further degradation of our society and the debasement of our people.

(Mr. PEPPER asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

[Mr. PEPPER'S remarks will appear hereafter in the Extensions of Remarks.]

(Mr. PEPPER asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

[Mr. PEPPER'S remarks will appear hereafter in the Extensions of Remarks.]

PCB'S—AN ENVIRONMENTAL HAZARD

(Mr. RYAN asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

Mr. RYAN. Mr. Speaker, recent studies have disclosed that manmade chemical compounds—polychlorinated biphenyls—PCB's—are being found in our environment in levels dangerous to wildlife and possibly to human life.

Manufactured in the United States solely by the Monsanto Corp., PCB's are sold under the trade name Aroclor.

Aroclor has been recommended by Monsanto for products such as plasticizers, coatings for paper and fabric, fire-resistant and fire-retardant compounds, photothermographic copy sheets, decorative sparkling plastics, asphalt, adhesives, paraffin, printer's ink, resins, rubber products, paints, pesticides, lacquers, sealing compounds, polyester film and water-repellant canvas for camping materials.

Monsanto at first claimed that PCB's are used only in so-called closed systems, such as brake linings, hydraulic fluids, and electrical applications such as insulating fluids. Even if this were true, release to the environment would still be possible through deterioration or through normal escape of hydraulic oil. However, it is clear from Monsanto's own sales materials—Monsanto's Technical Bulletin O/PL-306—that the many other uses promoted therein would permit widespread contamination of the environment.

PCB's are not soluble in water, and so, like DDT, they are extremely persistent in the environment. As a result, PCB's can be distributed widely over the earth by air currents, making them available to animal and human life.

Scientists in Sweden, England, Scotland, the Netherlands, and the United States have detected PCB's in fish and sea birds, in conifer needles, in lipstick, in human fat and in mother's milk.

Dr. Robert Risebrough, in an article in January-February 1970 Environment, "More Letters in the Wind," stated that the distribution of PCB's is greatest in those areas where there is a high concentration of men and industrial activity.

Dr. Risebrough cited five ways in which PCB's can escape into the environment:

1. Through pesticides that contain PCB's.
2. From the stacks of Monsanto plants that make Aroclor and from manufacture of products containing Aroclor.
3. Other forms of industrial waste.
4. Gradual wear and weathering of products (such as asphalt) containing Aroclor which may cause PCB's to be slowly released in the form of vapor or minute particulate matter into the atmosphere.
5. The possibility that many products containing PCB's eventually are thrown out as trash and are burnt in dumps or incinerators—releasing toxic fumes.

While PCB's have not yet been found in levels that could cause injury or death from short-term exposure, we do not know what effect low-level exposure can cause over a long period.

English environmental chemists have recently found very high levels of both the east and west coasts of England and in fish from the Irish Sea. In the New York Times of October 4, 1970, according to a dispatch from the Times of London, a British Government study reported "the highest concentration of poisonous industrial chemicals ever found in wildlife." PCB levels were found as high as 900 parts per million—double the amounts previously detected.

In addition to finding PCB's in dead wildlife, scientists have found that PCB's—like DDT—affect the reproduction systems of animal life—causing birds, for example, to lay eggs with shells that are too thin to protect the embryos.

An even greater danger is that to human beings. In humans, they have a direct action on the skin, producing a severe form of acne known as chloracne. If inhaled, they may produce a variety of effects ranging from nausea and loss of weight to increased respiration, lowered red blood cell count and inhibition of 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.

In April, after studying all the available materials on PCB's and their danger to the environment and to animal and human life, I called upon Monsanto and various agencies in the Government to take action against this ecological threat.

I requested that Monsanto detail its efforts to prevent PCB's from escaping into the environment. I asked the company to release production statistics to researchers in the field of PCB pollution. I also asked Monsanto to require special labeling for all PCB-containing materials.

I wrote to the Department of Agriculture, asking it to ban the use of PCB's in pesticides.

I wrote the Food and Drug Administration, asking it to require proper labeling of products containing PCB's and asking them to study whether PCB's should be completely banned.

And I wrote to the Department of the Interior to request that fish and wildlife be protected from the hazards of PCB's.

