for the stainless steel industry, but it can be expected that this price will rise when production increases.

VOLUNTARY QUOTAS—POSSIBLE SOLUTION

In mid-1968, while Congressional support for a mandatory quota bill on steel imports was growing, the Japanese and the European Coal and Steel Community voiced their intentions of placing voluntary quotas on their steel exports to the United States. In December of the same year, definite proposals were made whereby the Japanese and the ESCC would each restrict their steel shipments here to 5,750,000 net tons; and based on their proposed total world exports to the United States were to be held to about 14 million net tons in 1969, with a 5 per cent increase in each of the following years.

On the subject of product mix: the new pacts were somewhat loosely worded, stating that the countries involved would try to maintain their product-mix in approximately the same tonnages as previously, or that they would not change it greatly. This loose agreement left the door open to a shift in the composition of steel exports to this country, and although their total volume has been reduced, more expensive steel products, including specialty steels, have been imported in increasing tonnages. Consequently, the voluntary export programs have invited the same perplexing problems in steel markets, including those for specialty steels.

Presently, negotiations are in progress to extend the voluntary quota arrangement for the next two years. One of the main points under discussion is the product-mix, particularly in regard to specialty steels. If this can be satisfactorily resolved, it could help materially in easing the crisis facing specialty steels today.

PCB'S: PERSISTENT POISON

HON. WILLIAM F. RYAN

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Thursday, September 23, 1971

Mr. RYAN: Mr. Speaker, for the past 2 years I have attempted to get the appropriate Federal agencies to take the necessary preventive action that would safeguard our health and our environment from an extremely persistent, highly toxic industrial chemical—polychlorinated biphenyl—PCB.

Manufactured in the United States solely by the Monsanto Co., PCB's are extremely toxic to animal life, cause birds to lay eggs with shells too thin to protect the embryos they enclose, and have a deleterious effect on the reproductive capacity of animals.

But by far the most frightening hazard is the effect of PCB's on human beings. Polychlorinated biphenyls may be taken into the body by direct action upon the skin, as a vapor through the respiratory tract, or through the contamination of the food supply. The effect on the skin is chloracne; the early symptoms of which are pimples and dark pigmentation, later, more serious eruptions. Persons who have been continuously exposed to PCB's may suffer nausea, vomiting, loss of weight, coldness and abdominal pain, increased respiration, lowered blood cell count, and inhibition of the carbohydrate metabolism. More serious effects are those on the kidneys. The principal effect, however, is on the liver—possibly leading to atrophy, followed by death.

Yet despite the severe hazards of this chemical, the Federal Government has displayed a callous disregard for the public health and welfare and has taken none of the necessary actions to forestall serious PCB contamination.

The result of this inaction are now tragically clear. In recent months we have witnessed an unprecedented number of occurrences of PCB contamination of our food supply.

Two recent articles point out the serious nature of this contamination and the lack of initiative on the part of the Federal bureaucracy in attempting to deal with it. The first is by Joe Pichirallo and appeared in the September 3 Science magazine. The other is a column by Robert Walters which appeared in the Washington Evening Star on September 23. I commend these articles to the attention of my colleagues:

[From Science magazine, Sept. 3, 1971]

PCB's: Leaks of Toxic Substance Raises Issues of Industry, Regulation

(By Joe Pichirallo)

Sharp criticism of federal regulatory agencies has followed in the wake of a bizarre contamination of poultry feed marketed in a part of southeastern United States. The controversy reached full steam on 18 August, when the Food and Drug Administration (FDA) meekly acknowledged that a shipment of some 90,000 eggs contaminated with toxic polychlorinated biphenyls (PCB's), escaped federal inspectors and apparently had reached the stomachs of Washington, D.C. area residents. The announcement came on the heels of FDA's seizure of another batch of PCB-contaminated eggs (75,000) on 12 August—almost a month after the initial discovery that PCB's had gotten into fish meal eaten by millions of chickens in the southeastern states.

