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Environmental News

O'Neill (202) 755-0344

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TRAIN MODIFIES PREDATOR ORDER TO ALLOW USE OF SODIUM CYANIDE IN M-44 COYOTE DEVICE

Environmental Protection Agency Administrator Russell E. Train today modified a previous ban on predator pesticides to allow the use of sodium cyanide in a spring-loaded tube called the M-44 to control coyotes and other wild animal attacks on sheep, cattle and other livestock. The modification does not affect an existing ban on products containing sodium fluoroacetate (1080) or strychnine.

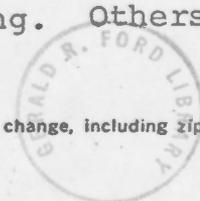
"EPA's Office of Pesticide Programs will immediately begin processing M-44 registration applications which have been filed by the Interior Department and several States," Train said, "and I expect this process will be completed in a matter of days."

"Registration will permit the cyanide capsules and M-44 devices to be sold only to State and Federal registrants. Use by private applicators will be allowed but only after a period of training and will be subject to supervision by State and Federal registrants," Train stated.

The States that have applied for use of the M-44 are Colorado, Montana, Nevada, Oregon, Texas, and Wyoming. Others may apply.

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Sodium cyanide is a highly toxic pesticide that can kill a predator animal in a matter of seconds and is considered relatively humane. It rapidly degrades in the animal's body minimizing the problem of "secondary poisoning" of non-target animals. The M-44 is a spring loaded-tube containing a sodium cyanide capsule. The tube is placed in the ground and baited with scented material attractive to coyotes, foxes, and feral dogs. When the animal tugs on the bait, the tube discharges a lethal cyanide dose into its mouth.

The use of sodium cyanide and other pesticides for predator control was prohibited by Federal orders in 1972 because of the destruction of "non-target" animals and possible human health threats in applying the pesticides.

Train said, "I am changing this policy because of substantial new evidence on the safety and selectivity of the M-44 and restrictions surrounding its use."

Among the new evidence cited by Train:

- Human injury risks associated with the M-44 are substantially less than with devices employing an explosive charge. At the time of the 1972 ban, a tube using an explosive charge was in wide use. Some 14 human injuries have been documented in connection with this device since 1959 by the Interior Department's Fish and Wildlife Service. None are known to have occurred so far in USDI's experimental use of the M-44.
- An effective antidote exists for cyanide poisoning in people. None was thought to exist at the time of the 1972 orders. The antidote is inhalation of amyl nitrite followed by intravenous injections of sodium nitrite and sodium thiosulfate, all available in a required antidote kit.
- The M-44 is equally or more "selective" than the explosive device and more "selective" than some non-chemical predator controls, such as trapping. "Selective" means it controls coyotes, foxes and feral dogs rather than unintended animals such as opossums or raccoons.
- Among the restrictions to be imposed on M-44 use are:
 - For use only by personnel of the Fish and Wildlife Service or State agencies until private applicators have been trained.
 - For use only in instances where actual livestock losses are occurring or may reasonably be expected to occur in

(more)

certain areas. Not for use on parklands or other wilderness or recreation areas or where threatened or endangered species might be adversely affected, or where exposure to the public and family pets is probable.

- Warning signs in English and Spanish must be placed in areas of M-44 use.
- Density of the devices is limited to ten per 100 acre pastureland and 12 per one square mile of open range.
- Records must be kept on animals killed and human and animal accidents and other pertinent information.

Train's decision follows three days of public hearings last month and the initial recommendations of an administrative law judge, many of which were incorporated into Train's ruling.

Today's decision will appear soon in the Federal Register.

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BEFORE THE ADMINISTRATOR
U. S. ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D. C.

In the Matter of:

Applications to register sodium
cyanide for use in the M-44
device to control predators

FIFRA Docket No. 382

DECISION OF THE ADMINISTRATOR

This proceeding concerns an application filed on July 7, 1975, by the Fish and Wildlife Service of the U.S. Department of the Interior (hereafter "FWS") to register sodium cyanide for use in a spring-loaded ejector device known as the "M-44" to control certain wild canid predators, pursuant to Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (hereafter "FIFRA") (86 Stat. 979, 7 U.S.C. 136a).

Pursuant to EPA regulations (40 CFR 164.130-133), the FWS application to register sodium cyanide as a predacide has been treated as a petition for reconsideration of an order issued by the Administrator of EPA on March 9, 1972 (37 F.R. 5718, March 18, 1972), cancelling and suspending the registration of certain products containing sodium cyanide, sodium fluoroacetate (1080), and strychnine. The 1972 EPA Order cancelled and suspended all uses of sodium cyanide.^{1/}

^{1/} The 1972 EPA Order and accompanying Findings of Fact are appended hereto as Appendix A and incorporated herein by reference.

On January 10, 1974, EPA issued notice that it would consider applications for the use of the M-44 device and sodium cyanide for coyote control (39 F.R. 2295, January 18, 1974). Shortly thereafter, EPA regulations were amended, adding a new section (Section 162.19, effective February 1, 1974) providing for the filing of experimental use permit applications for a sodium cyanide spring-loaded ejector unit for predator control. The purpose of the amended provision was to develop and accumulate information necessary to support registration. Subsequently, nine (9) experimental use permits were issued.^{2/}

On July 11, 1975, notice of the July 7 FWS application was issued (40 F.R. 29755, July 15, 1975), providing for an expedited hearing on the application, to commence on August 12, 1975. The notice set forth a specific timetable for the hearing, the submission of proposed findings and briefs, the issuance of an initial decision, the filing of exceptions, and the issuance of the Administrator's final decision and order (within 21 business days after the close of the hearing).

2/ Experimental use permits were issued to the following: Texas Department of Agriculture (Feb. 8, 1974); Montana Department of Livestock (April 4, 1974); California Department of Food and Agriculture (April 24, 1974); U.S. Department of the Interior (May 28, 1974); South Dakota Department of Game, Fish, and Parks (July 1, 1974); Idaho State Department of Agriculture (April 19, 1974); Nebraska State Department of Agriculture (Oct. 1, 1974); Kansas State University (Feb. 1, 1975); Texas A&M University (Feb. 24, 1974).

As a matter of chronology, it should be noted that on July 18, 1975, President Ford amended Executive Order 11643 (banning the use of chemical toxicants on Federal lands, issued February 8, 1972) by the issuance of Executive Order 11870, which provides for a one-year experimental use of sodium cyanide in all federal programs and emergency uses under certain conditions.

On July 30, 1975, a prehearing conference was held concerning the adoption of special rules for this proceeding. A second prehearing conference was held on August 7, 1975, resulting in the adoption of supplemental rules for this proceeding.

Pursuant to the July 11, 1975 order initiating this proceeding, seven (7) additional M-44 registration applications were filed and, by order of the Deputy Administrator dated August 8, 1975 (40 F.R. 34455, August 15, 1975), the following applications were joined in this proceeding:

Montana Department of Livestock
 Wyoming Department of Agriculture
 Colorado Department of Agriculture
 Oregon Department of Agriculture
 Nevada State Department of Agriculture
 Texas Department of Agriculture
 M-44 Safety Predator Control Company

In addition, pursuant to the July 11 order, a number of party interventions have been entered in support of the applications^{3/} and in

3/ Parties in support of the applications include the States of Wyoming and Montana, as well as the National Wool Growers' Association; the American National Cattlemen's Association; the National Turkey Federation; and the Navajo Nation (the latter four groups hereafter collectively referred to, for purposes of convenience, as "National Wool Growers et al.>").

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opposition to the applications. Amicus curiae briefs have been filed by other groups and individuals.

On August 6, 1975, EDF et al. filed with Administrative Law Judge Denniston a motion to reconsider the hearing dates (scheduled to commence on August 12). A similar objection to the expedited hearing schedule was made by the Humane Society on August 5. On August 7, Judge Denniston advised the parties that he did not have jurisdiction to rule on the motions and that they should be transmitted to the Administrator. These motions were not brought to the Administrator's attention until August 19, after the conclusion of the hearings, when it had become impossible to reconsider the expedited hearing schedule. By notice dated August 22, 1975, the Administrator acknowledged the untimely receipt of the motions (apparently not due to any error or omission on the part of the petitioners) and noted that any objections concerning his inability to rule on the motions prior to the hearings might be raised at a later stage in the proceeding.

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Parties in opposition to the applications include the following: Environmental Defense Fund; Defenders of Wildlife; Friends of the Earth; National Audubon Society; Natural Resources Defense Council; National Wildlife Federation; Sierra Club; Oregon Environmental Council; Animal Protection Institute; Wildlife Management Institute (the foregoing groups hereafter collectively referred to, for purposes of convenience, as "EDF et al."); and the Humane Society of the United States.

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American Farm Bureau Federation; Texas Department of Agriculture; California Department of Food and Agriculture; Montana Wool Growers Association; Montana Stockgrowers' Association; Congressman W. R. Poage; and Texas and Southwestern Cattle Raisers Association.

The hearings went forward on August 12-15, 1975, with appearances entered by FWS, the States of Wyoming, Montana, and Oregon, EDF et al., the Humane Society, the National Wool Growers et al., and EPA counsel for Respondent, Assistant Administrator for Water and Hazardous Materials (the latter as a neutral party, hereafter referred to as "Respondent EPA"). Proposed findings and briefs were submitted by FWS, the States of Wyoming, Montana, and Oregon, EDF et al., American Farm Bureau Federation, and Respondent EPA.

Administrative Law Judge Denniston issued an initial decision in this proceeding on August 29, 1975. Exceptions thereto were filed on September 5, 1975, by FWS, the States of Wyoming and Montana, EDF et al., the National Wool Growers et al., and Respondent EPA.

The initial decision concludes that the March 9, 1972 EPA Order cancelling and suspending all uses of sodium cyanide "should be modified to permit the registration of the M-44 device by the applicants herein subject to the conditions set forth in the Appendix hereto." Appendix A to the initial decision sets forth twenty-six (26) "restrictions" on the use of the M-44* device. In reaching this decision, the Administrative Law Judge enumerates some thirty-seven (37) Findings of Fact relating to his statement of the five issues present in this proceeding. The Administrative Law Judge also addresses some nine procedural and legal issues raised by EDF et al. and others in opposition to registration. I have reviewed the procedural aspects of this proceeding as well as the merits related to possible registration of sodium cyanide for use in the M-44 device, and will address the procedural and legal objections first.

PROCEDURAL AND LEGAL OBJECTIONSA. Prejudice to those opposing registration due to expedited hearing, special procedures, and evidentiary rulings

EDF et al. have asserted a denial of due process of law resulting from "the unexplained and unnecessary expedition and compression of the hearing" and "the procedures and evidentiary rulings felt necessary by the Administrative Law Judge to adhere to the unreasonable timetable set by the Administrator." Their principal objection relates to the expedited nature of the hearing, which made necessary (directly or indirectly) the special rules adopted for the hearing and, to some extent, the rulings of the Administrative Law Judge. In support of these assertions of prejudice, EDF et al. set forth several examples, including (1) the late admission of certain parties opposed to EDF et al. (i.e. the States of Oregon, Wyoming, Nevada, and Colorado, and the M-44 Safety Predator Control Company); (2) the failure to define adequately the issues and the scope of the hearing, resulting in the admission of irrelevant material; (3) interference with direct examination, by denial of sufficient time to prepare; (4) interference with effective cross-examination, by denial of sufficient opportunity to review opposing documents and by other means; (5) adherence to an impossibly short briefing schedule; (6) infirmities in the evidence admitted on the record; and (7) the unexplained departure from time requirements usually associated with FIFRA cancellation and suspension hearings.

I have examined each of these assertions of prejudice to the opponents of registration and have concluded that the expedited hearing in this proceeding was justified and was conducted without prejudice to any of the parties.

The justification for a expedited hearing in this matter is found both in the law and regulations applicable to registration under FIFRA and the facts relating to this particular proceeding. The July 11, 1975 notice of hearing on the FWS application included an initial determination, pursuant to the requirements of 40 CFR Part 164, Subpart D, that:

"there exists substantial new evidence which may materially affect the prior Order with respect to use of sodium cyanide in the M-44 device and accordingly reconsideration of the 1972 EPA Order is warranted."

Once having made this initial determination, the Administrator is then required by the Subpart D regulations to convene a hearing to determine whether such "substantial new evidence" does in fact exist and whether such evidence requires modification of the 1972 EPA Order.

The expedited nature of the hearing is fully justified by the seriousness of the situation confronting those who have asserted severe economic losses in livestock population due to wild canid predators. It is a matter of public record that the seriousness of this situation has been brought increasingly to the attention of the President, the Department of the Interior, and the Congress, as well as this Agency, state agencies, and the public generally, over the past several months.



While it would be inappropriate to give weight in this proceeding to representations made to other individuals or bodies, or to consider actions others have taken or may take to redress particular grievances expressed outside the record of this proceeding, it is clear that prompt action on the July 7 FWS application and the other applications is in the public interest.

I am aware that prompt action, however meritorious, cannot be justified at the expense of due process of law. In assessing the contentions of EDF et al., however, I find no basis for concluding that the rules and procedures employed in this proceeding are lacking in fundamental fairness as applied to any of the parties. The special rules of procedure governing this proceeding were adopted on July 31, 1975, following the first prehearing conference on July 30. Supplemental rules of procedure were adopted following the August 7 second prehearing conference. At least 5 days in advance of the hearing, all the parties were fully apprised of what the governing rules would be. It is unquestionable that the special rules of procedure reflect the exigencies of the hearing schedule set out in the July 11 notice. It is another matter, however, to conclude that such procedures are lacking in fairness, simply because they "compress" the time available for preparation. Moreover, the record of the hearing reveals that the opponents of registration were provided ample opportunity to cross-examine, rebut, and contradict the testimony offered by the proponents for registration at the hearing.

I find no basis on the record to sustain any of the objections made by EDF et al. relating to prejudice or unfairness in the procedures governing the hearing, the rulings of the Administrative Law Judge on evidentiary matters, or the expedited nature of the hearing itself. To the extent not otherwise addressed herein, the determinations made in the initial decision relating to these objections are affirmed.

B. Prejudicial refusal to allow subpoena of EPA official

EDF et al. contend that the Administrative Law Judge improperly refused to permit EDF to subpoena an EPA official who purportedly told certain other persons, prior to the hearing, that EPA "had already decided to register the M-44 due to political pressure and that the hearings were merely window dressing."

