ILLINOIS POLLUTION CONTROL BOARD
September 22, 1988

IN THE MATTER OF:	)	
	)	
MANAGING SCRAP TIRE ACCUMULATIONS	)	
FOR THE CONTROL OF MOSQUITOES	)	R88-24
PART 849	)	

PROPOSED RULE. FIRST NOTICE.

PROPOSED OPINION AND ORDER OF THE BOARD (By J. Marlin):

On April 21, 1988 the Board adopted an emergency rule in Docket R88-12, Managing Tire Accumulations to Limit the Spread of the Asian Tiger Mosquito. In the Opinion in that matter (hereinafter referred to as The Opinion or "O".) the Board suggested that a permanent rulemaking be initiated by some person no later than November 1, 1988. The Board is opening this docket to expedite that process. By today's Order, the Board is proposing a rule for First Notice. Public Hearings will be held on this proposal and the public may file written comments within 45 days after it is published in the Illinois Register.

This proposal, if adopted, will provide permanent regulations on scrap tire accumulations for controlling the Asian Tiger Mosquito (Tiger Mosquito) and other mosquito species in Illinois.

The proposed permanent rule is subject to change based on First Notice written comments and information received at hearing. Given this fact the public is encouraged to advise the Board on the proposal's workability and potential effectiveness. The reasons for the substantial changes from the emergency rule are presented below.

The 31 Exhibits admitted in R88-12 are incorporated into this record and will keep their original exhibit numbers. The transcript of the Special Board Meeting (Meeting) of April 15, 1988 is exhibit 32. For purposes of this Opinion, references to exhibit 32 will be in the form of RI___. The Board admits, as Exhibit 33, a document entitled "Mosquito Species Known to Inhabit Tires and Other Artificial containers in Illinois". This document was provided by Dr. Robert Novak of the Illinois Natural History Survey, (INHS) a division of DENR.

This Opinion is largely drawn from the Opinion in R88-12. The information included recaps the testimony received at the meeting on the emergency rule and provides the basis of this First Notice.

The emergency rule was specifically promulgated to limit the spread of the Asian Tiger Mosquito (Tiger Mosquito) which is new to Illinois. The record in that proceeding identified scrap tires as a prime breeding habitat for this mosquito. The movement of scrap tires about the country was found to be the primary means by which this mosquito spreads to new localities. The Board also found that at least two other mosquitoes known to spread disease in Illinois breed in scrap tires. Exhibit 33 lists 13 mosquitoes which breed in scrap tires in Illinois. Nine of these are known to carry diseases that infect humans. Some of these species were originally brought into the State in tires, as was the Tiger Mosquito. Given this situation, the permanent rule will address the control in scrap tires of mosquitoes, in general, rather than just the Tiger Mosquito.

The emergency rule was in force during the 1988 mosquito breeding season. The impact of the rule and 1988 drought on the Tiger Mosquito has not yet been reported. However, it appears that the infestation in Chicago survived the winter but is generally limited to the same neighborhoods as in 1987. The St. Clair county infestation appears to have spread to Madison County. The Board is unaware of the status of the Jefferson County infestation.

Through Section 27 and 22 of the Act, the Board may adopt substantive regulations to promote the purposes of Title V of the Act which is entitled "Land Pollution and Refuse Disposal." Section 20(b) of the Act which sets forth the purposes of Title V states:

> It is the purpose of this Title to prevent pollution or misuse of land, to promote the conservation of natural resources and minimize environmental damage by reducing the difficulty of disposal of wastes and encouraging and effecting the re-cycling and re-use of waste materials, and upgrading waste collection, treatment, storage, and disposal practices....
>
> Ill. Rev. Stat. 1985, ch. 111 1/2, par. 1020(b).

Further, Section 2 of the Act states:

> (a) The General Assembly finds
>
> (1) that environmental damage seriously endangers the public health and welfare....

Ill. Rev. Stat. 1985, ch. 111 ½, par. 1002(a)(1)

Reflecting this legislative finding, the Supreme Court has held that impairing the Board's ability to "protect health, welfare, property, and the quality of life" is inconsistent with the objectives of the Act because of "the Act's emphasis on public health." Monsanto Company v. Pollution Control Board, 67 Ill. 2d 276, 367 N.E.2d 684, 10 Ill. Dec. 231, 235 (1977).

Similarly, courts have held that actions of the Board may be classified as an exercise of the State's police power which can require individuals to expend funds in "the interests of public health and welfare." A.E. Staley Manufacturing Company v. Environmental Protection Agency, 8 Ill. App.3d. 1018, 290 N.E.2d 892 (1972); Cobin v. Pollution Control Board, 16 Ill. App. 3d. 958, 307 N.E.2d 191, 199 (1974).

In the instant situation, the Board has proposed rules that regulate scrap tires for the benefit of public health. It is the Board's position that the promulgation of these rules is well within the authority granted to the Board under the Act.

The storage, transport and disposal of scrap tires is a solid waste management problem. Such matters are commonly dealt with by the Board. The Board has traditionally promulgated rules to control pests and vectors associated with solid waste. The best example is regulations to control rodents and birds associated with landfills. The Board also regulates hospital wastes and the bacterial levels of raw and finished water. Other Board regulations concern the safe transportation and storage of a variety of materials. The adoption of regulations to control mosquitoes in scrap tires is consistent with the Board's other regulatory functions.

MEETING PARTICIPANTS

At the Meeting held on April 15, 1988, four research scientists specializing in entomology testified on the Tiger Mosquito problem. This group is collectively referred to as the Scientific Panel.

Dr. George Craig, Jr. is an entomologist and Director of the Vector Biology Laboratory at the University of Notre Dame, and a Fellow of the National Academy of Sciences. He has served on expert committees for numerous entities including the World Health Organization and Pan American Health Organization and has authored over 400 scientific papers on Aedes mosquitoes.

Dr. Robert Metcalf is a Professor Emeritus at the University of Illinois and Principal Scientist of the Illinois Natural History Survey (INHS). He is a member of the National Academy of

Sciences, has served on the Expert Committee on Insecticides of the World Health Organization; Pesticide Science Advisory Panel of U.S. Environmental Protection Agency; and a variety of committees of the National Academy including that on Urban Pest Management. He is the author of more than 400 scholarly publications.

Dr. Robert Novak, is currently with the INHS and Macon Mosquito Abatement District. Previous appointments were with the University of Puerto Rico; and the Centers for Disease Control in San Juan and Atlanta. His career has been focused on mosquito research including identification, ecology, behavior and control. He has been the lead person for the INHS on the Tiger Mosquito since its discovery in Illinois last year.

Dr. Chester D. Moore is a research entomologist at the Arbovirus Ecology Branch, Division of Vector-Borne Viral Diseases, Center for Infectious Diseases, Centers for Disease Control (CDC), Fort Collins, CO. He was an army entomologist at the Walter Reed Army Institute of Research and served with the CDC in Puerto Rico. He has authored over 30 scientific papers and is an advisor to many organizations including the World Health Organization.

The statement of Bernard J. Turnock, M.D., M.P.H., Director of the Illinois Department of Public Health (IDPH) was given by Dr. Linn Haramis, a medical entomologist and program manager of the Arbovirus Surveillance Program. He has managed a Mosquito Abatement District and authored seven publications.