Besides possibly threatening human health through direct contamination, PCB's are considered a long-term potential hazard to the environment. In the United States, PCB's are prized very as a heat transfer mechanism and an insulating fluid, particularly in cooling systems and big power transformers. In response to mounting evidence that PCB's are a potential hazard, the single U.S. manufacturer of PCB's, Monsanto Chemical Company, in order to restrict their release into the environment has limited the chemicals' sale to sealed systems. In the past, Monsanto widely peddled PCB's as an additive in such things as sealants, rubber, plastics, plasticizers, adhesives, printing inks, and insecticides.

Limitation of PCB's into the environment occurs mainly in three ways.

From sealants in industrial equipment, such as heat transfer systems.

Through the weathering or friction wearing of the many materials that have PCB's as an ingredient. (Since they are fire resistant, PCB's usually remain intact even as a waste product.)

Through interaction with food products in their natural ingredient in substances like paint and plastic.

Before the fish meal contamination leakage, however, PCB's were virtually unknown except to a few scientists and some professional environmentalists. Critics have now become quite vocal in warning about the threat of PCB's, and, more importantly, they have expressed doubts about the ability and desire of federal agencies to effectively shield the consumer and the environment from the potential long-term dangers of thousands of synthetic chemicals.

The controversy is fueled by a basic disagreement among the participants as to precise threat PCB's pose to humans and the environment. Federal officials acknowledging a problem, do not to PCB's are a serious enough hazard to warrant governmental action. Meanwhile, possessors of PCB's tend basically to very private. The second component of this not is known only by Monsanto.

Evidence indicates that severe injury from short-term exposure to PCB's is likely. Like so many other synthetic chemicals, the potential PCB danger a large, long-term exposure, presents one difficult for "crisis proving" legislators to respond to in the way more immediate chemicals. Federal officials of PCB's in their present applications a not take the environment on the basis of increased concern.

Even an individual manufacturer, even sidered very reputable, normally has to life pressure as a chemical, many of withstanding inconsistencies of up to (three). The PBB—similar, related mated, contaminated—PCB's are not born—no man-disaster is under the sun. The same, relatively harmless PCB's are "carcinogenic" chemicals that are present in intact areas to reduce the chances a dental explosion; especially in leg transformers. It is their very persistent PCB's that makes them a great environmental-ills. PCB's have been detected in the world in fish, birds, mals, and humans. In a study released Environmental Protection Agency PCB's were detected in samples of 7 fatty tissue with concentrations as h 500 parts per million (ppm).

Despite Monsanto's assurances the present uses of PCB's are safe, critics resent fish meal incident proves the that use of PCB's in any form is too permit. Leading the fight against PCB consumer advocate Ralph Nader and York Democratic Congressman William Ryan. They argue that even if Monsanto stop PCB's from getting into the environment, products containing them are to use and will continue to disperse the the environment in harmful amounts government should act now. Under a to ascertain where PCB's have been we have they cause serious damage to th vironment and get into the food chain.

Besides the fish meal incident, there been two other incidents: leaks of PC the past 2 years. One of these occurr Japan in 1968, resulted in 500 people poisoning a severe skin disease and in aborting symptoms of chloracnelysmy nating. Indeed, the preliminary res through incomplete, unless Midori of about PCB's per pound of tissue quite poss University, of California, Berkeley, an Robert Risebrough, one of the foremen theories on PCB's now that while the of PCB's on humans are undetermine controversialists in Japan are "among the persuasive circumstantial evidence." The PCB's. The Environmental Protection Agency's Florida laboratory presents chemical killed one-half of the test po them at part per billion exposure by 1 per similarly mixed samples of water al Those tests, EPA's Thomas Duke told cern, indicate that PCB's are a "bet threat to the environment." Monsanto ocean, has reported that its own tests shown "no adverse effects" in rats on laboratory exposure and PCB's in amount to 100 ppm. This conflicts with tests rep by others that have pointed reproductive of PCB's to liver damage in mice and fertility in birds.