I agree with the conclusion of the Administrative Law Judge that any such gratuitous statements by EPA officials have no relevance in this proceeding. The Administrative Law Judge, as the initial trier-of-fact, and the Administrator, as the final decision-maker, are the only two persons in this Agency competent to announce when and how any decision is made in this proceeding.

C. Failure to file an Environmental Impact Statement

EDF et al. have asserted that Section 102 of the National Environmental Policy Act ("NEPA") requires the filing of an Environmental Impact Statement ("EIS") prior to the rendering of a final decision in this proceeding. They contend that EPA regulations pertaining to the preparation of voluntary EIS's (39 F.R. 37419, October 21, 1974)

specifically provide for the preparation of EIS's in connection with adjudicatory hearings under Sections 6(b)(1) and (2) of FIFRA, whenever it is determined that such action will significantly affect the quality of the human environment (even though expedited suspension hearings under Section 6(c) are excluded from these requirements). EDF et al. also cite a recent decision of the Federal District Court for Wyoming requiring the filing of an EIS prior to the cancellation or suspension of predator control poisons and reason that the same result should apply in any proceeding involving the possible reregistration of a predator control poison.

I do not interpret NEPA or EPA's regulations as requiring the preparation of an EIS in connection with this proceeding. The voluntary EIS policy and regulations of EPA clearly contemplate the exercise of judgment and discretion by the Agency in determining the need for an EIS in a particular matter. I have concluded that the action embodied in this decision does not represent a major action which significantly affects the quality of the human environment. Moreover, I believe there is a reasonable basis to conclude that the data and information assembled as a result of the experimental use permits, together with the information and data developed in this proceeding, might well constitute the functional equivalent of an EIS if NEPA or EPA regulations were interpreted to require an EIS in this matter.

D. Violation of Executive Order 11870

EDF et al. contend that the subject applications for use of sodium cyanide in the M-44 device are contrary to the letter and spirit of Executive Order 11870, issued by the President on July 18, 1975. Executive Order 11870 provides for the experimental use, for a period of one year, of sodium cyanide to ~~control~~ coyote and other predatory mammal or bird damage to livestock on Federal lands or in Federal programs (Section 3(c)) and for the emergency use of a chemical toxicant for the purpose of killing predatory mammals or birds on Federal lands under certain conditions (Section 3(b)). The three separate criteria for authorizing an emergency use of a chemical toxicant are that such use is essential to: (1) protect human health or safety; (2) preserve wildlife species threatened or likely to become threatened with extinction; or (3) prevent substantial irretrievable damage to nationally significant natural sources.

The Administrative Law Judge concluded that this proceeding falls within the "emergency use" provision of Executive Order 11870 and found that the required consultation among the Secretaries of the Interior, Agriculture, and Health, Education, and Welfare, and the Administrator of EPA had been met in this proceeding.

Executive Order 11870, in effect, recognizes the legitimacy of the experimental use permit program commenced by EPA on February 1, 1974, and provides for the extension of that program, if necessary, on Federal lands. The legality of an experimental use permit to the State of Texas had been challenged and upheld by a Federal District Court.^{6/}

^{6/} The Humane Society of the United States v. EPA, et al., (Civil Action No. 74-367, March 28, 1975).

In contradistinction of the conclusion of the Administrative Law Judge, I do find it necessary in this proceeding to finally resolve the issue of whether or not this proceeding conforms with the letter of Executive Order 11870. I am convinced that this proceeding does not violate the spirit of the Executive Order. Certainly, any final determination of this Agency to authorize the use of sodium cyanide for predator control must conform to the terms of an applicable Presidential Executive Order, at least insofar as use is authorized on Federal lands. It should be noted that any registered use of sodium cyanide on non-Federal lands would not be affected by the Executive Order. The outcome of this proceeding, however, is not to reach a final determination on registration of sodium cyanide for use in the M-44, but rather a determination of whether the 1972 EPA Order should be modified to permit the registration of sodium cyanide in accordance with FIFRA. To the extent the 1972 Order is modified as a result of this proceeding, I will recommend to the President that Executive Order 11870 also be modified accordingly.

E. Impermissible shortcutting of Section 3 of FIFRA

EDF et al. contend that this proceeding is governed by the requirements of Section 3 of FIFRA, which provides that the Administrator shall find, prior to registration, that the pesticide in question "will perform its intended function without unreasonable adverse effects on the environment; and. . . when used in accordance with widespread commonly recognized practice will not generally cause unreasonably adverse effects on the environment." They assert, further, that EPA's

implementing regulations (40 F. R. 28242, July 3, 1975, effective August 4, 1975) set forth criteria for determining "unreasonable adverse effects" which, in their judgment, would prohibit the registration of sodium cyanide for use in the M-44.

The Administrative Law Judge noted, in response to this objection, that this proceeding is subject to Section 18 of FIFRA, as well as Section 3, and is governed by Subpart D of the Rules of Procedure (40 CFR 164.130) and the statement of issues in the July 11 notice.

The July 11 notice states:

"If the final determination of the Administrator results in a modification of the prior Order to permit the use requested by the applicant, then the application will be processed in accordance with the applicable regulations governing the registration of pesticides, subject, however, to the terms of the modified Order. If the prior Order is not modified, then the application will be denied."

The applicable regulations governing the registration of pesticides are the Section 3 regulations which became effective on August 4, 1975. It is apparent that the requirements of Section 3 were contemplated at the time the July 11 notice was issued, notwithstanding the applicability of Section 18 and the delineation of issues for this proceeding contained in the July 11 notice.

The outcome of this proceeding should be and is a determination of whether the facts presented "require modification of the 1972 Order to permit the registration of sodium cyanide for use in the M-44 to control predators in accordance with FIFRA," rather than the ultimate

question of whether the particular applications meet all the requirements for registration under FIFRA. Obviously, a modification of the 1972 Order permitting registration, as a result of this proceeding, determines many of the ultimate facts relating to registration as well.

CONSIDERATION OF THE ISSUES AND MERITS FOR MODIFICATION

A. The Issues

The issues to be adjudicated in this proceeding are set forth in the July 11, 1975, notice of hearing (and restated in the initial decision of the Administrative Law Judge), as follows:

"[(a)] . . . whether the following constitute substantial new evidence:

1. Four of the seven specific findings concerning sodium cyanide in the 1972 Order were directly related to the issue of human safety. Based on the data gathered in accordance with the applicant's experimental use permit, sodium cyanide when used in the M-44 has been shown to be significantly less hazardous to man than sodium cyanide when used in the explosive device for which it was registered at the time of the 1972 Order and which was known to cause injuries to humans.

2. Based on data derived from studies conducted subsequent to the 1972 Order and submitted by the applicant, use of sodium cyanide in the M-44 device is more selective than use of the chemical in the explosive device and more selective than some other chemical and non-chemical predator control methods.

3. In view of the data submitted by the applicant with respect to significantly reduced hazards to humans and the greater selectivity of sodium cyanide when used in the M-44, it is likely that proposed restrictions that might be developed, could be adopted and followed as a matter of practice by trained personnel subject to the supervision or control of the applicant.

[(b)] . . . if such facts are determined to exist and to constitute new evidence, . . . whether such facts require modification of the 1972 Order to permit the registration of sodium cyanide for use in the M-44 to control predators in accordance with FIFRA."

Also stated as an "issue" by the Administrative Law Judge, but more appropriately identified as a "directive" of the July 11 notice, is the following:

"The determination of these issues shall be made taking into account the human and environmental risks found by the Administrator in the 1972 Order and the cumulative effective of all past and present uses, including the requested uses, and uses which may reasonably be anticipated as a result of a modification of the 1972 Order."

As noted previously, the July 11 notice included an initial determination that "the applicant has presented substantial new evidence with respect to sodium cyanide which may materially affect the 1972 Order." The July 11 notice also included the following initial determinations:

". . . such evidence was not available to the Administrator at the time of the determination to cancel and suspend the registrations of sodium cyanide, and . . . such evidence could not, through the exercise of due diligence, have been discovered prior to the issuance of the 1972 Order."

The following review and discussion of the record of this proceeding, therefore, is to determine whether the facts stated in the July 11 notice as initial determinations do exist (i.e. are found in or are supported by the record); whether the facts stated in the July 11 notice constitute substantial new evidence; and whether such facts, if they do exist and constitute substantial new evidence, require modification of the 1972 Order. Finally, if the facts require modification of the 1972 Order, what should the terms of the modification be?

B. Whether the facts stated in the July 11 notice do exist?

1. Human Safety

The findings of fact in support of the 1972 Order with respect to sodium cyanide include four (4) findings relating to human safety:

- "3. Persons overcome by hydrogen cyanide gas either die very rapidly from respiratory failure or recover completely within a relatively short time.
4. Ingestion or inhalation of a very low dose (as little as 300 micrograms per liter of air) may rapidly result in death.
5. There is no true effective antidote.
6. Recent data show four incidents involving cyanide compounds in fiscal year 1970 in three of which human beings were injured by the discharge of cyanide guns placed in fields. Only quick thinking on the part of all three victims in seeking immediate medical aid preventing any loss of life."

The July 11 notice includes the following statements regarding representations made by FWS in its application and data to be submitted at the hearing concerning human safety:

- "2. Regarding hazards to humans and domestic animals:
 - a. Sodium cyanide is extremely toxic to a number of animals, including man. Low doses of sodium cyanide are acutely and rapidly toxic.
 - b. Prolonged exposure to hazardous concentrations of cyanide may result in chronic toxicity in man.
 - c. Cyanide is not a cumulative toxicant and probably would not be secondarily toxic.
 - d. Antidotal therapy for cyanide poisoning is available."

One of the primary reasons for the 1972 Order banning the use of sodium cyanide for predator control was the relatively high risk of

injury to man. The "Humane Coyote Getter," which is the device addressed in the 1972 Order, employs an explosive charge to propel sodium cyanide into the mouths of canids upon activation. This device has been held responsible for some fourteen (14) documented human injuries during a period of 550,000 "getter-years" of use since 1959 by FWS. Human injuries and the human injury potential associated with the coyote-getter device led almost directly to the development of safer alternative devices. The M-44, which employs a spring-loaded ejection mechanism, is one alternative developed to reduce the human injury potential associated with an explosive charge.

FWS testimony indicates that there have been no human injuries associated with the M-44 in some 43,018 use-years by FWS. EDF et al.'s witness, Mr. Randall, testified that he was not aware of any human injuries resulting from the M-44, although he had observed accidental discharges of the device while being set.

The record supports a finding that the human injury risks associated with the mechanical operation of the M-44 are substantially less than with devices employing an explosive charge.

Risk of injury to humans also exists in the form of cyanide toxemia, which is present with both the coyote-getter and the M-44. The only apparent means to reduce this risk are through appropriate restrictions on and procedures for handling, location, and placement of the devices to minimize human exposure. These restrictions and procedures are discussed in detail later in this decision. It should suffice to state here that there is no evidence in the record which would indicate

that, with appropriate restrictions and procedures for handling, location, placement, and warning signs, the risk of human injury from cyanide toxemia should preclude the judicious and proper use of the M-44 device.

One of the critical facts to consider in guarding against risk of any human injury, however infrequent, is the availability of an effective antidote to cyanide poisoning. Although the 1972 Order found that "no true effective antidote" exists, evidence in the record of this proceeding demonstrates that there is an effective antidote. FWS concedes that at least some of this evidence is not "new" since the 1972 Order, but correctly states that it cannot and should not be ignored simply because it is not new. The antidote consists of the inhalation of amyl nitrite (by breaking amyl nitrite pearls), followed by intravenous injections of sodium nitrite and sodium thiosulfate, all of which are contained in an antidote kit premixed in the correct proportions for administration to the patient. Appropriate restrictions, procedures, and instructions for the use of the antidote kit afford maximum assurance that in the event of cyanide poisoning the risk of human injury will be substantially reduced. These restrictions and procedures also are discussed later in this decision.

In reaching the foregoing conclusions concerning the risks of injury to humans, I do not want to leave the impression that all doubts and concerns have been removed. I am concerned about the accidental exposure to potential injury of operating personnel, even though these people will be trained and procedures are established to greatly reduce the risk. I am even more concerned about the possibility of involuntary exposure, where the public generally (and especially children) may happen upon a device and unknowingly

or irresponsibly be attracted to it, even though precautions also are established to minimize this risk. I also have some question, based on the record of this proceeding, about the self-administration of antidote therapy in cases where assistance is not available. In spite of these doubts and reservations, however, I do not believe that they alone should preclude the use of sodium cyanide under properly controlled conditions.

2. Selectivity of the M-44 device

The findings of fact in support of the 1972 Order with respect to sodium cyanide include one (1) finding indirectly relating to selectivity:

- "7. There is evidence that dogs have been subjected to poisoning by cyanide (used as outlined above [shells containing sodium cyanide placed in a baited explosive device]) which is highly toxic to all wildlife and domestic animals."

The July 11 notice includes the following statements regarding representations made by FWS in its application and data to be submitted at the hearing concerning selectivity:

- "3. d. M-44's are highly selective for the target species and present a minimal hazard to non-target wildlife, except certain rare and endangered species.
- e. Use of M-44's within the range of the San Joaquin Kit fox, red wolf, northern Rocky Mountain wolf, and eastern timber wolf constitutes a definite hazard and they therefore will not be used within the range of these species."

The other important reason (beyond human safety) for the 1972 Order banning the use of sodium cyanide for predator control was the hazard it presented to non-target species. While there is no evidence in the record showing specific incidences or statistics relating to non-target species taken with sodium cyanide devices prior to the 1972 Order, the

record is clear on the point that species other than coyotes, red foxes, gray foxes, and feral dogs (target species for purposes of these applications) are vulnerable to the M-44 device. The issue raised by the July 11 notice, however, is not whether the M-44 is absolutely species-specific, but whether it is more selective than the explosive device (coyote-getter) and some other chemical and non-chemical predator control methods.

FWS submitted data for the purpose of showing that the M-44 device is more selective for coyotes than the coyote-getter (92.24% v. 76.93%), but on examination it was conceded that variations in population density, time and placement of control devices, and other conditions rendered the data inconclusive for comparative purposes. FWS submitted data obtained under its experimental use permit (issued May 28, 1974), indicating that during the first five months of use (June 1 - October 31, 1974) target species (coyotes, foxes, and feral dogs) constituted 95 percent of the total take. During the following seven months (November 1, 1974 - May 31, 1975), target species constituted 88 percent of the total take. Other testimony regarding FWS and Texas A&M University studies indicated that the M-44 is more selective than steel traps and equally as selective as shooting.