Other witnesses included:

Dr. Lorin I. Nevling, Chief of the I.N.H.S., of the Illinois Department of Energy and Natural Resources (DENR);

Dr. Daniel D. Brown, Director of the Macon Mosquito Abatement District on behalf of the North Central Region of the American Mosquito Control Association;

Leslie Nickels, Program Director, Environmental and Occupational Health, City of Chicago Department of Health (CDH);

Mosi Kitwana, Deputy Commissioner, Department of Streets and Sanitation (CDSS), City of Chicago;

Philip J. Mole, P.E. representing Sun Eco Systems;

Jay Lauterback, President, Illinois State Tire Dealers and Retreaders Association;

Ronald Lakin, Vice-President, Lakin General Corp.;

Phillip Van Ness, Attorney, Enforcement Programs; Harry Chappel, Manager, Compliance Monitoring; and Glenn Savage, Manager, Field Operations represented the Illinois Environmental Protection Agency (Agency), Division of Land Pollution Control.

In addition, written comments or exhibits were received from the Illinois Department of Agriculture (IDA), Department of Energy and Natural Resources (DENR), Office of Solid Waste and Renewable Resources (OSWRR), the National Group of Companies, Triple/S Dynamics, the Illinois Farm Bureau, Dr. Bettina Francis and the DesPlaines Valley Mosquito Abatement District.

THE INFESTATION PROBLEM

The bulk of this section of the Opinion was contained in the Opinion of April 7, 1988. The Scientific Panel agreed that the information in that document was scientifically accurate. (RI. 21, 27 and 51). The record developed at the meeting clearly indicated that dengue fever is not likely to be transmitted in Illinois. Scientists and public health officials are particularly concerned that the Tiger Mosquito may prove capable of transmitting La Crosse Encephalitis in Illinois. There was also some question as to whether St. Louis Encephalitis will actually be transmitted by this insect.

Early in 1986, the Tiger Mosquito was discovered in Harris County, Texas and quickly spread to other Texas counties and to Louisiana. The Centers for Disease Control (CDC), Division of Vector-Borne Viral Diseases, after investigating the infestation made the following observations:

> The CDC views the introduction of Ae. albopictus as a potentially serious public health problem, both for the United States and for other countries in the hemisphere; we are devoting a major portion of our time and effort to the matter.
>
> * * *
>
> We are strongly encouraging state and local agencies that find this species within their jurisdictions to initiate control measures against it. Eggs and larvae [mosquito young which live in water] seem to move from one area to another in shipments of used tire casings for the retreading and recycling industry. Thus, a major component in confining infestations involves the cooperation, and possible regulation, of these businesses. It is a large business,

> and tires are routinely shipped over long distances. Tire retreaders and recyclers need to be made aware of the seriousness of the problem and ensure that they are not helping to spread the mosquito.
>
> (Exh. 1.)

The Tiger Mosquito is of Asian origin. It is known to transmit dog heartworm (Exh. 1) and a number of human viral diseases including dengue. Under laboratory conditions, it has been infected with other viral diseases including St. Louis encephalitis (SLE) and La Crosse encephalitis (LAC), both of which occur in Illinois. These viruses can be transmitted from a female to her eggs. SLE is normally transmitted by Culex pipiens (Northern House Mosquito) and LAC by Aedes triseriatus (Tree Hole Mosquito). Both of these species occur throughout Illinois. At this point in time the transmission of LAC and SLE to humans by the Tiger Mosquito have not been documented. (Exh. 3).

Dengue is a serious viral disease in humans which is clinically similar to measles. Dengue has been occasionally bought into the United States by persons returning from the Carribean. IDPH records show that only one Illinois resident has had a confirmed case of dengue during the past three years, and that only 61 have had clinical and epidemiological histories compatible with dengue (O.at 8). According to CDC, transmission of the virus occurred in the U.S. in 1986.

> Transmission in 1986 was of particular concern for two reasons. First, indigenous transmission occurred in Texas for the second time in 6 years--the last previous transmission prior to 1980 had occurred in 1945(s). Second, confirmed dengue cases were reported in areas where Ae. aegypti and Ae. albopictus, two efficient vectors of dengue, occur. The recent introduction of Ae. albopictus into the United States is of special concern because this species is an exceptionally efficient host for dengue viruses and is capable of transmitting both horizontally (human to human) and vertically (from infected female to her offspring) (3,4). Moreover, Ae. albopictus has become established in northern as well as southern states (5). The presence of this species increases the potential for more widely distributed secondary transmission and for the maintenance of dengue viruses in the United States. CDC is currently collaborating with state health departments

> to improve surveillance for both the introduction of dengue virus and for the presence of the mosquito vectors. (Exh. 10).

SLE is a viral disease which causes inflamation of the human central nervous system. Disease symptoms appear in infected persons of all ages, but are most severe in the elderly. Symptoms include headache, fever, stiff neck, drowsiness, lethargy, nausea and vomiting, mental confusion, and sometimes seizures and death. Mortality rates range as high as 30 percent of diagnosed cases. During a 1975 epidemic in Ohio, 29 of 416 infected people died. The average age of those who died was 70 years. (Exh. 7). SLE is well established in Illinois.

LAC has similar symptoms to SLE. Children are most at risk of contracting this disease. The mean age of 618 infected persons in Ohio between 1963 and 1985 was slightly less than nine years. Five of the cases were fatal. (Exh. 7). LAC is well established in Illinois.

In 1987, CDC said the following regarding the potential relationship between LAC and the Tiger Mosquito:

> La Crosse encephalitis is the second most common form of mosquito-borne encephalitis in the U.S. La Crosse (LAC) virus, a member of the California serogroup of viruses, is distributed throughout the eastern U.S. and is especially common in hardwood forest areas of the upper Mississippi and Ohio River valleys. It is transmitted primarily in a transovarial infection cycle in Ae. triseriatus, with seasonal amplification in small mammals. Humans typically encounter the virus in heavily wooded suburban or rural environments. Probably because of a stable vector-virus cycle, there is a rather constant annual number of about 75 human cases (range of 30 to [1]60 cases) reported to CDC.
>
> Laboratory studies have shown that Ae. albopictus is an efficient vector of LAC virus. It also transovarially transmits the virus. If Ae. albopictus becomes involved in the LAC virus cycle in the eastern U.S., the epidemiology of the disease might be dramatically altered. First, such a new (and presumably less stable) vector-virus relationship could result in greater year-to-year fluctuation in numbers of cases. Second, Ae. albopictus is better adapted than

> Ae. triseriatus to urban environments. An urban LAC virus cycle would lead to increased man-mosquito contact and, therefore, increased virus transmission. Third, involvement of Ae. albopictus could result in increased LAC virus activity in the southeastern U.S. (Exh. 5).

Unlike many Illinois mosquitos that are active in the evening, the Tiger Mosquito is a day biter. It is active when people are about their work and play. It has a reputation as a particularly noxious pest because of its bite (Exh. 3). It is well adapted to human habits and breeds in tires, bottles, jars, plugged gutters, and most other small water-filled containers. This close association with man makes it potentially more dangerous than many other species.

The Tiger Mosquito was found in Illinois in small areas of Jefferson and St. Clair counties in 1986 and in one location in Cook County in 1987. (Exh. 6). The infestations were in piles of tires. Scrap tires also provide excellent breeding areas for the Nothern House Mosquito and the Tree Hole Mosquito as well as Aedes aegypti (Yellow Fever Mosquito). (Exh. 7).

Dr. Moore pointed out that the Tiger Mosquito combines the worst characteristics of the mosquitoes that transmit SLE and LAC in Illinois: "it has a strong attraction to humans for its blood meals, and is quite at home in either an urban or suburban setting." He also pointed out that "removal of tires and other major producer habitats may reduce populations of the mosquito to a level where disease agents cannot effectively be transmitted." (Exh. 19A). Regarding the proposed rule, Dr. Moore stated that:

> If you have full and total compliance, I think that you can expect essentially, obviously, a total shutdown of movement of the mosquito at least by human activity within the State.
>
> Any proportional lack of compliance would give a proportionately less optimistic picture of what's going to happen. (RI. 90)

In response to a direct question, Dr. Moore emphatically stated, "There is no evidence that the Asian Tiger Mosquito, any other mosquito, or any other blood-sucking insect, can transmit the AIDS virus." (RI. 64).