In fact, the recent contamination o Carolina plant that manufacturer meal was detected only after the fatal ity of eggs from chickens fed the meal to livestock alarmingly.

The PCB's were traced to a leak in a pipe in the cooling system at the fish meal plant. Although the leak began in late April, PCB's were allowed to drip into the fish meal until the defect was discovered in mid-July. In the intervening period of 2½ months, approximately 10,000 tons of fish meal had been manufactured to move them to companies in two states. One of the purchasers of the fish meal, Moby Farms, the nation's largest poultry producers, voluntarily slaughtered 77,000 hens after discovering PCB's in amounts above those deemed safe, reportedly as high as 60 ppm. In the meantime, the U.S. Department of Agriculture "underwent the same mass of poultry that had been fed fish meal. On 26 July, USDA said that the tests turned up no evidence that chickens given the contaminated meal were unsafe. The chickens in the ten-state area, USDA reported, were "wholesome," and the contaminated meal safe to eat. chickens "with confidence." But this did not explain why chickens at Moby Farms contained vastly smaller amounts of PCB's. In response to this apparent discrepancy, Harry Mussman, director of USDA's laboratory service division, told Science that the department "surmised" that Moby Farms got an "extremely contaminated" batch of fish meal while the other producers did not.

CONTAMINATED EGGS SEIZED

Two weeks later, on 16 August, HEW, undercovering from memories of Nader, revealed that it had seized over 75,000 eggs because tests had detected excessive amounts of PCB's in eggs from chickens that had consumed the contaminated fish meal. On 18 August—a month after the tests was detected—USDA took its turn and "declared" more than 50,000 pounds of frozen egg products in which the level of PCB's was high. When FDA seized the 75,000 contaminated eggs, a spokesman said they knew of no incident in which contaminated eggs had reached consumers but could offer no assurance that this had not happened. Unwilling to stay there, members of Nader and Ryan conducted their own ad hoc investigation and, to their dismay, discovered that contaminated eggs had reached the consumers. The FDA, on 18 August, confirmed that a shipment of 59,000 contaminated eggs had reached the retail market, and apparently had been consumed in the Washington, D.C., area after Star-Information had been released by Ryan's and Nader's committees.

The disclosure prompted both Ryan and Nader to blast the government's handling of the entire fish meal incident as one of the most flagrant examples of mismanagement by federal agencies.

In denying that it has issued an FDA's the FDA public can that after January it has been conducting studies to determine the toxicity of PCB's and their effect on humans. An FDA spokesman said that the test results should be known "within a year." For its part, EPA is doing some research at two field laboratories. Since the beginning of this year, EPA has reportedly been considered to avoid the entrance of pesticides for PCB's and other related chemicals.

Resistance of the difficulties in regulating PCB's can be attributed to the conflicting, overlapping jurisdictions of federal agencies. For example, FDA has jurisdictions over PCB's in whole shell eggs and in dry meal, USDA has control over cooked eggs and their products—such as mayonnaise—and poultry; and EPA is in charge of PCB's once they get into the air and water.

In the recent incident, FDA had to recall the contaminated fish meal and records where it was and send them; in turn, supply USDA with a list of the fish meal purchasers, so that USDA could check the affected chickens. When members of Nader raised the possibility of contamination of egg products, they had to go to FDA for testing white eggs and to USDA for smoked eggs and frozen poultry products.

Such a confusing arrangement makes it almost inevitable that some of the contaminated eggs would slip through this network. As for the eggs that did reach the consumer, an FDA spokesman says there is no immediate danger since "any potential health hazard would come from continued consumption of PCB's over an extended period of time."

PCB's intrusion into the environment is difficult to regulate because of a lack of secure laws and because no one is quite sure how much PCB's have been produced. EPA and HEW officials point out that at present they have no legal authority to halt Monsanto's present uses of PCB's. Last year PCB's in pesticides were banned by USDA's pesticide registration division, now a part of EPA. According to a spokesman, the ban, in the past, indicated to Monsanto that it would subsidize PCB's to be used in food as an additive.

