

## Chapter Ag 16

### WEATHER MODIFICATION

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**Ag 16.01 Definitions.** (1) "Act" means s. 93.35, Stats., the weather modification law as created by chapter 87, laws of 1977.

(2) "Control area" means a preselected, untreated surface area comparable to the target area, in which no effects are expected, and which is to be used for comparison with the target area.

(3) "Department" means the Wisconsin department of agriculture, trade and consumer protection.

(4) "Operation" means the performance of any weather modification activity undertaken for the purpose of producing or attempting to produce any form of modifying effect upon the weather within a specified geographical area over a specified time interval, as provided under s. 93.35(1)(b), Stats.

(5) "Operations area" means the area in which an operation is conducted to produce or attempt to produce the desired effect within the target area.

(6) "Target area" means the surface area within which the effects of an operation are expected to be found.

(7) "Weather modification" means any activity performed with the intention of producing artificial changes in the composition, motions and resulting behavior of the atmosphere, as provided under s. 93.35(1)(c), Stats.

(8) "Weather modification apparatus" means any device used to disperse any chemical material with the intention of producing artificial changes in the composition, motions and resulting behavior of the atmosphere.

History: Cr. Register, September, 1979, No. 285, eff. 10-1-79.

**Ag 16.02 Licensing procedure and criteria.** (1) **LICENSE APPLICATION.** Applications for professional weather modification licenses shall be submitted on forms prescribed by the department, accompanied by the required fee, no later than 20 business days before the applicant plans to use the license. The department shall grant or deny a license application within 20 business days after the application is filed with the department, provided that the application is accompanied by all requisite information and documentation. In addition to other information required by the department, applicants shall provide the following information concerning the applicant's educational background, professional reputation and knowledge of experience in weather modification:

(a) Educational background at the undergraduate and graduate level, including dates of attendance and graduation, major and minor subjects,

number of semester hours of meteorological course work, degrees received, and titles of any theses or dissertations.

(b) Experience in weather modification or related activities and particularly experiences under meteorological conditions typical of Wisconsin. Applicants shall list dates and titles of each position held and whether they were at a sub-professional or professional level, the names and addresses of employers, a description of the work done including both the magnitude and complexity of the work and duties and degrees of responsibility for the work, and the names and addresses of supervisors under whom the work was performed.

(c) Membership in scientific or engineering societies including the grade of membership and certification held in each society.

(d) Patents held, articles or papers published, and reports prepared relevant to weather, meteorology, and weather modification.

(e) A list of all jurisdictions in which the applicant has previously filed an application for a professional weather modification license and whether or not the license was issued.

(f) A list of all lawsuits relating to weather modification in which the applicant was involved as a party or as an employe of a party in the lawsuit.

(g) A list of all jurisdictions which have suspended, revoked, refused to renew, or placed on probationary status a professional weather modification license held by the applicant or in which the applicant was subjected to any other form of disciplinary action. If there has been any such suspension, revocation, refusal to renew, placement on probationary status or other disciplinary action, the applicant shall explain the circumstances of the action.

(h) Three references who will attest to the applicant's professional reputation, knowledge of weather modification principles and experience in the application of these principles.

(2) LICENSING STANDARDS AND CRITERIA. A professional weather modification license may be issued only to persons submitting a complete application and who have demonstrated to the satisfaction of the department their competence to engage in weather modification operations. Competence shall be determined on basis of:

(a) Educational and experience criteria established under sub. (3);

(b) Information provided in the application, including responses from references; and

(c) Relevant data about the applicant that the department possesses or discovers, or obtains from the applicant by personal interview.

(3) EXPERIENCE AND EDUCATIONAL CRITERIA. (a) Persons applying for a professional weather modification license shall, as a condition of licensing, have a minimum of 2 years experience at the professional level in directing weather modification field operations or field research, and in addition thereto one of the following 4 educational and experience criteria:

1. Six years experience in weather modification field operations or field research; or
2. A degree in meteorology; or
3. A degree in engineering, mathematics, or the physical sciences, plus 2 years experience in weather modification field operations or field research; or
4. A degree in engineering, mathematics or the physical sciences which includes or is in addition to at least 20 semester hours of meteorological course work.

(b) In determining if an applicant has satisfied the educational and experience criteria under par. (a), the department may take into consideration certification of the applicant by a recognized national or international professional and scientific association concerned with weather modification and meteorology whose certification standards equal or exceed educational and experience criteria specified under par. (a).

(4) **RENEWALS.** Licensees may renew an existing license by completing and filing a renewal application with the department and paying the required renewal fee. Licenses shall be renewed on basis of the standards and criteria necessary for issuance of original licenses.

History: Cr. Register, September, 1979, No. 285, eff. 10-1-79; am. (1) (intro.), Register, December, 1985, No. 360, eff. 1-1-86.