Dr. Craig said, "Those who know anything about the public health menace of this mosquito in Asia are deeply concerned about its introduction to the Americas." He pointed out that the insect by 1987 had spread to 77 counties in 18 states, has eggs

that tolerate freezing and is a major biting pest. He listed 20 organizations dealing with public health and entomology which have expressed concern over the threat posed by the Tiger Mosquito (Exh. 14A). On the importance of acting quickly, Dr. Craig said, "You have got your last chance to get them out of Chicago this spring and summer. You won't have a chance after this fall." (RI. 217).

Dr. Novak and the INHS have studied the Chicago infestation. It has spread from a tire yard to adjacent neighborhoods. In addition, a search of 72 tire accumulations in 32 Illinois counties failed to find a fourth infestation. Drought conditions at the time could have caused an infestation to be missed due to low mosquito production. According to Novak:

> This pestiferous daytime biting behavior of this mosquito, coupled with its potential disease-carrying capabilities, could create a severe personnel and economic burden on mosquito abatement districts as well as on public health and veterinary agencies throughout the State. It adds yet another insect-and-disease-control responsibility for these agencies, many of which are unfamiliar with control practices necessary to abate container-inhabiting mosquitoes.(Exh. 16A)

Dr. Turnock pointed out that, "Case investigations by the State Health Departments of Minnesota and Ohio have determined that discarded tires were present at 50-80% of residences where cases of LaCrosse encephalitis occurred....Mosquito control workers have found that tire casings are one of the most common artificial encontainers near private residences. Consequently, eliminating tire casings from private residences will help minimize risk of disease to citizens." He also said that one reason attempts to eliminate the Yellow Fever Mosquito failed in the 1960's was that "clean areas were reinfested by eggs transported in tire casings."

Dr. Metcalf said that many people are seeking his advice on mosquito control programs. He stated:

> The history of practical mosquito control is essentially that of the past 50 years. It has been abundantly demonstrated over that time that elimination of breeding sites for larval mosquitoes by drainage, dewatering, grading, filling,, etc. or by ancillary larviciding activities is the most practical method for mosquito abatement. It is obvious that this must be true especially in suburban and urban locations where mosquito breeding

> sites are generally conspicuous and can readily be mapped and where the mosquitoes are concentrated in a relatively immobile and and innocuous life stage. A tiny pond a hundred square meters in area can contain several million mosquito larvae. Yet after emergence from the pupal stage, the winged biting adults can colonize an area of several square miles. The same can be said of the larvae of Ae. albopictus breeding in a few automobile tires containing rain water. Apart from source reduction by drainage, etc.: emergence larviciding by granular or pelletized products containing very small amounts of insecticide can readily be accomplished by treating relatively small areas in an entirely safe and unobjectionable way using either the microbial insecticides Bacillus thuringiensis israelensis (Bti) or Bacillus sphaericus (B.s.); or such relatively safe and effective mosquito larvacides as temepyhos, fenthion, methylchlorpyrifos, or even kerosene.(Exh. 15)

He also cautioned against the use of ground fogs (adulticiding) stating that they are inefficient, have toxicity hazards, invade privacy, damage natural insect enemies, and lead to pesticide resistance in mosquitoes. He pointed out that "more than 200 species of mosquitoes have developed resistant strains to the entire armamentarium of insecticides available." (Exh. 15).

The scientific panel agreed that habitat source reduction, particularly by removing tires, is the desirable way to approach control of this insect. Dr. Novak presented data on the positive effectiveness of the granular formulations mentioned by Dr. Metcalf (Exh. 16A). Dr. Turnock stated:

> Any adult control (fogging) should be directed towards adult tiger mosquitoes at or near sources of production, usually tire accumulations. A general fogging of a community to control day-biting species such as the tiger mosquito or the tree-hole mosquito is unlikely to be effective. (Exh. 21A)

Leslie Nickels of CPH observed that:

> Controlling this mosquito before it becomes a public health problem is an opportunity that now exists. Intervention at this point in time allows for controlling the spread of the

> mosquito to new areas. This can begin by reducing the breeding sites in currently infested areas and preventing the mosquito from becoming a vector in the transmission of La Crosse encephalitis. (Exh. 22)

The expert witnesses agreed that controlling the Tiger Mosquito is generally feasible and eliminating it in some areas is possible. Dr. Turnock said:

> In Jefferson and St. Clair counties, the tiger mosquito populations are small, thus treatment or removal of the tire casings will probably eliminate the infestations. In Chicago, the tiger mosquito has been found outside of the original infestation site, which will be treated with insecticides. An intense campaign to remove containers or treat them may eliminate it in the areas surrounding the infestation. (Exh. 21A)

Dr. Moore stated:

> It is quite likely that the infestation in Mount Vernon will be eradicated, and I think it is probably feasible to eradicate the Chicago infestation. I seriously doubt that this can be done in East St. Louis because of the magnitude of the infestation [in Missouri] and the fact that two states would have to agree on the same goal. (Exh. 19A)

According to Dr. Brown:

> Once the tiger has escaped from its tire cage and become established in domestic or peri-domestic foci, erradication is bionomically unlikely, and economically unreasonable, if a localized population is sufficiently managed by appropriate abatement strategies and kept at a low absolute density, it may prove over time to be no more of a threat to the public than endemic native species. (Exh. 20)

Dr. Craig summed up the situation as follows:

> There is quite a science developed of introduced insects. About half of all the pests in this country came from somewhere else. And we have learned quite a lot from agricultural experiences over the years.

> The thing that we have learned is that every day wasted is a day lost. And the more they dig in, the better is the chance that we will never get rid of them again.
>
> The more you wait, the more the chances that things like the European Corn Gorer [Borer], the Mediterranean fruit fly and many other species that have come to us from elsewhere, will be with us forever.
>
> We already recognized that the Asian Tiger Mosquito it is too late as far as getting out of the barn. But in these northern latitudes where it is cut back by winter there is still a chance of pushing it back. We don't know that it is going to stay here, and this year [1988] we have the last chance to find out. (RI. 279)

The presence of the Tiger Mosquito in isolated tire piles in two urban counties and one rural county provides the State with the opportunity to slow or stop its spread. Eradication would be desirable, but is unlikely. Given this insect's ability to spread disease and its annoying bite, it is in the public interest to take steps to control its spread. This is particularly true if the mosquito proves capable of transmitting LAC in the field. The virus is largely in rural and suburban areas. The mosquito is currently in isolated urban areas. To allow the mosquito and the virus to come together due to inaction is ill advised at best.

The Board believes that slowing or halting the spread of the Tiger Mosquito will protect many Illinois communities from both its annoying bite and potential health threats. Any time bought for a community by this action can be used by public officials to determine the true extent of the health threat and to prepare appropriate control efforts.

