ Permits are subject to terms, conditions, restrictions, and limitations to assure that the operation would be for the general welfare and public good.
- ✳️ DNRC may modify, revoke, or refuse to renew any license or permit.

Record Keeping,

- ✳️ Applicant records and reporting:
 - Daily record keeping.
 - Monthly reporting.
 - End of Operation report.
 - All records and reports are available for public inspection.

County Weather Modification Authority

- ✳️ Residents of a county may establish a county Weather Modification Authority.
- ✳️ Authority can be established (and abolished) by petition, resolution or election
- ✳️ Authority can contract for weather modification services.
- ✳️ Authority may certify to the board of county commissioners a tax on the taxable value of all taxable property in the county to raise money for the county’s weather modification activities.

Application Timeframe

- ✳️ Application must be submitted to DNRC at least 180 days prior to the intended start date for the operation.

Additional Information

- ✳️ **Title 85, chapter 3, parts 1-4 Montana Code Annotated (MCA)** – Laws enacted by the Legislature governing the licensing and permitting of atmospheric weather modification activities.
- ✳️ **Title 36, chapter 20, subchapters 1-4 Administrative Rules of Montana (ARM)** - Administrative Rules adopted by DNRC for implementing the weather modification statutes found in Title 85, chapter 3.