FWS provided testimony on the impact a reduction in the numbers of coyotes would have on other animal populations, which indicated there was some evidence that populations of smaller carnivores (skunks, raccoons, bobcats, badgers) probably would increase, but there was no

evidence to suggest that the population of herbivores (rats, rabbits, mice) would increase. FWS also provided testimony that an FWS M-44 control program would not significantly affect the distribution or densities of coyotes in the western United States.

There is some evidence that selectivity decreases with the population of coyotes and with overuse of the M-44 device. These problems can be overcome to some extent by carefully controlled placement of the devices only in areas known to be frequented by target species and by prohibiting or restricting placement in areas frequented by non-target species, domestic animals, and threatened or endangered species. Restrictions and procedures applicable to placement of the M-44 devices are discussed later in this decision.

Based on the foregoing, there is sufficient evidence to conclude that the M-44 device is equally as selective or more selective than the explosive device and more selective than some other non-chemical predator control methods. I am compelled to state, however, that in view of the lack of conclusive comparative data, considerable emphasis must be placed on extreme care in the placement of M-44 devices and frequent, detailed monitoring of the various animal species in the areas where M-44 devices are placed.

3. Restrictions

The FWS application contains a number of proposed restrictions or conditions pertaining to the use of sodium cyanide in the M-44 device. Much of the testimony at the hearing and a good portion of the proposed findings and briefs, the initial decision, and the exceptions of the various parties, relates to restrictions to be applied if it is determined that the 1972 Order should be modified to permit registration of sodium cyanide for use in the M-44 device. The immediate issue, however, is whether the statement in the July 11 notice, that "it is likely that proposed restrictions on use, in addition to other restrictions that might be developed, could be adopted and followed as a matter of practice by trained personnel subject to the supervision or control of the applicant" is supported by the record of this proceeding.

I find no basis on the record to review any of the restrictions contained in Appendix A to the initial decision of the Administrative Law Judge which have not been challenged or excepted to by the various parties to this proceeding. With respect to these restrictions, designated numbers 1, 3, 13, 17, 19, 20, 21, 23, and 26 in Appendix A of the initial decision, the record supports a determination that these restrictions, as set forth in the Order appended to this decision, can be adopted and followed as a matter of practice by trained personnel subject to the supervision or control of the applicants. The

following discussion pertains to other restrictions set forth in Appendix A of the initial decision which have been challenged or which have been proposed as additional restrictions by various parties.

a. Restriction # 2

FWS and the National Wool Growers et al. object to Restriction # 2 of the initial decision, which states:

"The M-44 device shall be used only to take wild canids suspected of preying upon livestock and poultry."

FWS points out that it is required by law (7 U.S.C. §426) to control animals injurious to agriculture, wild game animals, etc., and to protect stock and other animals "though the suppression of rabies and tularemia in predatory or other wild animals," and, therefore, contends that sodium cyanide and the M-44 should be available for use to control wild canids preying upon wild game animals, agricultural crops, or carrying a communicable disease such as rabies, as well as those preying upon livestock and poultry. The National Wool Growers et al. suggest the same change.

The record of this proceeding deals almost entirely with predation related to livestock. I do not believe a reasonable basis exists to expand the permissible use to include protection of wild game animals or agricultural crops. Certainly, the M-44 device can and should be employed where necessary to control animals which are vectors of communicable diseases such as rabies.

b. Restriction # 4

EDF et al. object to Restriction # 4 of the initial decision, which states:

"The M-44 device shall only be used in instances where actual livestock losses due to predation by wild canids are occurring. M-44 devices may also be used prior to recurrence of seasonal depredation, but only when a chronic problem exists in a specific area. In each case, full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before application of the M-44 is undertaken."

EDF et al. object to the foregoing restriction to the extent that it would permit the prophylactic use of sodium cyanide and the M-44 to suppress target species populations. They assert that a mere reduction in coyote numbers does not necessarily mean a reduction in predation, and that prophylactic use would lead to excessive distribution, increasing the risk of accidents and other undesirable side effects.

This objection addresses one of the central problems associated with the use of any economic poison. As a matter of principle, I do not believe any poison should be used in the absence of a well-documented current need, particularly where some risk of injury to persons and other non-target animals exists. I see no justification for the use of the M-44 device solely as an insurance policy against whatever predator risks may occur in the future. At the same time, I recognize that "chronic" predator problems do exist in some areas, and that reasonable, anticipatory measures may be the most effective means to prevent a recurrence of seasonal depredation in these areas. In these cases, it is essential that the Federal and State agencies supervising the M-44 program exercise

extreme care in reviewing the documentation of previous livestock depredation in the area.

In areas where "chronic" predator problems exist, it is reasonable to assume that documentation of losses caused by wild canids should be more complete (and easier to obtain) than in areas where predator problems are sporadic.

c. Restriction # 5

FWS, the National Wool Growers et al., Wyoming, and EDF et al. object to Restriction # 5, which states:

"The M-44 device shall not be used in: (1) National or State parks; (2) National or State Monuments; (3) Federally designed Wilderness areas; (4) Wildlife refuge areas; (5) Prairie dog towns; (6) Areas where exposure to the public and family pets is probable."

FWS objects to a restriction against the use of the M-44 device in wildlife refuge areas and prairie dog towns. As noted in the discussion relating to Restriction # 2, FWS has a statutory responsibility to protect wild game animals from predators. FWS has sole jurisdiction over wildlife refuge areas and asserts that it can best determine whether or not to use the device in a particular refuge area. FWS also points out that the M-44 would not be used in any refuge area where threatened or endangered species might be adversely affected, as required in Restriction # 6. FWS maintains that prairie dogs are not vulnerable to the M-44 device and are not a threatened or endangered species. Where an endangered species, such as the Black-footed ferret, does live in a prairie dog town, the M-44 would not be employed.

The National Wool Growers et al. object to a restriction against the use of the M-44 device in Federally designated wilderness areas, as

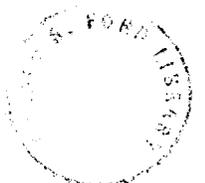
well as wildlife refuge areas and prairie dog towns. They point out that wilderness areas often are used for livestock grazing. They also note that Restriction # 6 and item (6) of Restriction # 5 (above) adequately protect threatened or endangered species, the public and family pets.

The State of Wyoming objects to a restriction against the use of the M-44 device in prairie dog towns and National Parks and wilderness areas in Wyoming where licensed grazing of livestock is permitted by the federal government (specifically, Teton National Park and certain wilderness areas). Wyoming also notes that prairie dogs are not attracted to the M-44 and that only one species of prairie dog (the Utah prairie dog) is on the list of endangered species.

Wyoming contends that the record does not support a finding that the endangered Black-footed ferret inhabits prairie dog towns. Wyoming asserts that Restriction # 6 adequately protects the Utah prairie dog and the Black-footed ferret.

EDF et al. recommend that a restriction against the use of the M-44 device be extended to national forests and recreation areas. They assert that although some national forest lands may be used for grazing, they are predominantly and increasingly important multiple public use lands where sheep and coyotes are seldom found. EDF et al. also recommend that use of the M-44 in any forest area be prohibited, due to the likelihood of accidental take of bears.

I am unable to find sufficient justification in the record for eliminating any of the areas of prohibited use of the M-44 as set



forth in Restriction # 5 (above). Moreover, I concur with the recommendation of EDF et al. to the extent that recreational areas within national forests and on other Federal lands should be included among the areas where use of the M-44 device is absolutely prohibited.

d. Restriction # 6

The States of Wyoming and Oregon^{7/} object to Restriction # 6 of the initial decision, which states:

"The M-44 shall not be used in areas where threatened or endangered species might be adversely affected. Each applicator shall be issued a map which clearly indicates such areas."

Wyoming objects to this restriction to the extent that it prohibits the use of the M-44 in areas where threatened or endangered plants (also protected by The Endangered Species Act of 1973, 16 U.S.C.A. §1531-33, 1541) exist, asserting that such a restriction is unneeded and meaningless.

I believe the record supports limiting this restriction to threatened or endangered "animal" species.

7/

Through inadvertance or oversight, the State of Oregon did not receive a copy of the initial decision until September 10, 1975. The State, therefore, did not have an adequate opportunity to review the initial decision and file timely exceptions thereto. I have permitted Oregon to note their exceptions, however, which are contained in a telex message received on September 12 from the Oregon Department of Agriculture. Oregon's objections, accordingly, are noted herein.



e. Restriction # 7

FWS and the National Wool Growers et al. object to Restriction # 7 of the initial decision, which states:

"The M-44 device shall not be placed within 200 feet of any lake, stream, or other body of water."

FWS and the National Wool Growers et al. recommend that this restriction be modified to permit the use of the M-44 device near certain bodies of water (such as natural depressions in the land that fill with water after a rainfall), rather than prohibit all such placements. They assert that such placements might be desirable for setting M-44's at draw stations (livestock carcasses).

It is my understanding that this restriction is necessary to prevent exposure to persons and non-target species who might frequent bodies of water more often than other less "attractive" locations. As such, I believe the restriction contemplates more or less "permanent" bodies of water, as opposed to areas which catch and hold rainfall only for short periods of time. Intermittent streams or lakes and ponds containing water only during certain times of the year for purposes of this restriction would be considered "permanent" bodies of water. Other natural depressions holding rainfall only for short periods of time would not be considered "bodies of water."

f. Restriction # 8

The National Wool Growers et al. and Oregon object to Restriction # 8 of the initial decision, which states:

"The M-44 device shall not be placed in areas where food crops are planted."



The National Wool Growers et al. and Oregon contend that the placement of M-44's adjacent to croplands and crop-aftermath areas (harvested fields) is vitally important to effective predator control. Oregon notes that timbered areas inhabited by coyotes are interspersed with cropland in many areas of western Oregon. They also point out that livestock often graze in areas adjacent to crops (both those for human consumption and for other uses) and in sugar beet and corn fields that have been harvested. They contend that placement in and near these areas would result in little, if any, risk to humans, since sodium cyanide dissipates rapidly in soil. Trained operators, they believe, could avoid any placement that might result in contamination of human food supplies.

In the foregoing discussion of Restriction # 2, I concluded there was no basis in the record for extending the use of the M-44 to protect "agricultural crops," since that would encompass a rather large, undefined area of use. The purpose of this Restriction # 8 is not to protect crops, but to protect people who work in the fields and, in some cases, those people who eat food products from the fields. This restriction does not prohibit placement in areas adjacent to the fields, which are less likely to result in human exposure to injury. I find no basis for modifying this restriction.

g. Restriction # 9

FWS, the National Wool Growers et al., and EDF et al. object to Restriction # 9, which states:

"M-44 devices shall not be placed within
50 feet of public rights of way."



FWS and the National Wood Growers et al. propose that this restriction be modified to include a definition of "public rights of way" as meaning "county, state, or federally maintained roads for use by the public, during seasons of evident public use."

EDF et al. recommend that the M-44 devices "be placed totally out of the sight of roads," where hunters and curious or unsuspecting people making use of recreational areas would be less likely to encounter them. They also suggest that M-44 deployment maps be posted in public places for the benefit of recreationalists who wish to avoid the devices.

I do not find any justification for excluding public roads or paths of any kind from this restriction. Devices visible from such roads and pathways may unduly attract people and animals. For whatever inconvenience it may be to trappers (field personnel of FWS and state agencies) to set the devices at more remote locations, the extra measure of safety to persons and domestic animals using public roads and pathways is fully justified. In some instances, a safe distance may be more than 50 feet, to be out of sight from a public road or pathway.

h. Restriction #10

EDF et al. object to Restriction # 10 of the initial decision, which states:

"The maximum density of M-44's placed in any 100 acre pastureland area shall not exceed 10; and the density in any one square mile of open range shall not exceed 12.

Without asserting an alternative maximum density number, EDF et al. suggest that the maximum density numbers in this restriction are too

high. They point out that the higher the density the more likely are accidents and the taking of non-target species. It is apparent also that the higher the density the greater the task of inspecting and servicing the devices.

FWS and the State of Montana have proposed even higher densities than those contained in the above restriction (up to 30 devices per square mile in the case of FWS).

I find no basis on the record to lower or raise the 100 acre and one square mile maximum density numbers set forth in this restriction.

i. Restriction # 11

FWS and the National Wool Growers et al. object to Restriction # 11 of the initial decision, which states:

"The M-44 device may be placed in the vicinity of draw stations (livestock carcasses); provided, that no M-44 device shall be placed within 30 feet of a carcass; no more than 4 M-44 devices shall be placed per draw station; and no more than 3 draw stations shall be operated per square mile."

FWS and the National Wool Growers et al. see no need for restrictions on the number of M-44 devices per draw station and the number of draw stations per square mile.

I see no need to permit the use of a "mine field" strategy for predator control, and therefore believe a reasonable limitation on the number of devices and draw stations is appropriate.

j. Restriction # 12

FWS, Oregon, and the National Wool Growers et al. object to Restriction # 12 of the initial decision, which states:



"M-44 devices shall be inspected at least once a week to check for interference or unusual conditions and shall be serviced as required."

FWS, Oregon, and the National Wool Growers et al. propose that this restriction be modified to exempt weekly inspection and servicing when "weather or other adverse conditions" make the area inaccessible.

Obviously, there may be occasions when severe weather conditions inhibit or preclude travel to remote areas. The only other adverse conditions that come to mind are when all the trained personnel are ill or all the vehicles are out of service. I believe such eventualities might justify missing an occasional weekly inspection, but I do not believe they need to be specifically set forth in the above restriction as exemptions. Nor do I think it would be appropriate to include a rather open-ended exemption for any "other adverse conditions," which would be subject to abuse.

k. Restriction # 14

FWS, the National Wool Growers et al., Montana, Oregon, and EDF et al. object to Restriction # 14 of the initial decision, which states:

"An M-44 device shall be removed from an area if, after 30 days, there is no sign that a target predator has visited the site."

FWS and Montana suggest that the decision on whether or not to remove an M-44 device be left to the judgment of the applicator who, on the basis of experience, can best determine whether a change of location, change of scent, removal of the device, or no change is appropriate.

