

*Weather Modification Identification Act*

airports at which there is a relatively high incidence of super-cooled fog. The more common warm fog may be dissipated by the use of heat, hygroscopic particles and the down-wash of helicopters. Successful experiments have been reported with each of these techniques but, in addition to other disadvantages, they have been considered too expensive for general use. Recent experiments, guided by numerical modelling and using carefully sized hygroscopic particles, offer some prospects for a more economical technique.

**Hail Suppression:** After extensive experiments and the development of a model of hail growth, substantial successes in the reduction of hail damage have been reported from the U.S.S.R. Recent experiments in other countries have shown some reduction in hail damage with varying techniques, but more adequate numerical and physical models need to be developed.

**Hurricane Modification:** Recent hurricane seedings off the eastern U.S.A. coast have been accompanied by reduced maximum wind velocities for short periods. Confirmation is required from further experiments. In view of the limited opportunities for hurricane seeding, there is need for improved numerical hurricane models to strengthen the scientific basis of the hypothesized hurricane modification and to provide guidance for future experiments.

I do not wish to repeat what I said about this bill at the committee stage, Mr. Speaker. I should like now to address myself to the specific amendment which stands in my name. It was my view that at the committee some confusion seemed to surround the wording of clause 5. I should like to remind hon. members that the original wording of that clause was found to be objectionable. The result was that the hon. member for Timiskaming (Mr. Peters) submitted an amendment which was adopted by the committee. I am somewhat in disagreement with the use of the word "shall" in the text of the amendment submitted by the hon. for Timiskaming and I am proposing that the word "may" be substituted therefor. I think I can now convince the hon. member for Timiskaming that we are in agreement on the intent of our respective amendments. Our differences of opinion seemed to centre around the use of the word "shall" or "may".

I have two learned opinions on the matter to back up my particular amendment with the use of the word "may". Let me quote from a well-known and respected authority on parliamentary practice, namely Dr. Ollivier who recently retired from his functions in the House of Commons. The report of the committee on health, welfare and social affairs dated February 18, 1969, reads as follows at page 480:

I want to make the distinction between "may" and "shall". When we say that the Governor General may do something, it means that he shall do it. You never say that the Governor in Council shall do something. That is the distinction. If you impose a duty on a commission you say that the commission shall do it, but if you impose a duty on the Governor in Council you say the Governor in Council may do it. On that second point I am not quite in agreement. It forces the Governor in Council to do something.

I think what Dr. Ollivier was saying in a tactful way was that it is not polite in a legislative context to use the word "shall" with reference to the Governor in Council.

The other opinion with respect to the use of the word "shall" or "may" was referred to by my minister and I quote from *Hansard* of June 21, 1971, at the bottom of page 7182, the second column as follows:

—I have been given by law officers of the Crown who were seconded to my department from the Department of Justice. They have been consistent in recent years in interpreting Canadian legislation and, as a non-lawyer, I do not wish to question their

advice in this connection. They use the word "may" rather differently than most of us do in everyday conversation. They use it, implying an obligation, a very serious obligation. The obligation is on the minister. The minister has a public duty, which I am certainly prepared to accept and which I am sure all future ministers of the environment will be prepared to accept, to act in certain ways which are outlined in the bill. This is a duty which will be enforced by Parliament.

• (3:20 p.m.)

I continue quoting:

The word "shall" differs, implying mandatory action enforceable through the courts. It is a question of whom the minister must regard as his master or, to put it another way, who the real master of the minister is. Is it to be Parliament or the courts? If, in the last analysis, his master is the courts, then our draftsmen use "shall". But if it is Parliament, then "may" has real significance and is binding on the minister.

That is my reason, Mr. Speaker, for bringing forward the amendment to clause 5. May I assure all hon. members that the administrator of the act will comply with the intention of the act in its amended form.

**Mr. Lloyd R. Crouse (South Shore):** Mr. Speaker, the bill before the House deals with weather modification and, as the Parliamentary Secretary to the Minister of the Environment (Mr. Corbin) said, it received thorough study when it came before the Standing Committee on Fisheries and Forestry.

Over the past few years in Canada weather modification activities have been quite sporadic. However, technology is advancing and we can, therefore, expect that such activities will increase in the years ahead. It is therefore necessary for the authorities to be made aware of any activities that may be contemplated. It is also necessary for them to be informed in detail of all such activities that are to be carried out. This, basically, is the reason behind this bill, a bill which calls for the appointment of an administrator to whom a report must be made, on the required form, by anyone desirous of engaging in weather modification activities.

At this particular point in time, Canadians are not entirely certain that cloud seeding, when carried out, will increase rainfall or alter the weather pattern in any particular part of Canada. However, from a scientific standpoint I believe it is absolutely essential that action, as contemplated in this bill, be taken, so that we may have an awareness of and detailed information on all weather modification activities either contemplated or carried out in Canada.

We do not have too many criticisms of this particular bill. That is unusual. However, it does not state the name of the department which will assume the responsibility for supervising the actions of the administrator and which will supervise and be responsible for tabulating the reports that are filed by people planning to engage in such activities. I presume that the administrator will be operating in co-operation with the Canadian Meteorological Service, since it is part of the responsibility of that service to study the nature and behaviour of our atmosphere. I hope that this question will be resolved by the minister or his parliamentary secretary later, when we debate this bill.

This bill is important not only to Canadians; it is important to North Americans as well as to peoples in all parts of the earth. As we are becoming increasingly aware, our