**Ag 16.03 Permit procedures and criteria.** (1) **PERMIT APPLICATION.** Applications for a weather modification permit shall be submitted on forms prescribed by the department no later than 20 business days before the applicant plans to use the permit and be accompanied by the required fee. The department shall grant or deny a permit application within 20 business days after the application is filed with the department, provided that the application is accompanied by all requisite information and documentation. In addition to information required under s. 93.35(6)(b), Stats., the applicant shall provide the following:

(a) A list of all jurisdictions which have suspended, revoked, refused to renew or placed on probationary status a weather modification permit held by the applicant or which have subjected the applicant to any other form of disciplinary action. If there has been any such suspension, revocation, refusal to renew, placement on probationary status, or other disciplinary action; the applicant shall explain the circumstances of such action.

(b) If the applicant is a corporation, proof that it is incorporated in or has a certificate of authority to do business in Wisconsin.

(c) Names, addresses and weather modification license numbers of individuals under whose control and direction the operation will be conducted on a day-to-day basis.

(d) Proof of financial responsibility as provided under sub. (4).

(e) If the operation will be conducted under a contract, a copy of the contract and a statement showing the value of the contract.

(f) If the operation will not be conducted under a contract, an estimate of the costs of the operation and information as to how the estimate was made.

(g) A copy of any promotional and advertising material used in connection with negotiations for the contract with the sponsor.

(h) A completed environmental impact questionnaire and screening form prescribed by the department.

(2) **OPERATIONAL PLAN.** The application shall include a complete and detailed operational plan which, together with the information required under s. 93.35(6)(b)5, Stats., shall contain the following information:

(a) The nature and objective of the operation.

(b) The legal descriptions of and a map showing the operations area, the target area and the control area, if a control area is to be used.

(c) The approximate starting date of the operation and its anticipated duration.

(d) The kind of seeding agents to be used and the anticipated rate of use.

(e) The kinds of weather modification apparatus which will be used and methods of seeding for which they will be used.

(f) A description of the meteorological, surface and other conditions under which modification of the weather will be done by the applicant.

(g) An emergency shutdown procedure which describes conditions under which operations will or must be suspended because of possible danger to the public health, safety and welfare, or to the environment.

(h) The means by which the operational plan will be implemented and carried out, such as the location of the main operational office and any other offices used in connection with the operation, the location of such ground equipment as seeding generators, radar and evaluation instrumentation, the number and kinds of aircraft which will be used, and the extent to which weather data will be available to licensees and other personnel carrying out the project.

(i) How conduct of the operation will interact with other projects.

(j) An acceptable plan for the evaluation of the operation prepared in compliance with sub. (3)(d).

(k) Such additional information as will assist the department in deciding whether or not to issue the permit.

(3) **PERMIT STANDARDS AND CRITERIA.** The granting of a permit shall, in addition to other criteria established under s. 93.35(6)(d), Stats., be based on the following standards and criteria:

(a) The operation will be conducted under the direction and supervision on a day-to-day basis of a person who holds a valid Wisconsin professional weather modification license and who is present on the site during the weather modification operation or readily available to be contacted personally or by telephone and can be called to the site when and if needed.

(b) The operation does not involve a substantial or high degree of risk to persons or property, is designed to include adequate safeguards to minimize possible damage to the public health, safety, welfare, property,

or the environment; has outlined a program for implementing safeguards, including an emergency shutdown procedure which describes conditions under which operations will be suspended because of possible danger to the public health, safety, welfare, property or the environment.

(c) The operation will not adversely affect an existing research and development project exempted from licensing and permit requirements.

(d) The applicant has an acceptable plan for evaluation of the operation by using available surface data from sources such as the United States department of agriculture county crop yield reports, the United States geological survey stream flow gauges, the national weather service temperature and precipitation gauges and reports, and the hail loss insurance records for the region.

(e) The operational plan is sufficiently comprehensive to meet the basic purposes and objectives of the act.

(4) FINANCIAL RESPONSIBILITY. Proof of financial responsibility may be established by filing with the department:

(a) A prepaid noncancellable insurance legal liability policy or a corporate surety bond issued by a company approved by the department and against whom service of legal process may be made in Wisconsin, in an amount at least 10 times the value of an operation conducted under contract or the estimated costs of an operation not conducted under contract; or

(b) By depositing with the department cash or negotiable securities in an amount at least 10 times the value of an operation conducted under contract or the estimated costs of an operation not conducted under contract.

(5) PERMIT HEARING. Hearings required under s. 93.35(6)(c), Stats., shall be conducted as a class I proceeding under s. 227.01, Stats. At least 10 days notice in writing shall be given to the permit applicant. Prior notice of the hearing shall also be given to the public in the area of the state reasonably expected to be affected by the operation by newspaper, radio or television announcement. Persons who file with the department a written request to be notified of permit hearings to be held in their area shall be mailed a copy of the hearing notice at least 10 days prior to the scheduled date of the hearing.

(6) NOTICE OF OPERATION. Permittees shall, 24 hours prior to the commencement of the operation, directly notify the department of the time, when and place where the operation will be commenced. Permittees shall within 24 hours after the completion of an operation notify the department of the time such activity was concluded. Notice shall be given to department officials by telephone or telegraphic communication.