FWS, the National Wool Growers et al. and Montana, propose that removal of the M-44 device be required within 30 days after "cessation of losses," rather than 30 days after there is no sign of predator visitation at the site. They point out that signs of predator visitation (usually tracks) are difficult or impossible to discern in rocky or frozen areas, and that tracks can be washed away by rain or covered with snow.

It should be noted that Respondent EPA has indicated that they have no objection to modification of this restriction in accordance with Montana's request. They point out that the weekly inspection requirement, together with the suggested modification, would accomplish the objective of removing devices which are no longer needed.

The purpose of this restriction is to insure a continuing assessment of the need for specific M-44 devices and thereby insure the removal of any and all devices where the need cannot be demonstrated. The record amply demonstrates that the "need" for the devices is to prevent losses of livestock due to predators, and not simply to reduce or eliminate the presence of predators. If there are signs of predator visitation and livestock losses in the area due to predators are demonstrated, obviously the devices should not be removed. If there are no signs of predator visitation, yet livestock losses in the area due to predators are demonstrated, then it seems equally obvious that the devices should not be removed. If there are no signs



of predator visitation and no livestock losses due to predators are demonstrated, clearly the devices should be removed. If there are signs of predator visitation but no livestock losses in the area due to predators are demonstrated, the devices should be removed. Thus, it seems to me, the test for whether or not to remove the devices should be the cessation of losses due to target predators in the area, and not the mere indication of predator visitation.

1. Restriction # 16

FWS, Oregon, and the National Wool Growers et al. object to Restriction # 16 of the initial decision, which states:

"In all areas where the use of the M-44 device is anticipated, local hospitals, doctors, and clinics shall be notified of the intended use, and informed of the antidotal and first-aid measures required for treatment of cyanide poisoning."

FWS and the National Wool Growers et al. contend that it should be sufficient to notify the poison control center (in those areas where there is one), or the local medical society, rather than all the individual hospitals, doctors, and clinics. Hospitals, doctors, and clinics would have access to information through these sources.

I find no basis to disagree with the contention, at least with respect to those areas where a poison control center or a local medical society exists and can perform the function of notifying hospitals, doctors, and clinics of the needed information. Every



effort must be made to insure that a bulletin or notice is issued or made available to local hospitals, doctors, and clinics, whether by a poison control center, local medical society, or under other auspices. In areas where a poison control center, local medical society, or other appropriate body does not exist or cannot perform this function, the registrant must assume and carry out that responsibility.

m. Restriction # 18

EDF et al. object to Restriction # 18 of the initial decision, which states:

"Registrations for sodium cyanide M-44 capsules may be granted to persons other than State and Federal agencies; provided, that such persons shall be authorized to sell said capsules only to State and Federal registrants. Only State and Federal registrants shall be permitted to sell, give, or otherwise distribute capsules to individual applicators. Such State or Federal registrants of sodium cyanide M-44 capsules shall be responsible for insuring that the restrictions set forth herein are observed by individual applicators to whom such registrants sell or distribute such capsules and/or M-44 devices. State and Federal registrants shall train applicators, and such training shall include, but need not be limited to: (1) Training in safe handling and placement of the device; (2) Training in the proper use of the antidote kit; (3) Instructions regarding proper placement of the device; and (4) Instructions in recordkeeping."

EDF et al. propose that this restriction be changed to prohibit the use of sodium cyanide M-44 capsules by private applicators. They contend that the record contains substantial evidence that private applicators cannot adequately perform the necessary functions involved in carrying out an M-44 predator control program as well as trained



professionals, even with the training contemplated in the above restriction. They suggest that the States of Wyoming and Montana have conceded the difficulties involved in licensing and controlling private use, and note that Oregon proposes to use only licensed state employees. Of all the objections EDF et al. have asserted regarding the various restrictions set forth in the initial decision, they say "it is most important that this one be remedied."

I do not agree. I recognize that an M-44 program without effective and strict supervision and control over private applicators might be hazardous both in terms of human safety and ecological considerations. It is hard to imagine that this could happen, however, with all the restrictions on use and other requirements being imposed. The best way to be sure that it will not happen (within the bounds of strict regulation, at least) is to minimize opportunities for misuse or abuse.

The need for predator control must be based on a scientific assessment and understanding of predator-prey relationships, and cannot be assumed by the mere presence of an adverse economic risk. This assessment and understanding can best be performed and accomplished through the strict supervision and control of expert State and Federal agencies. Yet, I realize that restricting the M-44 program exclusively to State and Federal employees would impose substantial burdens on these government agencies, and might reduce the overall effectiveness of the program. Some potential registrants may choose to operate an M-44 program solely with government employees to maintain the desired degree

of control. Others may find such an approach unworkable. In the latter cases, I believe the requirements for training private applicators and supervision by State and Federal registrants will substantially reduce opportunities for misuse and abuse.

EDF et al. have urged that the proper resolution of this proceeding should be to extend the M-44 device experimental use program. Executive Order 11870, issued on July 18, 1975, contemplates and authorizes extended experimental use programs for sodium cyanide. While this Decision goes beyond an experimental program by modifying the 1972 EPA Order to permit the registration of sodium cyanide for use in the M-44 device, by maintaining governmental control it incorporates many of the desirable features of an experimental program.

n. Restriction # 22

FWS, the National Wool Growers et al., Montana, Oregon, and EDF et al. object to Restriction # 22 of the initial decision, which states:

"Each authorized M-44 applicator shall carry an antidote kit on his person when placing and/or inspecting M-44 devices. The kit shall contain instructions on their use. The kit may also contain sodium nitrite and sodium thiosulfate."

FWS and the National Wool Growers et al. propose that the number of amyl nitrite pearls required to be carried in the antidote kit be reduced to five (5). They also suggest that each applicator be required to have additional pearls of amyl nitrite available in his vehicle

Montana proposes that the number of amyl nitrite pearls required to be carried in the antidote kit be reduced to six (6).

With respect to both of the foregoing proposals, the contention put forward is that any more than five or six pearls of amyl nitrite would be too bulky to fit into a pocket or otherwise be carried conveniently. They also point out that the record shows that no more than five (5) pearls should be inhaled following any exposure to sodium cyanide.

It should be noted that Respondent EPA has indicated that they have no objection to reducing the number of amyl nitrite pearls to not less than six (6).

EDF et al. object to the omission of a mandatory requirement that sodium nitrite and sodium thiosulphate be included in the antidote kit. They refer to evidence in the record indicating that these two substances are integral parts of the antidote kit.

In view of the foregoing, I can find no basis for requiring that more than six (6) pearls of amyl nitrite be included in the antidote kit. I also agree with FWS and the National Wool Growers et al. that additional pearls should be available in the applicator's vehicle.

My understanding of the record conforms with that of EDF et al. on the need to include, as well, sodium nitrite and sodium thiosulphate in the antidote kit.

o. Restriction # 24

EDF et al. object to Restriction # 24 of the initial decision, which states:

"Supervisors shall periodically check the records, signs, and devices of each applicator to verify that all applicable restrictions, laws, and regulations are being strictly followed."

EDF et al. propose that mandatory supervision of applicators be carried out at least once a year. They point out testimony of Montana

which indicates that because of personnel shortages they were not able to supervise users of M-44's even once a year.

While some supervision should be carried out on a continuing basis, I agree that at least annually a detailed and thorough check of all records, signs, and devices of each applicator should be required.

p. Restriction # 25

EDF et al. propose an addition to Restriction # 25 of the initial decision, which states:

"In areas where more than one governmental agency is authorized to place M-44 devices, the agencies shall exchange placement information and other relevant facts to insure that the maximum number of M-44's allowed is not exceeded."

The proposed addition is that if private use of M-44 devices is permitted, coordination with other private and public users should be required. Since individual applicators are required to report the location of all devices to the supervising government agency, this information should be available to all such agencies.

With respect to the foregoing restrictions which have been challenged or excepted to by the parties to this proceeding, the record supports a determination that these restrictions, as modified and set forth in the Order appended to this decision, can be adopted and followed as a matter of practice by trained personnel subject to the supervision or control of the applicants.

4. Other Considerations

To the extent they are not specifically dealt with herein and are not inconsistent with the findings and conclusions of this Decision, the "Findings of Fact" set forth in the initial decision of the Administrative

Law Judge are incorporated herein by reference as a part of the findings in support of this Decision.^{8/}

The July 11, 1975, notice of hearing requires that:

"The determination of these issues shall be made taking into account the human and environmental risks found by the Administrator in the 1972 Order and the cumulative effect of all past and present uses, including the requested use, and uses which may reasonably be anticipated as a result of a modification of the 1972 Order."

The 1972 Order was based in large measure on the report of an advisory committee established by the Secretary of the Interior to review the status of registrations for cyanide (among other toxicants) for use in predator control (the "Cain Report"). The Cain Report pointed out the extreme toxicity of cyanide, its non-selectivity, and the potential impact on the environment which "is increased by secondary hazard, an accumulation in the animal, and combined characteristics of chemical stability and solubility in water." The Cain Report also noted, however, that if toxicants were consistently applied under field conditions with meticulous care, it is possible undesirable side-effects might be avoided.

The 1972 EPA action suspending cyanide stressed, in particular, the effects of indiscriminate, unsupervised baiting of the coyote-getter device, citing the threat of the bait itself to non-target species and the threat of predator carcasses to other prairie animal life through secondary poisoning.

^{8/}

The Initial Decision is appended hereto as Appendix B.



The 1972 EPA action, again citing the Cain Report, also stressed the absence of "any meaningful data of benefits derived from the use of these highly dangerous poisons which pose a marked potential threat to the environment." The "degree of toxicity" and the "pattern of use" were considered sufficient to warrant suspension, particularly in the absence of countervailing benefits, the availability of alternative methods of controlling predators, and the little, if any, effect removal from the market would have on human health or the supply of a staple foodstuff.

The human risks associated with the M-44 device have been discussed previously, and it has been determined that they are substantially less with the M-44 device than with the coyote-getter. The environmental or ecological risks also have been discussed in relation to non-target animal species. It should suffice to add here that the risk to the environment posed by the M-44 also appears to be substantially less than with the coyote-getter, particularly in view of the many restrictions on use being imposed. Indiscriminate and unsupervised baiting will not be permitted. These and other restrictions will be enforced and sanctions against abuse will be applied.

To the extent that the July 11 notice contemplated a review of the "accumulative" effects of cyanide, there is evidence in the record to support a finding that sodium cyanide in the M-44 device will not cause secondary poisoning of non-target animal species feeding on the carcasses of predators taken with the M-44 device.



Thus, although the "degree of toxicity" of cyanide remains as found in the 1972 Order, to the extent the Order was based on "pattern of use" and secondary poisoning effects, it is determined that substantial new evidence indicates that both of these findings do not exist in the case of the M-44 device.

The cumulative effect of all past and present uses of cyanide, including the requested use and uses which may reasonably be anticipated as a result of a modification of the 1972 Order is speculative both in terms of risks and benefits. The record does not support a clear finding on this point. However, in view of the restrictions being imposed on use, it can be stated that the potential adverse effects will be substantially less than those which might have been found if the pattern of use during pre-1972 years had continued or were to be resumed. Moreover, I believe that advancements in our knowledge of the relevant ecosystems already documented since 1972, together with knowledge to be gained hereafter, will show that any potential adverse cumulative effects of the use of sodium cyanide will not be harmful to the environment. The requirements herein relating to careful monitoring and recordkeeping are designed to supply much of the information necessary to assess continuously the need for sodium cyanide to control predators.

C. Whether the facts stated in the July 11 notice constitute "substantial new evidence"?

As noted previously, this proceeding is being conducted pursuant to Subpart D of the EPA Rules of Procedure (40 CFR Part 164), which requires that the Administrator determine whether there is "substantial new evidence" which may materially affect the 1972 EPA Order. The findings set forth in section B above, based on the record of this proceeding, indicate that the facts set forth in the July 11 notice do exist. The question to be answered here is whether these facts constitute substantial evidence and new evidence which may materially affect the 1972 Order.

1. New Evidence

EDF et al. object strenuously to the implication which they perceive in the initial decision of the Administrative Law Judge that "since the M-44 had not been registered with the Agency in 1972, that all evidence concerning it was new." This implied interpretation of the law and facts was argued specifically by FWS in its August 21, 1975, post-hearing brief, wherein it is stated that "all evidence pertaining to the M-44 should be considered 'new' since it was not relevant to the 1972 proceeding, and therefore was not available to the Administrator, and could not have been brought to the attention of the Administrator within the context of 40 CFR 164.131(a) had the Service requested a hearing and participated in the 1972 deregistration proceeding." FWS states, as a Proposed Finding of Fact submitted with its August 21



brief, that "All the literature (exclusive of that related to antidote) presented by the Service as exhibits in this proceeding was published subsequent to the March 9, 1972 Order."

It is abundantly clear from the record of this proceeding that considerable information and data generated by FWS and the various state agencies and universities since the 1972 Order now exists as a result of the M-44 experimental use permit program which began in February 1974.

While it is true that much information about the M-44 device existed at the time of the 1972 Order, it is inescapable that the primary thrust of the 1972 Order concerned the explosive coyote-getter. It is clear from the Findings of Fact supporting the 1972 Order that human injury risks associated with the explosive device were of paramount importance at that time. FWS has argued that it did not contest the 1972 Order because of the pre-existing Executive Order and because the M-44 device was not registered or in issue at that time. I believe it is fallacious to argue, as EDF et al. do, that because some information concerning the M-44 existed in 1971 and 1972 it cannot now be considered "new" information in light of the current proceeding. It is "new" in the context of this proceeding, and it is more than adequately supplemented by post-1972 information and data which is "new" by any standard.



The record supports a finding that the facts determined in the preceding section B of this decision constitute new evidence which materially affects the 1972 Order.

2. Substantial evidence

EDF et al. assert that the evidence about the M-44 presented at the hearing "was not substantial."

As a general matter, one would always like to have more information and data before taking any action affecting man and the environment, and it is particularly so when potential risks of injury or death to persons or animals are involved. I do not consider these risks lightly and would not take this action unless I believed these risks were minimal. Practically every method of predator control I am aware of involves some risk. Hunting and trapping accidents involving people (EDF et al.'s witness, Mr. Randall, apparently was involved in an airplane accident on a coyote hunt) and the taking of non-target animals are documented with respect to many other methods. Certainly, some methods, such as better "sheperding" of the flocks, are relatively non-hazardous. But these relatively non-hazardous methods are not totally satisfactory by themselves.