The Agriculture Department replied that the use of PCB's in pesticides would be discontinued. And it agreed to cancel registrations for pesticides containing PCB's.

The Food and Drug Administration responded that it was studying PCB's in food and also determining how toxic the chemicals are to animals and humans.

Secretray of Interior Walter Hickel promised that "when sufficient facts are established as to the sources and nature of these pollutants, we will be in a position to take appropriate corrective measures."

Monsanto answered my first inquiry with ambiguities regarding the amount of PCB's that escape into the environment during manufacture. After further efforts to obtain pertinent information, I was informed that Monsanto was "currently constructing" further control equipment. I was told that "an incinerator has been designed" to destroy PCB residues, but no date was given when this incinerator might begin operating.

Monsanto refused to provide details as to production and sales of this dangerous chemical, choosing to hide behind the cloak of confidentiality.

Monsanto refused to supply a complete list of uses of PCBs—claiming this information "would serve no useful nonpolitical purpose." This reaction to efforts to protect the American public would seem to reflect an attitude contemptuous of public welfare.

Monsanto further stated that it "could not release details of individual products contained the chlorinated biphenyls without specific permission from each individual customer." Yet, it said that it had been in touch with customers both verbally and in writing and to have "issued warnings to all our customers using the chlorinated biphenyls." Why could not permission have been sought during these exchanges?

The refusal of Monsanto to provide production and sales figures, a complete list of uses, and the identity of indivdual products containing PCB's impedes scientific efforts to determine the extent to which PCB's have entered the environment. It should be noted that Chemical Week for August 1968, announced that "Monsanto, by mid-1970 would be bringing its worldwide plasticizer capacity to more than 600 million pounds per year—page 27.

In June, I again urged the administration and the Monsanto Corp. to take effective action to keep PCB's from endangering animal and human life.

I stressed that, although the pesticide ban was a step in the right direction, the Government should take the initiative and design concrete methods to make sure PCB's could no longer escape into the environment.

After the public became aware of the dangers of PCB's, the Monsanto Corp. advised me in a letter dated June 30, 1970, and at a meeting in my office on July 8, 1970, that it had decided to restrict the use of PCB's to "closed-system applications." These closed-system applications are use of PCB's in transformers, capacitors and heat transfer fluids.

Conceding that the end product can not be controlled, Monsanto said it would

0501536

STLCOPCB4044778

discontinue PCB sales for plasticizer applications after August 30, 1970. Monsanto also said that PCB's would no longer be used as hydraulic fluids—Pydrual is Monsanto's trade name—after December 31, 1970. Monsanto further said it would offer a recovery service for spent fluids used as coolants in transformers and other closed-system usages.

The following excerpts from Monsanto's June 30, 1970, letter to me explain more fully the actions Monsanto decided to take:

1. We have taken the decision that effective from the 30th of August we will no longer sell the chlorinated biphenyls to customers for use in general plasticizer applications where disposal of the end products cannot be controlled. This includes all the applications referred to in our bulletin O/PL-306. All of our customers who have used these products in the past for these applications have been advised of this decision both verbally and by formal letter. We are working closely with them to recommend suitable alternative products which present no danger to the environment.

2. In many of the applications where chlorinated biphenyls are used as hydraulic fluids, we are not satisfied that it is possible to control their usage and eventual disposal to ensure that there is no possibility of escape to the environment. We have therefore taken the decision to reformulate such fluids and we are currently working with our customers to change over to these new formulations. A substantial part of this program will be completed within the course of the next three months and in other areas where performance requirements are difficult to achieve with alternative products, we consider it will take until the end of 1970 to complete change-over.

3. In areas where the chlorinated biphenyls are used in closed system application, e.g., transformers, capacitors, and heat transfer fluids, we will continue to sell the chlorinated biphenyls as their unique, fire-resistant properties are extremely important in ensuring maximum protection for the safety and well-being of the population of this country. As you should be aware, the major usage for the chlorinated biphenyls is as coolants in transformers where they have replaced such other materials as oil and have greatly reduced the risk of fires and explosions which in the past have often had disastrous results in terms of human lives. These closed system applications are such that by working together with our customers, we can avoid emissions to the environment.