Control of the Tiger Mosquito requires a three-phased effort. First, the spread to new areas must be stopped. Second, new infestations must be attacked. Third, breeding habitat in infested areas must be reduced. As of June of 1987 CDC recommended the following:

> Preventing introduction. The primary role of introduction of Ae. albopictus appears to be through the movement of tires--within states, between states, and between counties. If this movement of infested tires can be halted, the spread of Ae. albopictus can be stopped or greatly reduced. As long as tires are stored and shipped dry, there will be no

problem with Ae. albopictus or any other mosquito. Thus, regulations requiring proper storage and shipment should be prepared and enforced. Tire casings coming from an infested area can be treated by heat (dry or steam, 120 F for 30 minutes) or by fumigation (methyl bromide, 2 lb./1,000 cu. ft. for 24 hours). Both methods will kill eggs as long as the tires are dry, but methyl bromide will not kill eggs submerged in water (except at very high dosages); thus, it is imperative that tires be dry before fumigation. Scrap tires, which have little or no commercial value, should be rendered unsuitable for mosquito breeding by shredding and burning, burying, or other environmentally sound means. When scrap tires are simply transported out of the jurisdiction and dumped, an infestation can be spread quickly.

Control of existing infestations. The primary method of control for Ae. albopictus should be source reduction--that is, removal of potential breeding sites. Container habitats, such as tires, tin cans, etc., should be properly disposed of. Breeding sites that cannot be removed should be rendered inaccessible to ovipositing mosquitoes or incapable of holding water (e.g., by storing under cover, installing drain holes, etc.). A strong community awareness and education program is necessary to accomplish thorough source reduction and to maintain community cleanliness. Frequently, public service organizations and clubs can have a major impact on community awareness.

Chemical control (larvicides, adulticides) can be employed as a supplement to a properly designed source reduction effort. However, Ae. albopictus has already been found to be tolerant to malathion, temephos, and bendiocarb. There are technical problems in getting sufficient quantities of larvicides into containers such as tires in piles, and the cost of treating scattered container habitats in urban areas can be prohibitive. (Exh. 5).

The Ohio Environmental Protection Agency sponsored a study of Used Tire Recovery and Disposal in Ohio in 1987 (Exh. 7). That report pointed out that used tires are an ever increasing

solid waste disposal problem given that whole tires are considered undesirable by landfills and do not degrade over time. About one used tire is generated per capita per year and they are accumulating at an alarming rate. Abandoned tire piles are a fire hazard and tire fires are most difficult to combat when tires are piled haphazardly. The report documented the generation and disposition of used tires in Ohio and contains the following summary:

> Of the 14.7 million used tires generated annually in Ohio, 1.3 million are recapped, 0.8 million are graded out for reuse, and 0.4 million are going to other uses. Of the remaining 12.2 million entering the scrap stream in Ohio annually, 2.5 million are disposed of in landfills, 1.0 million are incinerated for energy recovery, 1.1 million are processed through the rubber reclaim industry in-state, 0.52 million are shredded with the shredded product being marketed or landfilled, 0.3 million (bias-ply truck casings only) are utilized in the manufacturing of fabricated rubber products, 0.4 million are consumed by farm or other uses (i.e., brush burning, erosion control, construction uses, etc.), and 0.75 million are transported out-of-state for recycling, reuse, or disposal. Subsequently, a total of 54 percent (6.6 million) of the total scrap casings generated in Ohio are being recycled, reused, or disposed of properly, leaving 46 percent (5.6 million) unaccounted for. Based upon survey results, an estimated 0.6 million casings are being indiscriminantly dumped (into ravines, abandoned coal strip pits, etc.) admittedly, and 0.74 million scrap casings are being stockpiled, totaling to only 11 percent of the scrap generated in Ohio. Obviously, there is a large percentage (35 percent) of scrap tires which are also most likely being indiscriminantly dumped or stockpiled.
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> * * *
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> Information collected during this study indicates that there are a minimum of 28 million tires stockpiled in larger piles (greater than 500,000 tires) throughout Ohio. It is important to emphasize that this number is exclusive of innumerable piles ranging in size from 500 to 500,000 casings which are scattered across Ohio in need of

> abatement, with particularly high concentrations in the rural southeastern portion of the State. Consequently, the total number of tires present in all stockpiles and illegal dump sites in Ohio greatly exceeds 28 million. (Exh. 7, pp. 39 and 52)

The Ohio Study went into great detail on the association of discarded tires and mosquitoes. It pointed out that the Tree Hole Mosquito's population in nature is controlled by available habitat (tree holes which are limited in number). However, tire piles provide artificial habitat allowing populations to build, increasing the chance of humans being bitten. The Tiger Mosquito is quite similar to the Tree Hole Mosquito in this respect, although it is already adapted to man's artificial containers. The Ohio Department of Health (ODH) has documented the direct association of human cases of LAC with Tree Hole Mosquitoes breeding in "indiscriminately dumped or improperly stored scrap tires."

The Tiger Mosquito lays its eggs above the waterline in containers. The eggs hatch when the water level rises and wets the eggs. The eggs can survive more than a year in a dry container. The result is that shipped tires can carry viable eggs even when shipped dry. If tires are never allowed to accumulate water, the mosquito will not lay eggs in them. Likewise, eggs in a tire that is drained and kept dry will not hatch.

The mosquito is also transported in water filled tires that contain larvae. During transport, the larvae can continue development and become adults. When this happens, the adults can fly from trucks along the route. Draining tires before shipment kills the larvae and prevents the spread of adults during transport.

Although some aspects of the Ohio study are not directly applicable to Illinois, much of the general information on tire use and disposal and the mosquito problem can provide an idea of the general situation in Illinois given the similarities of the two states.

A number of municipalities have taken steps to control the accumulations. The ordinance of Massillon, Ohio, is contained in Exhibit 8. The Houston area has seen a considerable reduction in tire dumps according to a mosquito control official:

> We are currently trying to answer many of the questions posed by these circumstances. We have just completed a "windshield" survey of an area of the city where a 1980 survey found over 2,000 used tire dumps. In 1986, we

> counted about one-tenth that number, a significant reduction. We have been instrumental in working with the City of Houston in the development of a tire hauling and storage ordinance which is apparently beginning to show good results. Houston requested that we provide them with a copy of the sites where we recently found tire dumps so that they can take additional action. The public information provided to the local news media is partly responsible for the instigation of the calls being made to the city requesting that they take action on tire dumps. An important consideration in removing tires is how to dispose of them. In Houston, many used tire dealers are grinding up tires for other uses. On April 1, 1986, a new tire facility capable of grinding up 3,000 tires per hour started operation, and is not charging for disposal since they are selling the rubber for a fuel source. The tire dumps are now beginning to call the piles of used tires "inventory." Competition may even require that the grinding plants purchase or haul tires to their plants as the large stockpiles disappear and particularly if the demand for this fuel source increases. (Exh. 2).

Dr. Dan Brown presented a statement for the North Central region of the American Mosquito Control Association. He strongly supported the proposal as a "first step in the right direction." He did, however, express some concerns from the point of view of persons involved in actual control as opposed to research. His concerns included the following:

> The probability of dengue fever virus transmission in Illinois must surely approach zero. This should not be considered as part of this proposed action to the "threat to the public interest, safety, or welfare."
>
> The interstate shipment of infested scrap tires is probably a greater threat to the public welfare than intrastate shipment and storage within Illinois. At least as concerns the potential for the spread of Aedes albopictus.
>
> Small existing tire piles can be eliminated as breeding sites by cultural means as set forth in this proposal with no use of

> toxicants. Larger sites would be most economically treated with granular formulations with a field persistance of at least 8-10 weeks. Much field testing will be required to fulfill local needs in this area. An effective response must be adaptable to local conditions.
>
> I have to question whether it places too great an emphasis on the large tire accumula ions and shipments. In Decatur, at least most tires that are currently infested with Ae. triserriatus and C. pipiens are not in the large discrete aggregations of scrap tires, but in those that are illegally dumped.
>
> I strongly agree that 'existing or potential infestations' can best be handled locally. However, at least in downstate Illinois, most 'local governments with appropriate authority' do not have sufficient resources to effectively 'take action appropriate to local conditions.' (Exh. 20)

Paul Geery of the DesPlaines Valley Mosquito Abatement District (O. at 20 and 21) agreed that there is a clear need for immediate action. He recommended that any rule apply statewide for the following reasons:

> First, the known sites of infestation are not necessarily all the sites of infestation in the state of Illinois. What we don't know can hurt us. Secondly, it is in the places that do not currently have an infestation that the proposed ruling could be most beneficial. In places where the mosquito has already arrived, this ruling by itself would have little effect. The cat is already out of the bag there! Keeping new cats from the area would have minimal impact. Thirdly, the likelihood of tires in an infested county finding their way into surrounding counties to avoid the ruling would probably result in further movement of the mosquito.