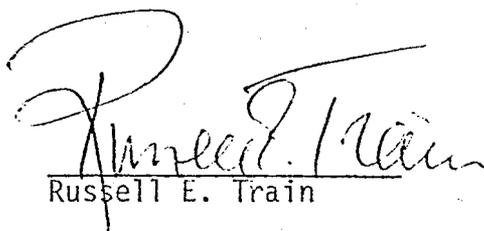
I am persuaded by the testimony adduced at the hearing and contained in the record of this proceeding (as determined in section B above) that substantial evidence relating to human safety, selectivity, and necessary restrictions pertaining to the use of sodium cyanide in the M-44 device exists and materially effects the 1972 Order.

D. Whether the substantial new evidence requires modification of the 1972 EPA Order?

Subpart D of the Rules of Procedure requires that, upon a finding of substantial new evidence, the Administrator must determine whether such evidence requires reversal or modification of the prior Order.

I am persuaded by the evidence presented in this proceeding that the 1972 Order cancelling and suspending all uses of sodium cyanide should be modified to permit the registration of sodium cyanide capsules for use in the M-44 device for the purpose of controlling certain wild canid predators.

The appended Order of the Administrator, dated September 16, 1975, supersedes and modifies the EPA Order dated March 9, 1972 and sets forth the requirements and restrictions which shall apply, as of the effective date thereof, to the registration of sodium cyanide capsules for use in the M-44 device pursuant to applications for registration filed in accordance with the requirements of Section 3 of FIFRA.


Russell E. Train

Dated: September 16, 1975

BEFORE THE ADMINISTRATOR
U. S. ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D. C.

In the Matter of:)

Applications to register sodium)
cyanide for use in the M-44)
device to control predators)

FIFRA Docket No. 382

ORDER

In accordance with the foregoing Decision of the Administrator, dated September 16, 1975, the Order of the Administrator dated March 9, 1972, cancelling and suspending the use of sodium cyanide for predator control is superseded and modified as set forth herein.

Findings

The Order of March 9, 1972, as supported by certain Findings of Fact relating to "Cyanide" appended thereto (37 F.R. 5718, March 18, 1972), is superseded and modified in the following particulars:

1. Finding of Fact # 1 is superseded as not being reflective of the current status of registration of products containing sodium cyanide for predator control.
2. Finding of Fact # 5 is superseded as not being a correct statement of the current availability of a true effective antidote.
3. Findings of Fact # 2, 3, 4, 6, and 7 are not affected or changed as a result of this proceeding.
4. Substantial new evidence exists to establish the following findings:

- a. Four of the seven specific findings concerning sodium cyanide in the 1972 Order were directly related to the issue of human safety. Based on the data gathered in accordance with the applicants' experimental data use permits, sodium cyanide capsules when used in the M-44 have been shown to be significantly less hazardous to man than sodium cyanide when used in the explosive device for which it was registered at the time of the 1972 Order and which was known to cause injuries to humans.
- b. Based on data derived from studies conducted subsequent to the 1972 Order and submitted by the applicants, use of sodium cyanide capsules in the M-44 device is more selective than use of the chemical in the explosive device and more selective than some other chemical and non-chemical predator control methods.
- c. In view of the data submitted by the applicants with respect to significantly reduced hazards to humans and the greater selectivity of sodium cyanide capsules when used in the M-44, it is likely that proposed restrictions on use, in addition to other restrictions that might be developed, could be adopted and followed as a matter of practice by trained personnel subject to the supervision or control of the applicants.

5. The existence of the substantial new evidence set forth hereinbefore requires that the Order of March 9, 1972, be modified to

permit the registration of sodium cyanide capsules for use in the M-44 device to control predators in accordance with Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 979, 7 U.S.C. §136a) ("FIFRA").

6. The findings set forth herein and in the Decision of the Administrator dated September 16, 1975, have been made taking into account the human and environmental risks found by the Administrator in the 1972 Order and the cumulative effect of all past and present uses, including the requested use, and uses which may reasonably be anticipated as a result of a modification of the 1972 Order.

Conclusion

Accordingly, insofar as the Order of March 9, 1972 relates to cancellation and suspension of sodium cyanide for use against mammalian predators, it is hereby revoked and superseded by this Order. The applications subject to this proceeding and any other applications for registration of sodium cyanide filed hereafter shall be processed forthwith in accordance with applicable law and regulations, subject to the restrictions set forth hereinafter.

Restrictions

A. General

1. Use of the M-44 device shall conform to all applicable Federal, State, and local laws and regulations. (Initial Decision # 1).^{1/}

^{1/} For purposes of convenience of comparison between this Order and the initial decision of the Administrative Law Judge dated August 29, 1975, corresponding restrictions set forth in the initial decision are cross-referenced herein.

2. Registrants and applicators shall be subject to such other regulations and restrictions as may be prescribed from time to time by the U.S. Environmental Protection Agency. (Initial Decision # 26).

B. Users

3. Registrations for sodium cyanide capsules to be used in the M-44 device may be granted to persons other than State and Federal agencies; provided, that such persons shall be authorized to sell sodium cyanide capsules only to State and Federal registrants. Only State and Federal registrants shall be permitted to sell, give, or distribute sodium cyanide capsules to individual applicators. State and Federal registrants may authorize or license private applicators to use the M-44 device pursuant to an approved plan for the certification of private applicators in accordance with Section 4 of FIFRA if such private applicators have completed the training program set forth herein. However, prior to the approval of such plans, State and Federal registrants may authorize or license private applicators to use the M-44 device, under State or Federal supervision and control, after the completion of the training program as set forth herein. Federal and State registrants shall train all individual applicators, and such training shall include, but need not be limited to: (1) Training in safe handling of the capsules and placement of the device; (2) Training in the proper use of the antidote kit; (3) Instructions regarding proper placement of the device; and (4) Instructions in recordkeeping. Federal and State registrants shall be responsible for insuring that the restrictions set forth herein are observed by all individual applicators to whom such registrants sell, give, or distribute sodium cyanide capsules and/or M-44 devices. (Initial Decision # 18).

4. M-44 devices and sodium cyanide capsules shall not be sold or transferred to, or entrusted to the care of, any person not authorized or licensed by, or under the supervision or control of a Federal or State registrant.

(Initial Decision # 20).

C. Permissible Uses

5. The M-44 device shall be used only to take wild canids suspected of preying upon livestock and poultry. (Initial Decision # 2).

6. The M-44 device shall not be used solely to take animals for the value of their fur. (Initial Decision # 3).

7. The M-44 device shall only be used in instances where actual livestock losses due to predation by wild canids are occurring or, based on documented prior experience indicating a recurring or seasonal predator problem in a specific area, where actual livestock losses due to wild canid predators can reasonably be expected to occur. In each case, full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before application of the M-44 is undertaken. (Initial Decision # 4).

D. Prohibited Uses

8. The M-44 device shall not be used in: (1) National or State Parks; (2) National or State Monuments; (3) Federally designated Wilderness areas; (4) Wildlife refuge areas; (5) Areas within national forests or other Federal lands specifically set aside for recreational use; (6) prairie dog towns; and (7) Areas where exposure to the public and family pets is probable. (Initial Decision # 5).

9. The M-44 device shall not be used in areas where threatened or endangered animal species might be adversely affected. Each applicator shall be issued a map which clearly indicates such areas. (Initial Decision # 6).

E. Placement of Devices

10. One person other than the individual applicator shall have knowledge of the exact placement location of all M-44 devices in the field. (Initial Decision # 23).

11. In areas where more than one governmental agency is authorized to place M-44 devices, the agencies shall exchange placement information and other relevant facts to insure that the maximum number of M-44 devices allowed is not exceeded. (Initial Decision # 25).

12. The M-44 device shall not be placed within two hundred (200) feet of any lake, stream, or other body of water; provided, that natural depression areas which catch and hold rainfall only for short periods of time shall not be considered "bodies of water" for purposes of this restriction. (Initial Decision # 7).

13. The M-44 device shall not be placed in areas where food crops are planted. (Initial Decision # 8).

14. The M-44 device shall be placed at least fifty (50) feet distance or at such greater distance from any public road or pathway as may be necessary to remove it from the sight of persons and domestic animals using any such public road or pathway. (Initial Decision # 9).

15. The maximum density of M-44 devices in any 100 acre pastureland shall not exceed ten (10) and the maximum density in any one square mile of open range shall not exceed twelve (12). (Initial Decision # 10).

16. The M-44 device may be placed in the vicinity of draw stations (livestock carcasses); provided, that no M-44 device shall be placed within thirty (30) feet of a carcass; no more than four (4) M-44 devices shall be placed at any single draw station; and no more than three (3) draw stations shall be operated in any one square mile of area. (Initial Decision # 11).

F. Supervision, Inspection, and Removal of Devices

17. Supervisors of applicators shall check the records, warning signs, and M-44 devices of each applicator at least once a year to verify that all applicable laws, regulations, and restrictions are being strictly followed. (Initial Decision # 24).

18. Each M-44 device shall be inspected by the applicator at least once a week to check for interference or unusual conditions and shall be serviced as required. (Initial Decision # 12)

19. Damaged or non-functional M-44 devices shall be removed from the field. (Initial Decision # 15).

20. An M-44 device shall be removed from an area if, after thirty (30) days, there is a cessation of losses due to target predators in the area. (Initial Decision # 14).

G. Safety Precautions

21. All persons authorized to possess and use sodium cyanide capsules and M-44 devices shall store such capsules and devices under lock and key. (Initial Decision # 21).

22. Used sodium cyanide capsules shall be disposed of by deep burial or at a proper landfill site. (Initial Decision # 13).

23. Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.

- a. Main entrances or commonly used access points to areas in which M-44 devices are set shall be posted with warning signs to alert the public to the toxic nature of the cyanide and to the danger to pets. Signs shall be inspected weekly to insure their continued presence and insure that they are conspicuous and legible.
- b. An elevated sign shall be placed within six (6) feet of each individual M-44 device warning persons not to handle the device. (Initial Decision # 17).

H. Antidote Protection

24. Each authorized or licensed applicator shall carry an antidote kit on his person when placing and/or inspecting M-44 devices. The kit shall contain at least six (6) pearls of amyl nitrite and the correct premixed proportions of sodium nitrite and sodium thiosulfate for intravenous injections, together with instructions on the use of each. (Initial Decision # 22).

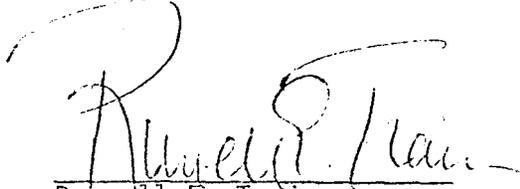
25. In all areas where the use of the M-44 device is anticipated, the poison control center (if there is one in the area) or the local medical society shall be notified of the intended use, and informed

of the antidotal and first-aid measures required for treatment of cyanide poisoning; provided, that if there is neither a poison control center nor a local medical society able to perform the function of notifying local hospitals, doctors, and clinics of the aforementioned, it shall be the responsibility of the registrant to perform such function. (Initial Decision # 16).

I. Records

26. Each authorized or licensed M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Such records shall include, but need not be limited to:

- a. The number of devices placed.
- b. The location of each device placed.
- c. The date of each placement, as well as the date of each inspection.
- d. The number and location of devices which have been discharged and the apparent reason for each discharge.
- e. The species of animal taken.
- f. All accidents or injuries to humans or domestic animals. (Initial Decision # 19).


Russell E. Train
Administrator

Dated: September 16, 1975

ENVIRONMENTAL PROTECTION AGENCY
PESTICIDES OFFICE
WASHINGTON, D. C. 20250

MAR 9 1972

PR Notice 72-2

Pesticides Regulation Division

NOTICE TO MANUFACTURERS, FORMULATORS, DISTRIBUTORS
AND REGISTRANTS OF ECONOMIC POISONS

Attention: Person Responsible for Federal Registration of
Economic Poisons

Suspension of Registration for Certain Products
Containing Sodium Fluoroacetate (1080),
Strychnine and Sodium Cyanide

I.

Last spring, this Agency made a public commitment to review the status of registrations for strychnine, cyanide, and sodium fluoroacetate (1080), for use in prairie and rangeland areas for the purpose of predator and rodent control. This commitment grew out of grave concern surfaced by the reported deaths of some 20 eagles killed by the misuse of thallium sulfate. ^{1/}

This same concern caused the Secretary of the Interior to initiate a thorough review of the government's federal predator control program. An advisory committee was appointed under the chairmanship of Dr. Stanley Cain, Director, Institute for Environmental Quality and Professor of Botany and Conservation

^{1/} This concern predates last summer. In 1963 the Secretary of Interior appointed an Advisory Board on Wildlife and Game Management chaired by Dr. Leopold of the University of California.



ENVIRONMENTAL PROTECTION AGENCY

at the University of Michigan. The report of that advisory committee was released earlier this month.

1972

Aside from this Agency's review and the Cain findings, a detailed petition has been submitted to this Agency by several distinguished conservation groups urging that the registrations of these compounds be cancelled and suspended immediately. That petition invoked the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. § 135, Section 2z(2)(c) which requires that an economic poison contain "directions for use which are necessary and if complied with, adequate to prevent injury to living man and other vertebrate animals. . . ." and Section 4c which allows the Administrator to initiate cancellation proceedings by ordering immediate suspension "when he finds that such action is necessary to prevent an imminent hazard to the public."^{2/}

Based on this Agency's review of the registrations of sodium cyanide, strychnine, and 1080 in light of available evidence, I am persuaded that their registrations for predator uses should be suspended and cancelled.

^{2/} Sponsors of the petition were: The Natural Resources Defense Council, Defenders of Wildlife, Friends of the Earth, The Humane Society of the United States, National Audubon Society, Inc., New York Zoological Society, the Sierra Club, and the National Parks and Conservation Association.

^{1/} This concern predates last summer. In 1969 the Secretary of Interior appointed an Advisory Board on Wildlife and Game Management chaired by Dr. Leopold of the University of California.



II.