Coupled with this decision to continue selling chlorinated biphenyls for closed system usage, we have established a service to collect spent fluids which are returned to our manufacturing sites for regeneration or destruction in a specially designed, high-temperature incinerator. This incinerator breaks down the chlorinated biphenyls into harmless materials, mainly hydrochloric acid which is scrubbed out of the waste gas stream, neutralized and passed through our waste treating facilities.

Although we are confident that we can achieve a very high degree of control in these closed system applications, we are not completely satisfied and we are working to develop modified chlorinated biphenyls which will be biodegradable. This means that even if minute quantities of chlorinated biphenyl are released to the environment by accidental spills and/or leakage, it will be possible to remove them from waste water streams in conventional secondary treatment facilities.

Although the extremely high levels found in England suggest that Monsanto's action may be coming too late, I am extremely gratified that my exposure of PCB's as a major environmental hazard was instrumental in having them excluded from uses that allow widespread escape into the environment.

However, I am not satisfied that PCB's are no longer an environmental threat. Monsanto stated that in such uses as hydraulic fluids, Monsanto is "not satisfied that it is posible to control their usage and eventual disposal to insure that there is no possibility to escape to the environment."

The London Times article and the British Government report on the high incidence of PCB's in Britain have greatly increased my concern.

I have urged the United Nations Conference on the Human Environment, which is to be held in Sweden in 1972, to study the danger of PCB's to animal and human life throughout the world. I have also requested that PCB's be banned by the Conference for any use that would allow these compounds to escape into the environment.

We cannot know how many other chemicals and their compounds are affecting the environment in manners similar to PCB's and DDT. When such dangers are reported, we cannot afford to ignore them.

We cannot allow private corporations to continue to sell hazardous chemicals without regard to the dangers these products present to the environment. Instead of facing grave threats after chemicals have been widely dispersed, we must insist that no new chemicals be used unless they are proved harmless.

If we are really to have a clean, healthy environment, then the Congress, the administration, and the people themselves must be constantly vigilent to preserve its quality.

I include at this point in the RECORD an article from the New York Times of October 4 which contains a dispatch from the Times, London, regarding the British report on PCB's.

[From the New York Times, Oct. 4, 1970]

CHEMICAL POISONS FOUND IN WILDLIFE—BRITISH RECORD HIGHEST LEVEL OF COMPOUND IN HERONS

LONDON, October 3.—Government analysts have recorded the highest concentration of a group of poisonous industrial chemicals ever found in wildlife.

The discovery of these high levels of polychlorinated biphenyls, or PCBs, which have effects similar to those of the persistent pesticides such as DDT, is described in an annual report published this week. The report also contains a description of new analytical methods for measuring minute quantities of other poisonous chemicals that are causing damage in the environment through changes in food production, agricultural practice and industrial processes.

Attention was first directed to polychlorinated biphenyls last autumn, when the substance was found in the carcasses of many of the thousands of seabirds killed in the Irish Sea. It has since been found in seals off the Cornish and East Anglian coasts.

The report said that PCB levels as high as 900 parts to a million had been found in the livers of herons, which are fresh water feeders. This is more than twice the previously recorded levels for sea birds, and analytical techniques available are not believed precise enough to measure all the various forms of the chemical.

INDUSTRIAL EFFLUENTS

Very high levels would be a direct cause of death in wildlife. But the possible effects of an accumulation of much smaller quantities are discussed by the Government Laboratory's Environmental Chemistry Group. Although PCB's are not used as pesticides, they are contained in a large number of effluents from industry. There is evidence that they interfere with the process of calcium metabolism in much the same way as the organochlorine pesticides affect wildlife.

There are at least 210 known forms of polychlorinated biphenyls. Some of them present difficulties in laboratory analysis because they can be easily masked by other chemical substances.

The picture is similar regarding organo-mercury compounds. Traditional methods of analyzing samples of mercury shows only the gross amount present but gives no idea of how much is combined in the complex organic compounds or just in the metallic form.