It is virtually impossible to determine the exact amount of PCB's already present in the environment and where the chemical might be concentrated because no one, except Monsanto, knows what amounts of PCB's have been made. A National Academy of Sciences panel estimates that, in 1966 alone, 5 billion grams of PCB's were produced in the United States in addition to those made by PCB's manufacturers in Europe, the Soviet Union, and Japan. Monsanto has refused repeatedly to make available, even to government officials, production and sales figures for PCB's because it regards this information as a "trade secret." Monsanto is backed up by the industrial counterparts and by a law that permits a company in certain situations to withhold information that might seriously jeopardize its competitive advantage. A National Academy of Sciences panel, in disagreeing with Monsanto's refusal to release the important figures, noted "it is too early competitive considerations what determine the item than could possibly be assumed by industry concerning production figures." A bill now before Congress would give federal agencies the authority to get production figures from companies manufacturing hazardous chemicals.

In a further effort to cut down on PCB's released into the environment, Monsanto recently built a special industrial unit at Sauget, Illinois, its primary PCB plant. It has since been government officials that it will not sell PCB's for use in power transformers, heat sealing systems that will be used more frequently. In the fish meal plant, Monsanto reportedly claims that it was misled by the name—Pure Ocean Terminal Inc.—into believing that the PCB's sold for cooling purposes would not be used near food products. Monsanto now refuses to comment on PCB's for publication. The reason, a company spokesman told Science, is that there are "many investigations under way" of Monsanto and PCB's, and the company does not want "misinterpretations" about Monsanto's problems of PCB's.

Associates of Nader and Ryan admit, in part, that their strong criticism of the federal handling of PCB's via the fish meal incident stems from their disagreement with the way federal agencies respond to environmental problems. They dislike what they feel is an ad hoc response of reluctant agencies to particular hazards like PCB's. The government is geared more to reacting to a crisis, they insist, than to taking the type of preventive action necessary to head off disasters before they occur. Federal officials point out that, as far as they are concerned, PCB's are a rather low priority item. They do not consider as "top priority." Since PCB's had not in the past caused any major catastrophes that can be likened even to the fish meal incident, most government officials were not aware of PCB's until recently.

The FDA regards the fish meal contamination as an accident that is not likely to occur again. Blaming FDA for the fish meal incident is "like asking a police department to be responsible every time a crime occurs" one FDA official told Science. But critics claim that federal agencies have had sufficient warning about PCB's. In the last year, they say, Campbell Soup Company, a New Jersey firm, discovered soups contaminated with PCB's, and certain Ohio fish grown last Lady Bessmer to eat milk when PCB's found their way into silage consumed by their cows.

MISSED WARNING SIGNS CITED

Blankrough points out that in "our discovery society" PCB's, because of their past wide use, will eventually become ubiquitous and thereby enter the environment. It is believed that the PCB's could make their way to the sea through drainage systems, landfills, and the like, and eventually into the food chain.

No tolerance levels have been determined, Blankrough says; for instance food supplies. As an interim guideline, FDA set PCB limits of 5 ppm as safe for human consumption of poultry, and USDA pronounced that chickens below this level in the fish meal incident were "wholesome." Caution about the 5 ppm guideline is "unfounded" and "arbitrary." "Five parts per million is just a number," Blankrough told Science. "I'm sure FDA pulled it out of the air."

FDA officials reply that the interim guideline is based on the "best scientific information available." The guideline was set for the fish meal contamination, FDA says, and can provide an adequate "margin of safety" for the "short-term exposure expected to occur."

"It's not complete," an FDA official told Science. "But you get to go on week, you have. We can't be held accountable for every problem chemical!"

[From the Washington Evening Star, Sept. 22, 1971]

WASHINGTON CLOSE-UP—U.S. IGNORES THE REAL PCB HAZARD

(By Robert Walters)

It's business as usual while the Federal Government.