He expressed concerns that if the rule is not enforced, it may do more harm than good. He also cautioned against creating a panic situation and lulling officials into a false sense of security:

> We have witnessed the public panic from news articles about Ae. albopictus that distort its current and future possible effects. If the proposed emergency ruling is passed, the media will likely cause more public concern than is justifiable.
>
> As you have stated, this ruling is only a beginning in trying to deal with this problem. Unfortunately, some state, county, or local authorities might consider this a full solution and stop or reduce other efforts to control the problem.

At the Meeting, John Clark said that, "I have never had any mosquito control problem come up in the past 40 years that has generated as many calls as the publicity of the Asian Tiger Mosquito has done this year." He pointed out that control and enforcement problems should be somewhat lessened in Cook County given that a large percentage of it is covered by Mosquito Abatement Districts. (RI. 282). He also indicated that over 300 tire piles in excess of 100 tires were recently discovered during survey of Chicago. (RI. 118).

At the Meeting, the Agency opposed the proposed emergency rule and questioned the Board's authority to act in this matter which it perceived as a public health rather than solid waste problem (O. at 21). The Agency also raised questions as to the enforceability of the proposed rule. It also pointed out that its resources for enforcement are quite limited. As an alternative, it proposed gathering data on tire accumulations, forming an inter-Agency study group with the goal of proposing regulations to be in force by 1989, and using existing authorities as needed to address localized problem areas. (Exh. 28, RI. at 233-280).

The Illinois Department of Agriculture (IDA) initially opposed the proposal largely on the grounds that it covered too many small tire piles, would apply to tires on farms, could create an administrative burden for its pesticide application certification program, and had enforceability problems (O. at 21).

Philip Mole of Sun Eco Systems generally supported tire regulation and reclamation. He pointed out that tires are a serious solid waste problem. He suggested that tires be regulated as a special waste, that persons dealing with tires be registered, that the movement of tires be tracked, and that a "generator fee schedule, to fund the chemical spraying of abandoned waste tires for the estimated 50 percent of the tires which are not moved and unaccounted for through an industrial process and/or are illegally dumped in thousands of locations

throughout the State where ownership is not identified or established." He urged the development of a strategy to reclaim tires for energy or other use, pointing out that a tire contains the energy equivalent of about two gallons of oil. (Exh. 23).

Tim Warren of DENR submitted the following information on scrap tires in Illinois:

> The Department of Energy and Natural Resources, Office of Solid Waste, is responsible for minimizing the State's dependence on landfill disposal of solid wastes. Scrap passenger and heavy duty vehicles tires constitute a component of the solid waste stream that is difficult to manage in an environmentally and economically effective manner. This is because of the dispersed nature of tire generation, the special problems whole tires create when landfilled, and the general lack of markets for used tires.
>
> * * *
>
> Using national averages, Illinois generates 11-12 million used tires annually, the majority of which are not landfilled or recycled, but stockpiled in various locations throughout the state. This is roughly equivalent to 1.6 million cubic yards of tires generated each year in the state. Landfill disposal of tires is becoming more difficult and costly, as diminishing landfill capacity allows landfill operators to be selective as to the types and quantities of materials they receive. Burial of whole tires in landfills creates operating and longterm care problems, since whole tires will "float" to the surface in a landfill, and may effect the integrity of landfill cover and capping practices. An informal survey by this Office in 1987 indicated that only a few landfills had a total prohibition on tire disposal at their facilities. Most have invoked a premium tipping fee that is two-to-four times that charged for other solid wastes. (Exh. 26)

Commissioner Mosi Kitwana said that his department is responsible for cleaning lots in Chicago. The City stores the thousands of tires it collects annually from various lots. Chicago has been attempting to purchase a shredder to deal with its accumulation which he estimated at 40,000.

He cited illegal "fly dumping" of tires on empty lots as a major problem for the City. Kitwana believes that this illegal dumping has increased as landfill costs have risen. He said that the coming of the Tiger Mosquito has given his department the opportunity to join with the Chicago Department of Health to "kill two birds with one stone." He did not believe that the City could comply immediately with the proposed emergency regulations if they went into force and covered the City. He emphasized Chicago's desire to manage its tire problem. (RI. 140-157).

Mr. Jay Lauterback appeared for the Illinois Tire Dealers and Retreaders Association. He stated:

> The membership consists of independent tire dealers and retreaders and many of the vendors who sell them service, supplies and equipment.
>
> We do not represent manufacturer-owned stores or department stores such as Sears, Wards and so on.
>
> Independent tire dealers, in my opinion, are responsible, small businessmen, in all matters concerning the business and particularly on social and public health matters such as the subject you are addressing today.
>
> We have members in all of the metropolitan areas of the state and in 114 other cities.
>
> We estimate that there are 1,788 independent dealers in Illinois and in addition, if you include gasoline service stations and department stores, there must be 5,000 to 6,000 establishments that sell tires.
>
> If you conclude that the mosquito problem, in this state, at this time, is a clear and immediate public health problem, then I have to say to you that we will do all we can, as an organization, to help you overcome the problem.

In commenting on the proposal, he said that tires are generally dry when generated, but difficult to drain after becoming wet, that keeping them dry out of doors is cost prohibitive because of labor costs and the fact that a covering will not stay in place and that tire shredders and slitters are

available given enough time to have orders filled. He urged incentives to make it feasible to utilize scrap tires for energy or other purpose and estimated that there are in excess of 20 million scrap tires in Illinois. (Exh. 24).

He felt that many tire dealers would turn to tire slitters if the rule is passed and said that he was buying a slitter for his dealership. He estimated slitters to cost between $2,700 and $9,500 and shredders in the vicinity of $100,000 and up. (RI. 173). He also said:

> The National Tire Dealers and Retreaders Association, of which we are affiliated, is very heavily involved in this subject. In fact, they are part of an ad hoc committee with the National Centers for Disease Control working specifically with the Asian Tiger Mosquito problem.
>
> And they have a proposal for--when I say they, the National Tire Dealers and Reschredders Association, has a proposal for what they are referring to as a tire monofill.
>
> This would be a landfill devoted exclusively to tires; and those tires would be accepted in a landfill in what you refer to as a convert form, either slit or shredded, and they would be located either above or below ground, depending on the situation. (RI. 175)

The Board received comments from two manufacturers of tire conversion equipment. Among the machines mentioned was a portable shredder capable of processing 500 tires per hour (TPH) and a stationary system with an 800 TPH capacity. The cost of the systems is in the $375,000 to $400,000 range with maintenance estimated at $65,000 per million tires (O. at 24).

The other company produces slitters as well as shredders. A 75 TPH slitter costs $5,500. A 360 TPH mobile chopper, slitter listed at $105,000. Tire choppers ranged from $50,000 to $150,000. A two stage chopper listed at $147,000 (O. at 24).