History: Cr. Register, September, 1979, No. 285, eff. 10-1-79; am. (1) (intro.), Register, December, 1985, No. 360, eff. 1-1-86.

Ag 16.04 Records. (1) DAILY LOG. Each permittee shall complete and retain a daily log of weather modification activities for each unit of weather modification apparatus used during an operation. The log shall be kept on forms prescribed by the department and in addition to information required under s. 93.35(12)(b), Stats., shall contain the following information:

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(a) Date of weather modification activity in which the apparatus was used.

(b) Location of each item of weather modification apparatus used in the course of an operation and the flight track of each aircraft used in a modification mission. Maps may be used to show the location of the apparatus and the flight tracks.

(c) Local time when modification activity began and ended. For intermittent operations, the start and end of the total sequence of operations may be used.

(d) Length of time, in hours and minutes, each unit of weather modification apparatus was used.

(e) Kind of modification agent used.

(f) Rate of dispersal of agent during the period of actual operation of weather modification apparatus, by hour or other appropriate time period.

(g) Total amount of modification agent used. If more than one agent was used, the total amount of each agent used shall be separately reported.

(h) Local time when any radar monitoring operation was turned on and off.

(i) Description of type of clouds modified and whether they are stratiform, isolated cumuliform, organized cumuliform or other types of clouds.

(j) Remarks indicating operational problems encountered, such as equipment failure, weather conditions not conducive to successful conduct of the operation, personnel problems, and others.

(2) **SUMMARY RECORDS.** Each permittee shall prepare a monthly summary listing the following totals from daily logs:

(a) Days during each month that the operation was conducted.

(b) Time of operation.

(c) Amount of each kind of agent used.

(d) Average rate of dispersal for each kind of agent used.

(e) Time of operation of radar.

(f) Days of each type of cloud treated.

(3) **WEATHER RECORDS.** Each permittee shall obtain and retain copies of all daily precipitation and weather records available from national weather service stations in the target area, and such other weather information as may be readily available from other reliable sources in the target area.

(4) **RECORD OF PARTICIPANTS.** Each permittee shall keep a roster of the names and addresses of all employes or other persons participating or assisting in the conduct of operations for which a permit was issued.

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(5) RETENTION AND INSPECTION OF RECORDS. Records prescribed under this section shall be maintained for a period of 3 years and be readily available for inspection by the department.

History: Cr. Register, September, 1979, No. 285, eff. 10-1-79.





**Ag 16.05 Reports.** (1) **MONTHLY REPORT.** Within 10 days after the end of each calendar month, the permittee shall submit a report to the department consisting of:

(a) A copy of the summary record prepared under s. Ag 16.04 (2).

(b) A copy of the roster prepared under s. Ag 16.04 (4), listing the names and addresses of all employees and other persons participating or assisting in the conduct of operations.

(c) A copy of the federal interim activity report filed for the month with the national oceanic and atmospheric administration under the federal weather modification reporting act. (15 USC 330)

(d) A narrative account of the manner in which operations during the month did not conform to the operational plan filed under s. Ag 16.03.

(2) **FINAL REPORT.** Within 30 days after completion of any operation, the permittee shall file with the department a final report on the operation consisting of:

(a) Copies of logs prepared under s. Ag 16.04 (1), weather records obtained under s. Ag 16.04 (3), and totals for the entire operational period based on monthly summary records prepared under s. Ag 16.04 (2).

(b) A copy of the federal final activity report filed with the national oceanic and atmospheric administration under the federal weather modification reporting act. (15 USC 330)

(c) A narrative account of the manner in which the operation did not conform to the operational plan filed under s. 93.35 (6) (b) 5., Stats., and s. Ag 16.03 (2).

(3) **EVALUATION REPORT.** Within 120 days after completion of the operation the permittee shall file with the department a narrative evaluation of the operation. The data for this report shall be assembled and evaluated on basis of the evaluation plan prepared under s. Ag 16.03 (3) (d).

(4) **SPONSOR'S REPORT.** Permittees shall file with the department a copy of all reports made by the permittee to sponsors of the operation within 10 days after such report was submitted to the sponsor.

**History:** Cr. Register, September, 1979, No. 285, eff. 10-1-79.

**Ag 16.06 Statutory authority; exemptions.** (1) These rules are adopted under authority of s. 93.35, Stats.

(2) In addition to activities exempted under s. 93.35 (3), Stats., weather modification operations conducted by agencies of the state and federal governments are exempt from licensing and permit requirements.

(3) Persons intending to conduct exempted operations shall file with the department a notice of intent to engage in such operations at least 25 days prior to the date weather modification activities are to begin. Notices shall include a statement indicating the name and address of the person intending to engage in an exempted operation, the nature and

objective of the activity, and the area in which the operation is to be conducted.

**History:** Cr. Register, September, 1979, No. 285, eff. 10-1-79.