This has been an important weakness in pollution control because the toxicity of the organo-mercury compounds varies widely. Very little effort was directed to identification of these various poisons and their spread in the environment until three years ago, when Dr. G. Westoo of Sweden devised methods for analyzing methylmercury compounds in fish, meat, liver and eggs. This method has been refined by the Government Laboratory for analyzing potatoes, tomatoes, apples and liver.

I include at this point in the RECORD extracts from Monsanto's Technical Bulletin O/PL 306.

EXTRACTS FROM MONSANTO CO.'S TECHNICAL BULLETIN O/PL-306 ON AROCLOR (PCB) USES

PCBs are manufactured in the United States only by the Monsanto Company, under the trade name Aroclor.

In its Technical Bulletin, O/PL-306, Monsanto describes qualities of aroclor, such as fire retardance, corrosion resistance, and adhesivity. This bulletin suggests "scores of new uses that could not be performed by any other known material." Five separate bulletins are offered to give additional information for uses in resins, chlorinated rubber, emulsion adhesives, protective coatings, modifiers for polysulfides, fire-retarding plasticizers and wax compounds.

Aroclor plasticizers are suggested for protective coatings, such as in chemical plants, sealing compounds, adhesives, lacquers, inks, varnishes, free films, fabric coatings and pigment dispersions; components or extenders in elastomers and waxes. Page 8 describes Aroclor's compatibility with *twenty-seven* "common plastic materials" such as asphalt, rubber, paraffin and resins. Other uses: in molded products, brake linings, chemically-blown vinyl foam (such as was recently reported in *New York Times* for making a cave-like bedroom) and in vinyl-asbestos floor tile.

In describing the applications of Aroclor in adhesives, the bulletin remarks (p. 14) "When the slight odor of Aroclor is objectionable in an adhesive for certain applications, it can be easily masked, at negligible cost, by the addition of a small amount of Stantomask II."

Other uses are in prime coats for concrete storage tanks for gasoline and fuel oils; as base coats for concrete wood-kiln coatings (which are exposed to heat, moisture, and wood distillates).

On page 21, under "Aroclor in Rubber" appears the sentence: "Typical applications include protective and decorative coatings and for swimming pools, stucco homes, steel structures, tank cars, and both wood and metal maritime equipment."

In chlorinated-rubber formulations, Aroclor is suggested for heat-sealing adhesives.

0501537

STLCOPCB4044779

electrical coatings, paper and textile coatings, and printing inks. Other versions are designed for wire and cable coatings, and for "tacky coatings for fabric or paper."

Page 25 says "Insecticides, for example, can be blended into such coatings to make insect traps or barriers on tree trunks for foliage or fruit protection."

Other uses: sealing and caulking compounds; automobile-body sealants; paint compositions; tracing paper, window envelopes, and other paper-transparentizing; and hot-melt resins for the protection of tools and metal parts.

On page 31, "high-chlorine-content Aroclor plasticizers" are described as "widely used in the manufacture of low-cost, flame-resistant lacquers" for paper coatings, lacquers for plastics, and hot-melt adhesives. Page 33: heat-resistant aluminum paints and enamels, such as for jet-engine components, exhaust manifolds, and incinerators. Page 34: Waxes containing Aroclor are widely used in making dental castings, costume jewelry and precision-cast aircraft parts. "Aroclor with waxes make excellent and inexpensive sealers for masonry, wood, fiberboard, and paper."

On page 36 it is explained that the kill-life of chlorinated insecticides is extended by Aroclor acting as a vapor suppressant and as a sticking agent, enabling the insecticide to remain toxic on hard surfaces "for as long as three months."

For its moisture-proofing qualities, Aroclor is suggested on page 36 for use in waxes, such as paraffin; oils such as mineral oil or drying oils; and as a coating for paper and cloth.

Page 37: an "important ingredient" in mimeograph ink for use on bond paper; in the preparation of imitation gold leaf; as pigment vehicles for decoration of glass and ceramics; as grinding and dispersing mediums.

Page 38: "Aroclor plasticizers are essential components of coatings for flame-proofing cotton drill for outer garments and for rendering olive-drab canvas fire-retardation, water-repellent, and rot-proof for tents, tarpaulins, etc. . . ."