Ronald Lakin appeared for Lakin General Corp. He described his company's experience with the Tiger Mosquito and its cooperation with city and state officials to control the infestation. He has had a contract for mosquito control since 1987. He pointed out that he drains tires upon arrival, but keeping them drained presents a problem. (Exh. 25). A discussion about control at his facility lead to the suggestion that the rule as proposed could not necessarily be workable at all

facilities. The experts generally agreed that his type of facility could be served by a program involving weekly inspection for mosquito larvae by a properly trained inspector and treatment upon discovery of an infestation. (RI. 201-232). Lakin General is frequently the victim of people who illegally dump scrap tires at or near its facility. (RI. 230).

Lakin General Corp. has the capacity to slit and shred tires. In response to a question as to whether the company could convert tires from the infested area, he replied, "That would be a very interesting concept. We handle more tires then anybody in the City of Chicago, and we have all the capability of doing all the things you are suggesting." He also pointed out that such efforts would take "time and money." (RI. 227-229).

THE BOARD'S PROPOSED PERMANENT RULE

Given the clear guidance of CDC and expert testimony in the record of the emergency rulemaking, the the Board will proceed with a permanent regulatory proceeding with the goal to have a rule take effect during the 1989 mosquito breeding season. The Board's proposed rule includes requiring generators and receivers of scrap tires to keep them dry or unsuitable for mosquito breeding and to keep certain records regarding treatment of scrap tires.

Biological Basis for Rule

The management standards in the rule are based on the following biological factors. Scrap tire movement is the primary means by which the Tiger Mosquito enters an area and spreads over wider areas. It is also apparent that this mosquito finds tires a particularly desirable breeding habitat and that it builds large populations in the tire piles. From these tire piles, it can spread into other containers. (RI. 79-81; Exh. 14A, p. 1; Exh. 16A, p. 10). Limiting the mosquito population in a given area can prevent disease outbreaks even if the mosquito is present in that area. According to Dr. Moore of the CDC, tire removal alone might accomplish this goal. (RI. 59).

The Tiger Mosquito reaches adulthood from an egg in 7-14 days, depending upon various conditions. (RI. 15; Exh. 9, p. 1). The mosquitoes can then produce a new generation every 20 days (Exh. 14B-18, p. 42). The eggs can be transported in tires (wet or dry) and can survive freezing to a certain extent. (RI. 15; Exh. 14B-20, 14B-19). A hard winter may cut back the population in areas like Chicago, allowing possible eradication. (RI. 280).

With some exceptions the other twelve Illinois mosquitoes which breed in tires have a similar relationship to tires.

Interstate and Intrastate Transport of Scrap Tires

A regulation requiring that all used tires in transit within, through or into Illinois be shipped dry and covered, and be accompanied by a certificate of inspection would be wholly consistent with federal regulations, would be well within the State's police power and would be a valid regulation of interstate commerce.

The Board's original emergency rule proposal required that all scrap tires shipped through or within Illinois be dry and covered. There is little question that the State of Illinois can legally impose such a requirement. However, it would be far more desirable for the FDA to impose a regulation with national uniformity. As stated by Dr. Craig:

> My only regret is that nearly every state is enacting similar (but not identical) rules and the national picture for the used tire industry is chaotic. We must all work toward a more uniform set of rules nationally. (Exh. 14A)

The Board has not included this requirement in the proposed rule. The management standards for newly received tires should address most mosquitoes imported as larvae or pupae. The Board welcomes comment on this issue during First Notice.

Accumulations Covered by Standards

The emergency rule only applied to commercial scrap tires accumulated or moved after May 1, 1988. It exempted accumulations of under 50 tires and those from personal or agricultural activities. The proposed permanent rule applies to all accumulations in excess of 10 tires. Persons believing that exemptions are necessary or that the size is inappropriate should state their positions during First Notice.

The 50 tire cut-off for the emergency rule was based on suggestions by some that smaller piles are best left to local authorities. This view was reinforced by the limited resouces State agencies had to enforce the emergency rule (O. at 24 and 26).

On the other hand, small accumulations are often found near residences and bring mosquitoes into close proximity with humans. Drs. Brown (O. at 20) and Moore specifically pointed out that small accumulations are biologically significant. According to Dr. Moore:

> The tiger mosquito doesn't count the number of tires before deciding when and where to lay her eggs. There is some evidence that

> small accumulations of tires are actually more attractive than large piles on a per-unit basis.
>
> This is probably due to the fact that small piles are more likely to be nearer to the preferred hosts, that is, man; and individual tires scattered about may have more leaf litter and other organic material that are needed for larval development (RI. 60).

The Board notes that a ten tire limit would allow an individual to have two complete sets of tires on a property without state regulation. This is easily enough tires to harbor larger numbers of mosquitoes and constitute an eyesore. Such a limit in the rule would in no way bar units of local government or other agencies from using their own powers against smaller accumulations. These powers are formidable. As pointed out in the IDPH quote in the Opinion at 25 and 26:

> With regard to small commercial activities and personal activities which result in tire accumulations, the Department feels that local health department and State's Attorneys' authorities under nuisance statutes are adequate to address any problems that may be found.
>
> * * *
>
> Government officials are given the authority under the Public Nuisances Act (Chap. 100 ½, Sec. 221, Para. 26) to cite individuals who are creating a nuisance that "is offensive or dangerous to the health of individuals or the public." This approach was used in 1986 and 1987 by the Franklin-Williamson Health Department to abate a mosquito nuisance created by improper water management at a carbon-recovery mine. The county health department filed a nuisance complaint with the State's Attorney's, who then fined the operator of the mine $25 per day until the mosquito nuisance was controlled or eliminated. Ultimately, the owner hired a mosquito control contractor and drained much of the standing water at the mine site. In addition, under Local Health Department statutes (Public Health and Safety, Ill. Rev. Stat. 1985, Ch. 111 ½, para. 20c.01) and the Standards for Local Health Departments, local health departments must perform inspections,

> investigations, surveillance, and enforcement of the provisions of the Nuisance Program as required by Sec. III. Rule 3.92. There are nuisance statutes that a local health department can use to control the breeding of mosquitoes in tire stockpiles within its jurisdiction. However, local officials must believe that this is a problem that is a high priority. Although local officials can control specific local problems, the massive accumulation of tire casings in Illinois can only be addressed by a statewide program.
>
> * * *
>
> In 1927, statutes permitting the formation of mosquito abatement districts (MADs) were passed. This legislation gives MADs the authority to: 1) levy property taxes to support mosquito control; and 2) abate as nuisances all stagnant pools of water and other breeding places for mosquitoes, flies, or other insects (Chap. 111 1/2, Sec. 7 Para. 80). In the past, MADs have worked with local health departments to remove breeding sites for mosquitoes by citing property owners under nuisance statutes.
>
> It is important to note that there are about 375 Public Mosquito Pest Control Applicators certified by the Illinois Department of Agriculture who are not associated with MADs of IDPH. These individuals represent a reserve of personnel with at least some training in mosquito control, who could help provide information to the public.

The proposed rule includes all accumulations of more than ten scrap tires. The exemptions in the emergency rule were primarily to ease enforcement problems, not strain owners of existing accumulations, and to focus on tires which by being moved might spread the Tiger Mosquito. These exemptions are not readily defendable in the context of a rule designed to control all tire mosquitoes. The two Illinois mosquitoes which commonly spread encephalitis breed in tire piles statewide and are prevalent in rural areas. Under these circumstances, exempting existing piles, those on municipal property and those generated by agricultural activities would be questionable.

It is the Board's intention that the rule apply to such uses of scrap tires as racing track barriers, weights to hold tarps and erosion control on hills. The use of tires which are permanently submerged underwater is not intended to be covered.