The Cain group has dealt at length with the effects of the use of strychnine, cyanide, and 1080 for predator control. The report points out the extreme toxicity of these compounds, their non-selectivity, and their potential impact on the environment which "is increased by secondary hazard, accumulation in the animal, and combined characteristics of chemical stability and solubility in water." This report reconfirms the findings of the Leopold Report (see 1/, supra) that the predator control program took a heavy environmental toll:

Cyanide, strychnine, and 1080 are among the most toxic chemicals known to man. They act quickly, spreading through an entire animal crippling the central nervous system. These poisons are toxic not only to their targets but other animals and wildlife. All of these poisons have a similar pattern of use as unattended baits and are spread over vast areas of open prairie.

In the case of strychnine use against badgers, coyotes, and foxes, a tablet containing the poison is placed inside a one-inch ball or cube of bait material such as meat, lard or tallow. These baits are left along animal trails or near non-game carcasses. While instructions caution the user to cover the baits over with chips or brush to avoid ingestion by non-target animals, the Cain



Report has suggested the inadequacy of such directions. ^{3/}

The pattern for cyanide use differs little in pertinent respects. An explosive gun, a "coyote-getter," charged with cyanide is baited and driven into the ground. The gun is left unattended along the trail or range and is triggered when an animal pulls at the bait. In the case of 1080, carcasses of dead animals are laced with the substance and strewn to attract the predator.

Indiscriminate baiting over wide unpoliced areas poses two obvious and recognized threats to non-target animals that share the ranges as a natural habitat. The unsupervised bait is itself a potential killer of non-target range species. The threat, however, is compounded by the extremely high toxicity of these poisons, which can transform the predator carcass into a potential lethal killer of prairie animal life.

While the effects of prairie baiting are, for the most part, not documented, the Cain group has suggested the present evidence may well understate the true damage. It is appropriate to take

^{3/} According to the Cain Committee, if toxicants were consistently applied under field conditions with meticulous case, it is possible undesirable side-effects might be avoided. Draft at 131. However, the Committee concludes, "It appears that the necessary high standards are not likely to be attained." (Draft at 115) The Committee found no reliably precise data is available showing the degree of predator control achieved or the possible loss that might ensue without any program.



administrative notice of the fact that isolated accidents involving wildlife are not apt to be reported. Isolated, even if routine and numerous, instances of secondary animal poisoning would not have the visibility of a wildlife "kill," nor is there apt to be an observer present as in the case of human mishap. The administrative process need not be blind to these realities. This Agency's Pesticides Registration Division has, moreover, reports of cases of alleged secondary and accidental poisoning, and recently range-use of 1080 has been suspected of killing birds, including some of our rare species.

Measured against these obvious threats to wildlife are only ill-defined and speculative benefits. The Cain Committee has noted the absence of any meaningful information on the efficacy of poison baiting, especially in relation to the economic loss caused by predators to the sheep industry. At least one state, Nevada, has estimated that the cost of predator control was ten times the value of livestock and poultry lost to predators.

This absence of any meaningful data of benefits derived from the use of these highly dangerous poisons which pose a marked potential threat to the environment renders these registrations suspect. It is now settled that the burden of proof rests on the poison. The report, moreover, specifically cites the greater selectivity of ground shooting, denning, and trapping, and the Department of the Interior is embarking on a study to determine other methods of control. Here, where it is known that alternative



methods of control exist, the registrations must be seriously questioned.

III.

In deciding whether or not these considerations justify suspension, it must be recognized that the concept of suspension is one that must evolve, and existing verbal tests are not readily translated into a decisive cue for action. The Federal Insecticide, Fungicide and Rodenticide Act, and the judicial and administrative constructions of it to date set forth only word formulas that establish a general attitude on suspension questions. Each situation must be scrutinized not only for what is involved, but also for what is not involved.

Turning to the verbal tests by which we must measure the use of these poisons, FIFRA provides that the Administrator of EPA "may, when he finds that such action is necessary to prevent an imminent hazard to the public, by order, suspend the registration of an economic poison immediately." "Public" is not to be viewed restrictively, and includes fish and wildlife, as has recently and forcefully been noted in an opinion of a federal court. See EDF v. Ruckelshaus, 439 F.2d 584, at 597. Nor does "imminent" mean that we are on the "brink" and that the harm



will occur tomorrow or has been documented.^{4/} It is sufficient that reasonable men can conclude that action taken today will with reasonable certainty lead to a loss in the future and that loss will be irremediable, and uncorrectable by subsequent action, and that the apparent benefits from using a chemical, pending the complete statutory review process, are outweighed by the possible harm of use during the period.^{5/} Or, as the matter was put in the Agency's DDT policy statement of March 18, 1971, the type, extent, probability and duration of such injury will be measured in light of the positive benefits accruing from use of the economic poison, for example, in human or animal disease control or food production.

Bearing these principles in mind, I am persuaded that a definite hazard exists. While the mere toxicity of poisons does not, under FIFRA, render them a hazard, their degree of toxicity

4/ "An 'imminent hazard' may be declared at any point in a chain of events which may ultimately result in harm to the public. It is not necessary that the final anticipated injury actually have occurred prior to the determination that an 'imminent hazard' exists." Reasons Underlying the Registration Decisions Concerning Products Containing DDT, 2,4,5-T, Aldrin and Dieldrin, at 6.

5/ The cancellation proceeding involving the possibility of both a scientific advisory committee and public hearing consumes at least one year. In actual fact, these proceedings have generally taken considerably more than a year.



and pattern of use may well do so. The unattended and unsupervised use of poisons over large areas of land, by definition, poses a hazard to non-target species. The fact that label instructions contain directions for placing the baits at times and in areas least likely to be populated by non-target species and for policing them, affords slight, if any comfort. This Agency has on prior occasions taken into account a "commonly recognized practice" of use (see In Re Hari Kari Lindane, I.F.&R. (Docket #6), and has noted that the likelihood of directions being followed may affect their adequacy (see In Re King Paint, 2 ERC 1819 (1970)); In Re Stearns, 2 ERC 1364 (1970).

The hazards from the pattern of use for these chemicals is not remote or off in the distant future. The prairies and ranges are populated by numerous animals, some of which are becoming rare. At jeopardy are potentially endangered species. Each death to that population is an irremediable loss and renders such species closer to extinction.

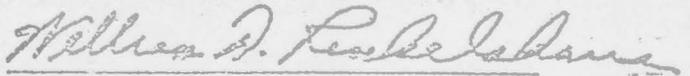
No apparent circumstances exist to counterbalance this distinct hazard and suggest that the possibility of irremediable loss is outweighed by the harm that might occur from their nonavailability during a period of suspension. The situation might well be different were the removal of these poisons from the



market likely to affect human health or the supply of a staple foodstuff; or were there no apparent alternatives available, the balance might be differently struck. This, however, is not true.

I am hereby affixing findings of fact and an order suspending and cancelling these chemicals for use in predator control.

MAR 9 1972



William D. Ruckelshaus
Administrator



FINDINGS OF FACT

Cyanide

1. Two products in the form of shells containing sodium cyanide are currently registered for explosive devices designed to kill coyotes that may prey on sheep. The device is simply a cyanide charge placed in a baited cylinder and driven into the ground. When the animal pulls at the bait the charge explodes into its mouth. Only one of the shell products is registered for use by the general public. The Division of Wildlife Services of the Department of the Interior has probably been the largest user of such devices.

2. Sodium cyanide is a water-soluble white solid which reacts with acids to form hydrogen cyanide gas. This chemical is among the most toxic and rapidly acting of all known poisons.

3. Persons overcome by gas either die very rapidly from respiratory failure or recover completely within a relatively short time.

4. Ingestion or inhalation of a very low dose (as little as 300 micrograms per litre of air) may rapidly result in death.

5. There is no true effective antidote.

6. Recent data show four incidents involving cyanide compounds in fiscal year 1970 in three of which human beings were injured by the discharge of cyanide guns placed in fields. Only



quick thinking on the part of all three victims in seeking immediate medical aid prevented any loss of life.

7. There is evidence that dogs have been subjected to poisoning by cyanide (used as outlined above) which is highly toxic to all wildlife and domestic animals.

Strychnine

8. Currently at least six products containing strychnine in tablet and technical powder form are registered for use in baits against coyotes and wolves.

9. The technical powder form is for reformulation and repackaging, and is for use only by professional pest control operators and government agencies.

10. The tablets are available on the open market.

11. Strychnine is an extremely bitter-tasting white crystal.

12. It is a complex, naturally occurring, organic compound which would probably bind to soil readily and decompose over a period of time, although information on the persistence of strychnine and its effect on the environment is somewhat limited.

13. Strychnine is highly toxic to humans and animals, with 30 mg. considered as a threat to the life of an adult man. Death has, however, been reported with as little as 5 to 10 mgs., and animal life may be acutely poisoned by ingestion of small amounts.



14. Strychnine acts by interfering with normal neural processes, causing exaggerated muscle contraction and violent convulsion. Death in a rather gruesome form due to respiratory failure soon follows unless the seizures are controlled.

15. There is no true effective antidote.

1080 (Sodium Fluoroacetate)

16. Four products containing 1080 are currently registered for use as mammalian predacides.

17. Use is restricted to areas west of the 100th meridian, and then only by Division of Wildlife Services personnel, or under their direct supervision.

18. 1080 is a white powder; soluble in water, very stable, and thus very persistent in ground water.

19. 1080 is highly toxic to all species. The dangerous dose for man is 0.5 - 2 mg/kg. The chemical acts rapidly upon the central nervous and cardiovascular systems with cardiac effects. Effect is usually too quick to permit treatment, and antidotes are relatively valueless.

20. According to one authority, prior to 1963 there were 13 proven fatal cases, five suspected deaths, and six non-fatal cases of 1080 poisoning in man, although it is not clear to what extent predator control materials were implicated.



2121. There is evidence that a certain number of non-target animals are being adversely affected by 1080 products, particularly, in the case of carrion eating birds and mammals, by secondary poisoning. It is not clear, however, how various animal populations are being affected, although 1080 is thought to have contributed to the death of at least one California condor, an endangered species.

Benefits

222. There is no reliable data as to the amount of predator control achieved by the use of these poisons.

223. There is no reliable data as to the loss of sheep that might occur without a predator control program using these poisons, or of the real effect of such losses on the general economic health of the sheep industry. Certain data that are presently available indicate predator losses may in fact be of such a low magnitude as to be a minor part of total losses. The Cain Report suggests that among other reasons for the decline of the sheep industry may be competition from synthetic fibers and from lot-fed livestock.

24. For the maintenance of predator control programs, especially in the sheep industry, effective non-chemical alternatives exist, including denning, shooting and trapping, methods that have long been available and effective, though more costly than poisons.

25. The Federal Government has committed itself to a research program for methods of controlling predators other than poisons.



CONCLUSION

The predator use of the foregoing chemicals presents an imminent hazard such as to warrant their suspension pursuant to § 4(c) of the Federal Insecticide, Fungicide and Rodenticide Act.



ORDER

In accordance with the attached opinion and findings, it is hereby ordered that the registration for all products containing sodium fluoroacetate (1080), sodium cyanide or strychnine for use against mammalian predators be cancelled and suspended immediately.

Registrations for those products bearing directions as listed above are hereby suspended and the products may not be legally shipped in interstate commerce until labeled to block out instructions for predator use.

MAR 9 1972



William D. Ruckelshaus
Administrator



ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE ADMINISTRATOR



In the matter of:

Applications to register sodium cyanide for
use in the M-44 device to control predators

FIFRA Docket No. 382

INITIAL DECISION^{1/}

of
Frederick W. Denniston
Administrative Law Judge

This proceeding was initiated by the Administrator's order dated July 11, 1975, published in the Federal Register of July 15, 1975 (40 F.R. 29755). The proceeding is based on an application filed July 7, 1975 by the Fish and Wildlife Service of the U.S. Department of Interior, which seeks to register sodium cyanide M-44 capsules pursuant to Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (FIFRA) (86 Stat. 979, 7 U.S.C. 136a). Pursuant to the provisions of subpart D of the EPA regulations (40 CFR 164.130-133), the application under Section 3 has been treated as a petition for reconsideration of an order issued March 9, 1972 (37 F.R. 5718).

The notice provided for an expedited hearing, which was specified to begin on August 12, 1975 and to last 4 days unless, pursuant to a

^{1/} Exceptions may be filed by the parties pursuant to 40 CFR 164.101 but must be received on or before September 5, 1975.

NOTE: This is a correction of the date of September 4, 1975, announced on the record (Tr. 4-64), the fact that September 1 (Labor Day) is a holiday not having been considered.



recommendation of the presiding officer, it was further extended for an additional three days. The parties were allowed 4 days from the close of the hearing to file proposed findings and briefs. The presiding officer was allowed 6 days thereafter for the issuance of his initial decision, to which the parties could file exceptions 4 days thereafter.^{2/} Finally, it was provided that the Administrator's final order would be issued 21 days following the hearing, or 7 days after the filing of the exceptions. Saturdays, Sundays, and holidays were to be excluded from the foregoing count.

A prehearing conference was held on July 30, 1975 as a result of which Special Rules for the conduct of the proceedings were discussed, and were included in a Report of First Prehearing Conference issued July 31, 1975 (40 F.R. 33069). A second prehearing conference was held on August 7, 1975, at which some supplemental rules were adopted (Report of Second Prehearing Conference, August 11, 1975).

As permitted by the initiating order, certain interests filed applications which parallel that of the Fish and Wildlife Service, and by a second order, dated August 8, 1975, the following applications were, in effect, incorporated into this proceeding (40 F.R. 34455, August 15, 1975):

Montana Department of Livestock
Wyoming Department of Agriculture

^{2/} In the original notice, the exceptions were inadvertently referred to as "a reply brief."



Colorado Department of Agriculture
Oregon Department of Agriculture
Nevada State Department of Agriculture
Texas Department of Agriculture
M-44 Safety Predator Control Company,
Midland, Texas

Also, as allowed by the order, the following interventions occurred:

Interventions in support of application:

Wyoming
Montana
Navajo Nation
National Turkey Federation
American National Cattlemen's Association
National Wool Growers' Association

Interventions in opposition to application:

Environmental Defense Fund
Defenders of Wildlife
Friends of the Earth
National Audubon Society
Natural Resources Defense Council
National Wildlife Federation
Sierra Club ^{3/}
Oregon Environmental Council
Animal Protection Institute
Wildlife Management Institute
Humane Society of the United States

Amicus Curiae: As further provided by the initiating order, persons desiring to file briefs without becoming parties were permitted to do so and such amicus briefs were filed by the following:

American Farm Bureau Federation
Texas Department of Agriculture
California Department of Food and Agriculture

3/

The precise status of the Council is not clear as notwithstanding intervention in opposition has been entered, the Council, by letter dated June 19, 1975, to the Assistant Director of the State Department of Agriculture, has indicated approval.