Officials of the major agencies, the Food and Drug Administration and the Agriculture Department, have spent the past few months facing the growing problems of a potentially serious health hazard—and have consistently minimizing the contamination danger in their announcements to the public.

The hazard is posed by a highly toxic, extremely persistent family of industrial chemicals known as polychlorinated biphenyls or PCBs. In the United States, the sole producer of PCBs is the Monsanto Co. of St. Louis, which reports it began under the Monsanto trade name.

The unusual chemistry of PCBs—the very characteristics which has made them so valuable for a wide variety of industrial uses during the past few decades—may unexpectedly the principal factor in causing them to be environmental menaces. They are highly resistant to heat and fire, insoluble in water and easily transferred through the food chain.

PCB is however, soluble in animal fat and that is probably where an increasing number of unpleasant encounters are leading that it concentrates in the fatty tissues of birds, animals and human beings.

The principal danger which PCB poses to human health is best described by Dr. Robert Blankrough, a member of the faculty at the University of California at Berkeley and one of the country's leading experts on the subject:

"There is no evidence to indicate that PCBs in the environment are likely to reach levels which would cause severe injury or death from short-term exposure. The possible PCB hazard, like so many environmental hazards, is one of long-term, low-level exposure and perhaps of effects from its combination with other poisons."

When Eisenbrugh, Rep. William F. Ryan, D-N.Y., and others began to warn the country in early 1970 about the potential hazards posed by PCB, Monsanto was indignant about the "political charges, scare tactics and emotional headlines" which the firm said "completely ignore voluntary actions the company has taken to restrict use of the material."

When Ryan wrote to Monsanto in mid-1970 to request copies of the firm's restricted bulletins on PCB, unusual production and sales figures for the chemical, a complete list of the company's suggested uses for Aroclors and similar data, he was denied all but that information.

Instead, Ryan received an indignant letter from John Mauss, Monsanto's assistant general manager, who said the congressman's concerns were based on "a complete lack of factual information." Then he added:

"Monsanto is taking an extremely responsible attitude to this problem and is doing everything within its power to ensure a maximum degree of control to prevent the possibility of the (PCB) escaping into the environment."

Precisely one year after that statement was made, a cannery containing substantial quantities of PCB was dripping over 10,000 cans of fish meal at Fort Crest Terminals Inc., in Wilmington, N.C. Among the results of that leak:

The Food and Drug Administration seized 50,000 pounds of Reliance Puritan Co. cat fish feed in Louisiana, Georgia and Mississippi. Reliance Puritan then issued a recall for another 1,000 tons of fish feed.

Nutrena By-products Inc., of Minneapolis, Minn., was forced to recall 40 tons of rendered meat meal, because of high levels of PCB.

Holly Farms, a North Carolina firm which is the nation's largest poultry producer, voluntarily slaughtered 97,000 chickens after discovering high concentrations of PCB in the feed.

The Agriculture Department has ordered the slaughtering of 250,000 pounds of turkeys in Georgia, Last week, George R. Grange, deputy administrator of the department's consumer and marketing service, warned of another possible "spill" of PCB at an unnamed Minnesota plant.

FDA officials seized 75,000 fresh eggs in Norfolk, Va., but allowed another 40,000 eggs with virtually identical contaminations of PCB to go on sale in the Washington, D.C., area because of inadequate testing and warning procedures. Those refused eggs to the Tidewater Washington freeway until pressured by Ryan and Ralph Nader.

In an equally bizarre action, the Agriculture Department ordered on the market more than 100,000 pounds of processed frozen eggs because laboratory tests had shown high levels of PCB, then partially reversed itself and released 25,000 pounds of the product.

Each time an official action has been taken, the federal officials have emphasized the lack of danger in short-term, low-level consumption—but their announcements have completely ignored the serious, long-term problem of residues in human tissue.

If that performance has failed to inspire citizen confidence in either Monsanto or the two federal agencies involved, the government now has turned to its time-honored solution for serious problems: A six-agency "interdepartmental task force" will coordinate a "government-wide investigation."

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