The ability of individuals and small businesses to comply rapidly and economically will be dramatically enhanced by the recent signing of House Bill 3799 which amends the Illinois Pesticide Act of 1979. This bill allows any individual to apply selected pesticides to scrap tires. Previously a person had to be certified or hire a certified applicator to apply any pesticide to tires.

Definitions

Section 849.101 defines terms that are used in the rule. Any term not defined by this Section shall be given the same meaning as it is defined by the Act, unless the context clearly requires otherwise. A scrap tire is a tire that has been removed from use on a motor vehicle and has been separated from the wheel or rim. A scrap tire is "generated" or becomes a scrap tire at the time and place it is removed from a wheel. Scrap tires are commonly generated by tire dealers, and at gas stations and department stores.

Tires which are "new" or "reprocessed" are exempt from the rule. This includes those in displays. The proposed rule defines "new" or reprocessed tires, in part, as tires which have not yet been placed on a wheel. Once a "new" or "reprocessed" tire has been placed on a wheel, it is no longer a "new" or "reprocessed" tire. It is assumed that such tires receive better care than scrap tires by being kept indoors or at least relatively clean. This is an important consideration since a certain amount of organic debris must be present in a tire to support mosquito development. It should be noted that tires mixed or commingled with scrap tires are treated as scrap tires under the rule.

The Board is interested in comment or testimony as to the adequacy of the proposed definitions and whether new and reprocessed tires should be exempt from the proposal. In particular the Board wishes to know if these tires are likely to be infested and what kind of care they receive that distinguishes them from scrap tires.

The term "converted tire" is meant to generally refer to tires which have been rendered incapable of holding water. This is most commonly done by physically altering the tire by shredding or some other means. The rule envisions the continuation of tire use in certain recreational and other applications. Such tires should be cut or drilled so that water drains from the tire. A tire is assumed to be "fixed in position" by being hung from a rope or attached to a structure so that it cannot roll. A tire which is free to rotate would need sufficient holes so that it will drain regardless of its position. Holes should be large enough that they will not be

readily blocked by leaves or other common debris. In recreational applications, tires could be cleaned out several times a year to prevent blockage. Tires used as bumpers or cushions for boats and other equipment may be cut on the side closest to the ground.

For the purpose of the rules proposed today, the Board is regulating scrap tires as a waste. However, other than the addition of these rules, it is not the Board's intention at this time to either broaden or narrow the current applicability of the Act, or regulations promulgated thereunder, to tires or scrap tires.

Standards for the Management of Scrap Tires

Sections 849.104 and 849.105 are intended to help control mosquitoes. The provisions of these sections account for the fact that these insects breed in other containers and that eradication is virtually impossible.

The requirement that tire management practices be in effect between May 1 and November 1 is intended to cover the bulk of the mosquito breeding season. It is recognized that an earlier date would be better in some years and that the Northern and Southern sections of the State differ. The Board seeks technical input regarding the appropriateness of these dates for the purpose of controlling those species most likely to spread disease in Illinois.

Sections 849.104 (a)(d) provide persons with a range of management options. They are intended to take into account widely varying circumstances. A small operation may decide to drain tires initially and then process them within two weeks, thereby avoiding dry storage and treatment. Others may find it appropriate to immediately treat wet or dry tires with an approved pesticide.

The two week minimum timeframes will, under certain conditions allow mosquitoes to fully develop. The scrap tires generally covered by this provision will be newly generated or recently moved to a processor or disposal point. They are likely to be fairly clean and are required to be drained or treated initially. To develop mosquitoes they must contain eggs, receive rain, and be subjected to favorable conditions. After the two weeks they are required to be processed or treated as often as necessary to prevent development. The Board expects these controls to be adequate although not as complete as that of the emergency rule.

The intent of the rule is to address aquatic mosquito stages, the larvae and pupae. Adults which come to tire piles from adjacent areas may lay eggs, but it is assumed that tire

management will prevent the development of significant numbers of new adult mosquitoes.

The rule does not envision adulticiding being required as part of an alternative management plan. This does not mean that it may not be required by another authority.

Draining can be accomplished by dipping the water out, using a suction device, such as a large shopvac, or physically cutting or shredding the tires. The Board notes that the draining requirement is automatically accomplished if a scrap tire is landfilled or otherwise converted on the day of receipt. As a practical matter, it will be virtually impossible to drain a tire to the point where it contains no moisture. The Board expects that a "drained" tire may contain up to one-fourth inch of water when stood vertically. The Board notes that longitudinally "slit" tires may still hold water if they are not properly stacked. (RI. 185; Exh. 26, p. 2). It is assumed that to be in compliance, slit tires must be stacked so as not to hold water. Slit tires may also prove acceptable for some uses now made of whole tires such as weights and barriers. Salvage yards may choose to meet 849.104(a) by keeping tires mounted prior to disposal or processing.

Operations may substitute an insect treatment program for dry storage. Treatment for the prevention of mosquito larvae and pupae development may include the use of a number of pesticides. The pestcides must be properly applied and caution should be used to avoid those to which the target mosquitoes have developed a high degree of resistance. Treatment must occur often enough to remain effective. The selected pesticide or toxicant must also be able to penetrate the tire piles and reach the insides of stored scrap tires.

The signing of House Bill 3799 will make it easy for individuals to treat small tire accumulations. This bill amended the Illinois Pesticide Act to allow uncertified persons to apply selected pesticides to scrap tires. Under this Bill, the Interagency Committee on the Use of Pesticides will specify a number of appropriate pesticides or toxicants for use in scrap tires. Anyone may then use these compounds on scrap tires. If a granular formulation such as B.t.i. (discussed below) is approved, a person with a small tire dealership or processing facility could treat tires each day with minimal inconvenience or expense.

Certified pesticide applicators must apply most pesticides. IDPH and IDA have information for certification, which may be obtained by employees of a business. Information on becoming a certified pesticide applicator is available from the Illinois Department of Public Health, Division of Environmental Health in Springfield. IDPH also has available a booklet called,

"Mosquitoes in Illinois: Recommendations for Prevention and Control". (Exh. 21D).

A variety of pesticides are available for mosquito control. Some are persistent (effective) for over 120 days when applied to tires. Some are in granular form and can be either placed into or onto tires with a gloved hand or small implement or blown into tires with a backpack blower. In Puerto Rico, a granular formulation of temephos gave continuous larval control in used automobile tires for up to 164 days depending upon the amount used. (Exh. 16B-4). A given tire on a tire pile need not be treated again until an infestation is noticed or the pesticide is reaching the end of its effective life, whichever occurs first. It is likely that one or two treatments with the right agent will suffice at a given pile during a season provided that the pesticide reaches most tires in a pile.

The INHS has experimented with pesticide treatment on stacked tires. (Exh. 16B-3). Researchers discovered that corncob granules effectively penetrate random, shingle and column stacks. Persons faced with a large tire accumulation may find it feasible to have the pile treated in this manner with a long-lived pesticide such as temephos or one of the other approved chemicals. Persons with short-term requirements or in need of frequent applications or extra safety could use a bacterial pesticide such as B.t.i. The cost of the granules to treat 1000 tires for a 90-day period was given at about $2.00 for temephos and $5.70 to $6.90 for B.t.i. The cost of having them applied increases the amount. The cost of managing the Tiger Mosquito in a "worst case scenario" at a tire processing facility containing up to 65,000 tires at a given time was estimated at about $6,000 for the 1988 season (attachment to Exh. 25). An accumulation without constant turnover could probably be managed for less.