Montana Wool Growers' Association
Montana Stockgrowers' Association
Congressman W. R. Poage
Texas and Southwestern Cattle Raisers Association

HISTORY OF PROCEEDING

On March 9, 1972, the Administrator issued a notice of suspension of the registration of certain products containing sodium fluoroacetate (1080), strychnine, and sodium cyanide. That document was published in the Federal Register of March 18, 1972 (37 F.R. 5718). The document referred to a report prepared under the aegis of the Secretary of Interior by a committee of which Dr. Stanley Cain, Director, Institute for Environmental Quality and Professor of Botany and Conservation at the University of Michigan, was chairman. The text of that order and the accompanying findings of fact are incorporated herein by reference. The order cancelled and suspended all uses of sodium cyanide and the other chemicals mentioned.

On January 10, 1974, EPA issued a notice that it would consider applications for the use of a so-called M-44 device and sodium cyanide for coyote control (39 F.R. 2295, January 18, 1974). This was followed by an amendment to the EPA regulations dated January 29, 1974 and effective February 1, 1974 by which a new Section 162.19 was added to the Rules which provided for the filing of experimental use applications for the use of sodium cyanide in a spring-loaded ejector unit as a predator control.



Finally, on July 11, 1975, the Administrator issued the instant notice of hearing which commenced this proceeding. In that notice, it was recited that, pursuant to the foregoing regulations, experimental use permits had been issued as follows:

Texas Department of Agriculture

Montana Department of Agriculture

California Department of Food and Agriculture

Department of the Interior

South Dakota Department of Game, Fish, and Parks

Idaho State Department of Agriculture

Nebraska State Department of Agriculture

Kansas State University

Texas A & M

ISSUES

The issues for determination in this proceeding are whether the following three items constitute substantial new evidence:

1. Four of the seven specific findings concerning sodium cyanide in the 1972 Order were directly related to the issue of human safety. Based on the data gathered in accordance with the applicant's experimental use permit, sodium cyanide when used in the M-44 has been shown to be significantly less hazardous to man than sodium cyanide when used in the explosive device for which it was registered at the time of the 1972 Order and which was known to cause injuries to humans.



2. Based on data derived from studies conducted subsequent to the 1972 Order and submitted by the applicant, use of sodium cyanide in the M-44 device is more selective than use of the chemical in the explosive device and more selective than some other chemical and non-chemical predator control methods.
3. In view of the data submitted by the applicant with respect to significantly reduced hazards to humans and the greater selectivity of sodium cyanide when used in the M-44, it is likely that proposed restrictions that might be developed, could be adopted and followed as a matter of practice by trained personnel subject to the supervision or control of the applicant.

These are followed by the following, which have been numbered for convenience:

4. Finally, if the above facts are determined to exist and to constitute substantial new evidence, the hearing must also determine whether such facts require modification of the 1972 Order to permit the registration of sodium cyanide for use in the M-44 to control predators in accordance with FIFRA.
5. The determination of these issues shall be made taking into account the human and environmental risks found by the Administrator in the 1972 Order and the cumulative effect of all past and present uses, including the requested use, and uses which may reasonably be anticipated as a result of a modification of the 1972 Order.

Hearings were held on August 12, 13, 14, and 15, 1975, and it was not necessary to seek the three-day extension which was conditionally provided. While arrangements were made to extend the workday



for an additional hour on August 13, 14, and 15, the additional time was not required, and the hearing concluded prior to 11:00 o'clock on August 15, 1975. The following appearances of counsel were entered:

David Fisher - Fish and Wildlife Service, U.S. Department of Interior,

Glenn Davis and John H. Midlen, Jr. - States of Wyoming and Montana,

George S. Andrews - Special Counsel, State of Wyoming,

Arthur Lee Quinn and Jeffrey Petrash - National Wool Growers' Association, American National Cattlemen's Association, National Turkey Federation, Navajo Nation,

Harold Burke, Assistant Attorney General - State of Oregon,

Richard E. Gutting, Jr. - Environmental Defense Fund, Defenders of Wildlife, Friends of the Earth, National Audubon Society, Natural Resources Defense Council, National Wildlife Federation, Oregon Environmental Council, Sierra Club, Animal Protection Institute, Wildlife Management Institute,

Murdaugh Stuart Madden and Roger A. Kindler - Humane Society of the United States,

Ronald McCallum and Colburn T. Cherney - U.S. Environmental Protection Agency,

4. Findings of Fact and Conclusions, and Briefs in support, Proposed Findings of Fact and Conclusions, and Briefs in support, have been filed by Fish and Wildlife Service, Department of Interior, the States of Montana, Wyoming and Oregon, American Farm Bureau Federation, Environmental Defense Fund and the associated environmentalist groups, and respondent (Assistant Administrator, U.S. Environmental Protection Agency). The determination of these issues shall be made taking into account the human and environmental risks found by the Administrator of all past and present uses, including the requested use, and uses which may reasonably be anticipated as a result of a modification of the 1972 Order.

Hearings were held on August 12, 13, 14, and 15. It was not necessary to seek the three-day extension usually provided. While...



FINDINGS OF FACT

1. The M-44 is a mechanical device used to eject sodium cyanide into the mouth of canids when they activate it. It was developed in response to a need to replace the explosive shell of the Coyote Getter. Although serious injuries (14 documented human injuries for 550,000 getter-years of Service use since 1959) were infrequent with the latter, the potential for serious accidents was sufficient to warrant development of an alternative device. The manner of placement, use of scents that are offensive to humans, and elimination of the explosive charge made the M-44 relatively safe for humans.

2. The M-44 is composed of four parts: (1) the case--a sealed, impermeable plastic capsule containing one gram of formulated toxicant (0.88 gram of NaCN); (2) the case holder--a short, hollow tube wrapped with absorbent material to retain olfactory attractant and into which the case is inserted; (3) the ejector--a spring loaded plunger and triggering mechanism which is seated in and fastened to the tube and to which the case holder is fastened; (4) the tube--a hollow metal tube which is driven into the ground to support and anchor the mechanism.

3. Placement in the field is as follows: The tube is driven into the ground; the ejector is cocked, seated into the tube and the trigger mechanism engaged; the case is placed in the case holder which is then fastened to the ejector mechanism previously placed; and last, the



absorbent material on the case holder is saturated with an olfactory attractant. Canids drawn to the attractant grasp the case holder by their teeth and pull up, thus triggering the device, which then ejects the sodium cyanide into the animal's mouth.

4. The M-44 device will be used in accordance with formal policies and regulations established by the U.S. Fish and Wildlife Service. This use will conform to all applicable Federal, State, and local laws and regulations.

5. The U.S. Fish and Wildlife Service does not have authority over most lands on which the M-44 device will be used. To assure consideration, input, and approval from all responsible parties, M-44 use in programs on public lands will be controlled by cooperative agreement with appropriate jurisdictional agencies. Use of the device in programs on private lands would be controlled by written and signed cooperative agreement with the landowner or leasee.

6. Each individual M-44 use will be subject to careful analysis at the field level to assure that application is necessary, safe, and effective. Full documentation of livestock depredations, including evidence that such losses were caused by wild canids, or laboratory-confirmed verification that wild canids are, in fact, vectors of a communicable disease such as rabies, will be required before application is undertaken.



7. M-44 devices will be used only in areas specified under programs approved by U.S. Fish and Wildlife Service Regional Directors. They will not be used in: (1) National Parks or Monuments; (2) areas where threatened or endangered species might be adversely affected; or (3) areas where excessive exposure to public and family pets is probable.

8. M-44-s or capsules will not be given to, or entrusted to the care of, any person not under the supervision of the Service or other cooperating Government agencies. Care will also be taken to prevent theft or loss and the possibility of subsequent use of the capsules by nonauthorized persons.

9. M-44's will be used in locations and at times that will minimize encounters by humans, pets, and nontarget species. Special concern will be given to hunting and other seasonal use areas.

10. On private lands, M-44's will be used in areas where fencing, topography, seasons, climatic conditions, or other factors normally limit human access, while on public lands, M-44's will be used during those times of the year when use of the particular public land by the general public is at a minimum, or on areas not generally frequented by the public. Specific locations and time periods of M-44 use will be established by the appropriate Bureau representative, based upon land-use information provided by the land administrator and with his concurrence.



11. Warning signs in English and Spanish will be used to provide warning of all areas containing M-44's. Individual unit sites also will be clearly identified to protect persons who might happen upon them.

12. All Service-supervised employees will be instructed in the safe use of M-44's before being entrusted with them, including caution to be exercised to prevent personal injury from accidental discharge of the device.

13. Cyanide antidote kits will be carried by all employees using M-44's.

14. Special precautions will be in effect for the storage and disposal of capsules.

15. M-44 devices will be maintained on a routine basis (at least weekly) in order to replace discharged capsules and damaged warning signs, and to check them for human interference or abnormal conditions. They will be removed when unsafe conditions develop (i.e., new human activity in the area), when livestock depredation losses are stopped, or when evidence of the target species can no longer be found in the area.

16. All accidents involving humans and domestic animals as well as reports of animals taken by the device, will be reported immediately in accordance with established procedures.

17. During the experimental permit period from June 1, 1974 to October 31, 1974 the livestock losses were 3.4 percent before M-44 use



was initiated and 0.6 percent during and after their use, or a 2.8 percent reduction in losses (M-44 Efficacy report 1974). This shows the trend but is not an exact loss ratio or solely attributable to M-44's for several reasons: 1, in many cases other damage reduction methods were used simultaneously with M-44's; 2, funding does not allow for absolute search for kills; 3, time periods for collecting the "before" and "after" data are not equal.

18. Data taken from the same field reports, but limited to 2 months after initiation of M-44 use on each area, and including 13 months from June 1, 1974 to July 31, 1975 showed a reduction in sheep and goat losses of 2.9 percent from 3.3 percent before M-44 use to 0.4 percent after use began. The same data shows a reduction of cattle losses (mostly calves) of 3.0 percent from 3.3 percent before M-44 use to 0.3 percent after. Again this shows a trend, but not exact losses or exact loss ratios.

19. An important comparison should be pointed out, that these reductions of whatever size they are, were made where mechanical methods had been unsuccessful thus requiring the use of chemical methods.

20. The relative ratio by which M-44's take coyotes and fox as compared to nontarget species is indicated by data from the USFWS 1974 report which shows a target species take of 95 percent and nontarget species 5 percent. Data from the USFWS 1975 report indicates a take of 88 percent target species and 12 percent nontarget species.



21. The leader of the Predator Ecology and Behavior Project of the Fish and Wildlife Service, with credentials both academic and in research in the field of wild animal populations in general and predators in particular, testified as to the overall results of the FWS use of the M-44 device. In his opinion, the M-44 device is an effective device for achieving temporary reductions in canid populations; the device is selective for canids because of the nature of the attractant and manner of exposure; the risk to populations of nontarget species is minimal; and it is significantly safer for operating personnel than the Humane Coyote Getter. The risks associated with the Humane Coyote Getter, as used in the Federal program, were largely related to mechanical injuries caused by the top wad and sealant which effectively became^a a projectile. Those risks have been essentially eliminated in the M-44. The potential risk of cyanide toxemia to operating personnel is present with either device, but evidence from the operational programs suggests that risk is extremely low.

22. Data compiled by the Fish and Wildlife Service indicate that the M-44 device is more selective for wild canids than are steel traps. A study covering the period 1970-1972, during which the M-44 and the Humane Coyote Getter were both used during part of the period, indicates that of the animals taken, 89 percent represented coyotes and foxes, and other species such as bear, bobcat, skunk, badger, raccoon, opossum and porcupine, represented very small percentages of the total. On the other



hand, a study made in Mexico, Colorado, and Wyoming of carnivores taken on steel trap lines, indicated that coyotes and red foxes comprised only 27.6 percent of the total taken. Thus while some nontarget animals are taken by the M-44's, they represent a very small proportion and substantially less than the steel traps.

23. A research scientist from the Texas A&M University, testified with respect to certain studies of predator-prey relationships. From these studies, he drew the conclusion that the M-44 is a selective device for capturing coyotes.

24. While in the 1972 Order the Administrator found that "There is no true effective antidote" with respect to the use of cyanide there considered, the record does not disclose on what that statement or finding was based. The evidence adduced herein indicates antidotes do exist and one of the requirements of the Fish and Wildlife Service will be that every person engaged in placing the devices must carry an antidote kit. There is question as to whether the antidote treatment could be self-administered by a person who might be suffering from the initial effects of poisoning by making an intravenous injection; however, antidotes do exist and the previous finding in 1972 is incorrect.

25. The States of Montana and Oregon offered copies of the rules governing the use of chemical toxicants for predator control in their states and similar rules for the State of Wyoming were submitted.



26. Currently a critical situation exists in the State of Montana due to serious losses to livestock producers caused by predatory animals, primarily coyotes. Present methods of trapping, denning, shooting and aerial hunting are being employed but livestock depredation continues to be a serious problem. Various alternate methods of control are being utilized.

27. On April 4, 1974, the Montana Department of Livestock was granted permission to use the M-44 device for experimental use purposes only. The expiration date on that permit is October 15, 1975. From July 1, 1974 to February 20, 1975, a total of 278 people from 22 counties and an Indian reservation were trained by the Montana Department of Livestock and licensed as government pesticide M-44 applicators. The training consists of techniques for the selection of placement sites, recordkeeping and reporting safety precautions, and various aspects of the use of the M-44 device. Special emphasis was given to environmental and human safety precautions to be observed when using the device and predacide.

28. During these training sessions, all participants were issued an amyl nitrite antidote kit and instructed in its proper use. All applicators were required to submit monthly reports on capsule usage, species taken, and the number of M-44 units in the field.



29. Between July 1, 1974 and June 30, 1975, a total of 603 coyotes, 148 foxes, and 23 skunks, 6 raccoons, 4 dogs, and 1 badger were taken by the licensed applicators in Montana. Coyotes and foxes are the target species for this program and account for 96 percent of the species taken. The Department of Livestock computes the cost of the program per coyote or fox taken as \$19.32. This compares to the average cost to take a coyote or fox by the state helicopter, fixed-wing aircraft or state trapper using mechanical methods of \$45.00, \$25.00 and \$200.00, respectively. Thus proving the M-44 to be economically feasible.

30. Montana considers the M-44 device using sodium cyanide to be a selective, efficient, humane, economically and environmentally-safe predatory control tool, and urges its registration.

31. The State of Oregon has adopted a comprehensive system of regulations to implement its application for registration. Those regulations become effective October 15, 1975. Under its program only registered or licensed governmental applicators will be authorized to utilize the toxicant and device, and then only for coyote control.

32. EDF and the opposing group of environmentalists offered the testimony of a field representative for Defenders of Wildlife, Richard L. Randall. Mr. Randall has had life-long experience in varying capacities with livestock and wildlife in the Western areas. He was formerly employed by the Fish and Wildlife Service, or its predecessor, until 1973 when he retired from government service because of injuries suffered in two aerial accidents which occurred while he was hunting coyotes in Wyoming.



33. He has had personal experience in both the Humane Coyote Getter and the M-44. In his experience, use of any predator control was not effective in significantly reducing losses due to predation. Randall believes that the M-44 presents a potential danger to children and others who may be attracted to the devices by the warning signs posted. He indicates that there is much vandalism of the devices by persons damaging them with rocks or running over them with vehicles and that many who disapprove of their use deliberately set them off and therefore they present a hazard to that group of people. Randall perceives no objection to the registration of the M-44 device provided adequate restrictions on its use are promulgated. While he did not specify the particular conditions he deemed appropriate, one of his principal criticisms was in opposition to placing the devices on or near roads. He does not believe that the M-44 is anymore effective or selective than its predecessor the Humane Coyote Getter.

34. The foregoing facts constitute substantial new evidence which was not available to the Administrator when he issued his March 1972 order, and could not have been presented or discovered by parties to that matter in view of the lack of a proceeding.

35. Based on the data gathered in accordance with the applicants experimental use permit, sodium cyanide when used in the M-44 has been shown to be significantly less hazardous to man than sodium cyanide when used in the explosive device for which it was registered at the time of the 1972 order and which was known to cause injuries to humans.



36. The use of sodium cyanide in the M-44 device is more selective than use of the chemical in the explosive device and more selective than some other chemical and non-chemical predator control methods.

37. It is also apparent that with appropriate restrictions as hereinafter discussed, the use of the M-44 should be approved and that the 1972 order should be modified accordingly.

CONCLUSIONS

The evidence is clear that the conditions of use of the M-44 as embodied in actual practice under the experimental use permits avoid most if not all of the dangers mentioned in the 1972 order. The testimony of the only witness in opposition tends to confirm this fact rather than controvert it. While apparently disagreeing that the M-44 is more selective than the former Humane Coyote Getter, that witness' statement was a general observation unsupported by data, and actual data of record establishes the contrary.

While the evidence presented might be considered lacking in the niceties of politico-economic analysis, when consideration is given to the subject-matter, i.e. wild animal predators, and the vast undeveloped areas in which these devices are utilized, the data presented indicate that the benefits of the proposed use greatly outweigh the risks which are shown to be minimal. A precise dollar evaluation of benefits versus risks, however, is not possible.



OPPOSITION CONTENTIONS

EDF contends it has been denied due process of law and a fair and proper hearing, and in support offers five contentions of procedural errors.

1. Intervention by Oregon: EDF points out that the initiating notice of July 11, 1975, provided that motions to intervene were to be filed no later than August 6, 1975. It also provided for states to file M-44 applications and allowed for their filing by July 31, 1975, to be reviewed and then made subject to a determination by the Administrator as to whether they qualified under Subpart D of the Rules. That determination was not made until the August 8, 1975 Notice, or after the date for filing interventions as such. As Oregon became an applicant on that date, it was appropriate that it become a party and offer evidence in support of its application. It should be noted that such evidence dealt with the manner in which the program would be administered within Oregon, but did include a letter of the Oregon Environmental Council expressing approval of these applications.

2. Application dates: EDF contends the August 8, 1975 Notice "ruled that applications received after this date [July 31, 1975] would be considered." No such language is contained in the Notice, which lists the applications received on or before July 31, 1975." It therefore cannot be determined what the basis of this objection may be.



3. Irrelevant material: Throughout the hearing, EDF objected to any evidence beyond the issues 1 and 2 above, dealing with human hazards and selectivity, and thus asserts that irrelevant material was received. In taking this position, EDF ignores issues 4 and 5 in the initiating order as summarized above and cites no testimony which is irrelevant to those issues.

4. Special Rules: EDF points out that the Special Rules issued by the Presiding Officer provided for submission of all testimony on applications in writing and the distribution to parties on August 7, 1975, but that it did not receive the Oregon and Montana exhibits until after that date. As noted above, the Order incorporating those applications was not issued until August 8, 1975, and being proper parties provision for their testimony was required. In any event, EDF received the testimony in advance of the witness taking the stand and had opportunity for prior review; there is no indication that EDF was in any way prejudiced by this procedure.

5. Underlying data: EDF correctly points out that the Special Rule (Report of First Prehearing Conference) provided that data must be made available by the proponents of exhibits or expert testimony, but alleges testimony was allowed where such was unavailable to EDF, citing two references to the transcript. Those references indicate that EDF did in fact have the underlying studies when questioning the witness, and



afford no support for its contention. Further, the record indicates that where a witness had failed to supply the complete article from which he had quoted excerpts, the proposed testimony was stricken (Tr. 2-22). Moreover, with respect to the Special Rules which were discussed at the Prehearing Conference of July 30, 1975, various counsel, including EDF, urged that provision be made for special situations, and the Administrative Law Judge indicated that such would be entertained. (Tr. 1-28).

6. Subpoena of EPA official: A witness in the course of his testimony stated that an EPA official had told him the present applications would be granted. Later, EDF requested and was denied a subpoena requiring that official to testify and be cross-examined, on the grounds of relevancy. The decision-making process, in this instance, involves the Administrative Law Judge in the first instance and the Administrator, or his delegee, in the second. The views of staff members outside of this record are irrelevant unless it would appear to be related to the development of "secret law" as to which there is no indication here. Compare Sterling Drug Inc. v. F.T.C., 4502d 698 (1971).

Applicability of Section 102 of the National Environmental Policy Act: On brief, EDF also contends that Section 102(2)(c) of the National Environmental Policy Act (NEPA) [83 Stat. 852; 42 U.S.C. 4332 (2)(c)] requires that an environmental impact statement (EIS) is a prerequisite to the FWS application, and that its absence prevents any modification of the 1972 Order. In support, it offers a quotation from



Aberdeen and Rockfish Railroad et al. v. S.C.R.A.P. (_____ U.S. _____

No. 73-1966, June 24, 1975). The quotation is dictum in a case in which such a statement was held not to be required, and affords little guidance here. The issuance of the initiating notice herein, by the Administrator in the absence of an EIS, necessarily represented a determination by him that none was required. With regard to EPA itself, none is required and this proceeding does not fall within those as to which the Administrator has announced a voluntary program of preparing the EIS. See Statement of Policy and Procedures, 39 F.R. 16186 and 37119.

Effect of E.O. 11870: EDF contends the present FWS proposal is prohibited by Executive Order No. 11870 (July 18, 1975) (40 F.R. 30611) which amended Executive Order No. 11643 of February 8, 1972, by citing Section 3(c) thereof which deals with programs limited to one year. But this proceeding would be governed by Section 3(b), and no doubt represents the consultation with EPA which is required.

Section 3 of FIFRA: Finally, EDF contends the applications do not meet the requirements of Section 3 of FIFRA by asserting that the proposed use would have "unreasonable adverse effects on the environment." No attempt is made to justify the assertion, but reference is made to 40 CFR 162.11 of the recently issued Registration rules, effective August 4, 1975. But this proceeding is subject to Section 18 of FIFRA, as well as Section 3, and is governed by Subpart D of the Rules (40 CFR 164.130) and the statement of issues herein.



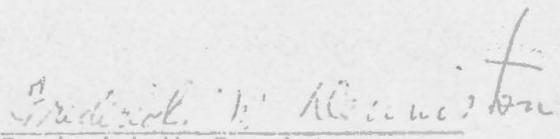
RESTRICTIONS

The Respondent in this proceeding (Assistant Administrator of EPA), on brief, urges the modification of the 1972 Order to permit the registration of sodium cyanide for use in the M-44 device to control canid predators subject to the 26 numbered conditions or restrictions set forth in the Appendix hereto.

These restrictions are based on the statements of intended use by the applicant witnesses herein or may reasonably be inferred from their testimony and appear to be appropriate in the light of the record. They also appear to meet the suggested restrictions offered by EDF in the alternative that their challenge of the proceeding is not accepted, and accordingly, the approval granted herein will be made subject to those restrictions.^{4/}

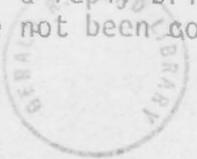
ULTIMATE FINDINGS AND CONCLUSIONS

In view of the foregoing, the 1972 Order should be modified to permit the registration of the M-44 device by the applicants herein subject to the conditions set forth in the Appendix hereto.


Frederick W. Denniston
Administrative Law Judge

August 29, 1975

^{4/} It is noted that by letter of August 27, 1975, counsel for the State of Montana takes exception to proposed restrictions No. 2, 14 and 22. No provision was made for such a filing, which is essentially a reply brief, and time does not permit provision therefor, and they have not been considered. They may, of course, be renewed on exceptions.



APPENDIX A - RESTRICTIONS

1. Use of the M-44 device shall conform to all applicable Federal, State, and local laws and regulations.
2. The M-44 device shall be used only to take wild canids suspected of preying upon livestock and poultry.
3. The M-44 device shall not be used solely to take animals for the value of their fur.
4. The M-44 device shall only be used in instances where actual livestock losses due to predation by wild canids are occurring. M-44 devices may also be used prior to recurrence of seasonal depredation, but only when a chronic problem exists in a specific area. In each case, full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before application of the M-44 is undertaken.
5. The M-44 device shall not be used in: (1) National or State Parks; (2) National or State Monuments; (3) Federally designated Wilderness areas; (4) Wildlife refuge areas; (5) Prairie dog towns; (6) Areas where exposure to the public and family pets is probable.
6. The M-44 shall not be used in areas where threatened or endangered species might be adversely affected. Each applicator shall be issued a map which clearly indicates such areas.
7. The M-44 device shall not be placed within 200 feet of any lake, stream, or other body of water.
8. The M-44 device shall not be placed in areas where food crops are planted.
9. M-44 devices shall not be placed within 50 feet of public rights of way.
10. The maximum density of M-44's placed in any 100 acre pastureland area shall not exceed 10; and the density in any one square mile of open range shall not exceed 12.



11. The M-44 device may be placed in the vicinity of draw stations (livestock carcasses); provided, that no M-44 device shall be placed within 30 feet of a carcass; no more than 4 M-44 devices shall be placed per draw station; and no more than 3 draw stations shall be operated per square mile.
12. M-44 devices shall be inspected at least once a week to check for interference or unusual conditions and shall be serviced as required.
13. Used sodium cyanide capsules shall be disposed of by deep burial or at a proper landfill site.
14. An M-44 device shall be removed from an area if, after 30 days, there is no sign that a target predator has visited the site.
15. Damaged or non-functional M-44 devices shall be removed from the field.
16. In all areas where the use of the M-44 device is anticipated, local hospitals, doctors, and clinics shall be notified of the intended use, and informed of the antidotal and first-aid measures required for treatment of cyanide poisoning.
17. Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.
 - a. Main entrances or commonly used access points to areas in which M-44 devices are set shall be posted with warning signs to alert the public to the toxic nature of the cyanide and to the danger to pets. Signs shall be inspected weekly to insure their continued presence and insure that they are conspicuous and legible.
 - b. An elevated sign shall be placed within 6 feet of each individual M-44 device warning persons not to handle the device.



18. Registrations for sodium cyanide M-44 capsules may be granted to persons other than State and Federal agencies; provided, that such persons shall be authorized to sell said capsules only to State and Federal registrants. Only State and Federal registrants shall be permitted to sell, give, or otherwise distribute capsules to individual applicators. Such State or Federal registrants of sodium cyanide M-44 capsules shall be responsible for insuring that the restrictions set forth herein are observed by individual applicators to whom such registrants sell or distribute such capsules and/or M-44 devices. State and Federal registrants shall train applicators, and such training shall include, but need not be limited to: (1) Training in safe handling and placement of the device; (2) Training in the proper use of the antidote kit; (3) Instructions regarding proper placement of the device; and (4) Instructions in record-keeping.
19. Each authorized M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Said records shall include, but need not be limit to:
 1. The number of devices placed.
 2. The location of each device placed.
 3. The date of each placement, as well as the date of each inspection.
 4. The number and location of devices which have been discharged and the apparent reason for each discharge.
 5. The species of animal taken.
 6. All accidents or injuries to humans or domestic animals.
20. M-44 devices and capsules shall not be sold or transferred to, or entrusted to the care of, any person not licensed by, or under the supervision of a State or Federal registrant.
21. All persons authorized to possess and use M-44 capsules and devices shall store said devices under lock and key.



22. Each authorized M-44 applicator shall carry an antidote kit on his person when placing and/or inspecting M-44 devices. The kit shall contain 12 pearls of amyl nitrite and instructions on their use. The kit may also contain sodium nitrite and sodium thiosulfate.
23. One person other than the individual applicator must have knowledge of the exact placement location of all M-44 devices in the field.
24. Supervisors shall periodically check the records, signs, and devices of each applicator to verify that all applicable restrictions, laws, and regulations are being strictly followed.
25. In areas where more than one governmental agency is authorized to place M-44 devices, the agencies shall exchange placement information and other relevant facts to insure that the maximum number of M-44's allowed is not exceeded.
26. Registrants and applicators shall also be subject to such other restrictions as may be prescribed from time to time by the U.S. Environmental Protection Agency.

[Last Page of Appendix B to Decision of the Administrator]



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

FROM: Robert G. Ryan
TO: Vern Loen

FYI

A handwritten signature in black ink, appearing to be 'RGR', written over a horizontal line.

DATE: September 18, 1975

OFFICE OF LEGISLATION