Section 849.105 is designed to give persons the ability to devise their own mosquito management plans. This Section recognizes that some persons may have unique situations or circumstances that are not readily or efficiently handled by the general provisions. This Section does not allow for one to utilize this provision in order to be subject to less stringent management requirements. On the contrary, the Department of Public Health must expressly determine that the proposed alternative program is expected to deliver results that are substantially equivalent to results which would be realized if the person complied with Section 849.104. Once IDPH approves a program and it is filed with the Agency, the alternative program is considered accepted and acceptable. If a program does not meet with IDPH approval, it will not be considered complete by the Agency. This Section is specifically available to handle situations such as that of Lakin General Corp. which was discussed in detail at hearing (RI. 198-219).

This section also provides for several persons with tires to file a joint alternate management plan. For example, a city or mosquito abatement district may have an ongoing program of regular inspection with treatment as necessary for tires within its jurisdiction. A tire dealer in such an area would be in compliance if his operation was covered by an approved plan on file with the Agency. Similarly several persons may develop a plan to combine resouces to manage their respective accumulations. Each individual person whose accumulation is included in program must be listed, but need not file an individual plan.

Given the Agency's enforcement concerns, Section 849.104 requires persons to keep records as to when tires are received, generated, and treated. Records may be kept on a lot or group basis rather than on individual tires.

Given the cost and availability of pesticides and the potential for using tire converting equipment such as slitters, detailed in this opinion, the Board believes that compliance with this proposed rule is economically reasonable and technically feasible.

ORDER

The Board hereby proposes for First Notice the following rule to be published in the Illinois Register.

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER m: MANAGEMENT OF SCRAP TIRES

PART 849
MANAGEMENT OF SCRAP TIRES

Section

Authority: Implementing Section 22 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1985, ch. 111 1/2, pars. 1022 and 1027)

(Source: Emergency rules adopted in R88-12 at 12 Ill. Reg. , effective May 1, 1988, for a maximum of 150 days, which is September 28, 1988; adopted in R88-12 at 12 Ill. Reg. , effective .)

Section 849.101 Definitions

Except hereinafter stated, and unless a different meaning of a word or term is clear from its context, the definitions of words or terms as are used in this Part shall be the same as those used in the Environmental Protection Act.

"Converted tire" means a tire which has been altered so that it is no longer capable of holding accumulations of rainwater. Converted tires include but are not limited to tires which have been manufactured into a useable product other than a tire such as fuel or crumb rubber, shredded, chopped, slit longitudinally and stacked so as not to accumulate water; have been fixed in place and drilled with holes of sufficient size to allow drainage; or have been filled wholly or partially with cement or other material.

"Generation" means the creation of a scrap tire by removal of a tire from a wheel (rim).

"New Tire" means a tire which has never been placed on a motor vehicle wheel (rim) for use.

"PERSON" IS ANY INDIVIDUAL, PARTNERSHIP, CO-PARTNERSHIP, FIRM, COMPANY, CORPORATION, ASSOCIATION, JOINT STOCK COMPANY, TRUST, ESTATE, POLITICAL SUBDIVISION, STATE AGENCY, OR ANY OTHER LEGAL ENTITY, OR THEIR LEGAL REPRESENTATIVE, AGENT OR ASSIGNS.

"Reprocessed Tire" means a tire which has been recapped, retreaded or regrooved and has not been placed on a motor vehicle wheel (rim) since being reprocessed.

"Scrap Tire" means a tire which has been removed from use on a motor vehicle and separated from the wheel (rim). Any tire which is not a new tire or reprocessd tire is considered to be a scrap tire until it is placed on a motor vehicle wheel (rim). A reprocessed or new tire which is commingled with or placed within an accumulation of scrap tires is considered to be a scrap tire. For the purposes of this Part only, a scrap tire is considered to be a waste.

"Tire" means a hollow ring, made of rubber or similar material, which is designed for placement on the wheel (rim) of a motor vehicle.

Section 849.102 Severability

If any provision of these rules or regulations is adjudged invalid, or if the application thereof to any person or in any circumstance is adjudged invalid, such invalidity shall not affect the validity of this Part as a whole or of any Subpart, Section, subsection, sentence or clause thereof not adjudged invalid.

Section 849.103 Reporting of Scrap Tire Piles and Disposition [Vacant-There is nothing proposed for this section in permanent rule]

Section 849.104 Management Standards for Accumulations of Scrap Tires

a) Except as otherwise provided in Section 849.105, between May 1 and November 1, no person shall accumulate scrap tires from that person's personal, commercial, business, or agricultural activities where such accumulation exceeds 10 tires unless the tires are either:

1) Drained of water on the day of generation or receipt and kept dry by being:

A) Placed within a closed container or structure; or

B) Covered by material impermeable to water; or

C) Drained or otherwise managed so as to remove water within 24 hours after each precipitation event; or

2) Drained of water on the day of generation or receipt and processed into converted or reprocessed tires within 14 days; or,

3) Drained of water on the day of generation or receipt and treated within 14 days, with a pesticide appropriate to prevent the development of mosquito larvae and pupae, and treated again as often as necessary to prevent such development, taking into account the persistence (effective life) of the pesticide utilized; or,

4) Treated on the day of generation or receipt with a pesticide appropriate to prevent the development of mosquito larvae and pupae and treated again as often as necessary to prevent such development, taking into account the persistence (effective life) of the pesticide utilized.

b) Any person who chooses to utilize the provisions of subsection (a)(2), (a)(3) or (a)(4) of this section, for the management of scrap tires shall maintain documentation concerning dates of generation or receipt and dates and methods of tire conversion, draining, or treatment.

Section 849.105 Alternate Management Programs For Storage of Scrap Tires

a) A person with an accumulation of scrap tires may employ mosquito control or management programs different than those specified in Section 849.104 if, and only if, that person files a complete plan for an alternative program with the Agency which details the control or management measures which will be taken. An alternative program is complete only if it is accompanied by a statement from the Illinois Department of Public Health that such program is expected to achieve results substantially equivalent to those which would be achieved by full compliance with the requirements of Section 849.104. A person may file a plan on behalf or one or more persons for the management of a number of different accumulations. Each person whose program is included in the plan need not file a separate plan , but must be identified in the submitted plan.

b, Requests for statements of substantial equivalency shall be submitted to the Illinois Department of Public Health and shall be accompanied by information sufficient to allow the Department to assess the effectiveness of the alternative program. Such requests shall be sent to:

Division of Environmental Health
Office of Health Protection
Illinois Department of Public Health
525 W. Jefferson Street
Springfield, IL 62761

Section 849.106 Persons Who May Apply Pesticides

No person shall apply any pesticide to scrap tires, unless:

a) THE PERSON IS A CERTIFIED PESTICIDE APPLICATOR CERTIFIED BY THE ILLINOIS DEPARTMENT OF AGRICULTURE PURSUANT TO THE ILLINOIS PESTICIDE ACT OF 1979 (Ill. Rev. Stat. 1987, ch.5, par 801 et seq.); or

b) THE PERSON IS APPLYING A GENERAL USE PESTICIDE SPECIFICALLY APPROVED BY THE INTER-AGENCY COMMITTEE ON THE USE OF PESTICIDES FOR USE BY AN UNCERTIFIED

APPLICATOR ON SCRAP TIRES pursuant to Section 11.1(7) of the Illinois Pesticide Act of 1979, as amended by P.A. 85-1327, effective August 31, 1988 (Suppl. to Ill. Rev. Stat., ch.5, par. 811.1(7)).

IT IS SO ORDERED.

Board Member J. Theodore Meyer concurred.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 22nd day of September, 1988 by a vote of 7-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board