Page 50: a "potential problem from the standpoint of both inhalation and skin contact" and suggests the use of closed systems and local-exhaust ventilation. It also mentions that vapors of Aroclor "at room temperature should not be breathed in a confined space . . ."

It suggests "the use of gloves and protective garments because of the possible occurrence of a condition called chloracne."

Aroclor is sold in Tank cars, 500 to 600-lb. steel drums, 100-lb. bags and 50-lb. cans.

SPANISH BASE AGREEMENT

(Mr. RYAN asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

Mr. RYAN. Mr. Speaker, the agreement which the administration entered into with Spain for U.S. military aid and for continued base rights in Spain, was another example of the executive branch ignoring congressional authority under the guise of executive privilege. When this agreement was concluded last August, I issued a public statement condemning the action taken by the administration. On August 6, 1970, I said:

The agreement which is being signed with Spain constitutes a significant commitment which has neither received sanction nor scrutiny by the Congress.

The Spanish base agreement once again reveals the "underground diplomacy" which keeps the Congress and the American people from knowing what their government is doing.

Hundreds of millions of dollars worth of weapons are apparently to be transferred—by loan, sale, or other means—to Spain in return for the United States' being able to use the bases. This constitutes nothing less than support of a dictatorship which suppresses political right and civil liberties.

The unsanctioned military ventures of the executive branch—such as the invasion of Cambodia—illustrate how dangerous it is for Congress to surrender its powers to the executive. By extending the treaty with Spain by executive agreement, the administration has purposefully ignored the concern which I and other members of Congress have voiced in the past about commitments to Spain.

In order to deter such action, and to firmly assert Congressional oversight in foreign affairs, I have introduced legislation to create a Joint Committee on Foreign Policy.

This latest flaunting of Congressional powers by the Administration in support of a reactionary dictatorship—is just further justification for such a Committee.

(Mr. RANDALL asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

[Mr. RANDALL'S remarks will appear hereafter in the Extensions of Remarks.]

(Mr. RANDALL asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

[Mr. RANDALL'S remarks will appear hereafter in the Extensions of Remarks.]

(Mr. MILLER asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

[Mr. MILLER of Ohio's remarks will appear hereafter in the Extensions of Remarks.]

(Mr. WYDLER asked and was given permission to extend his remarks at this point in the RECORD and to include extraneous matter.)

[Mr. WYDLER'S remarks will appear hereafter in the Extensions of Remarks.]

LEAVE OF ABSENCE

By unanimous consent, leave of absence was granted to:

Mr. THOMPSON of New Jersey (at the request of Mr. O'HARA) on account of family illness.

Mr. BLANTON (at the request of Mr. JONES of Tennessee), for today, on account of official business.

Mr. LOWENSTEIN (at the request of Mr. ALBERT), for today, on account of official business.

Mr. PRICE of Texas (at the request of Mr. ARENDS), on account of emergency appendectomy.

Mr. CORMAN, for today, on account of official business.

Mr. BARING (at the request of Mr. BURTON of California), for today, on account of official business.

SPECIAL ORDERS GRANTED

By unanimous consent, permission to address the House, following the legislative program and any special orders heretofore entered, was granted to:

Mr. BYRNE of Pennsylvania, for 30 minutes, today.

Mr. GONZALEZ, for 5 minutes, today.

(The following Members (at the request of Mr. FREY) to address the House and to revise and extend their remarks and include extraneous matter:)

Mr. FINDLEY, for 5 minutes, today.

Mr. TEAGUE of California, for 30 minutes, today.

Mr. WILLIAMS, for 10 minutes, today.

Mr. MCDADE, for 5 minutes, today.

Mr. WATSON, for 5 minutes, today.

Mr. WHALEN, for 5 minutes, today.

Mr. HARSHA, for 10 minutes, today.

Mr. HALPERN, for 5 minutes, today.

Mr. GOODLING, for 10 minutes, today.

Mr. HOGAN, for 20 minutes, today.

Mr. ASHBROOK, for 60 minutes, today.

Mr. CHAMBERLAIN, for 15 minutes, today.

(The following Members (at the request of Mr. CAFFERY), to revise and extend their remarks and to include extraneous matter:)

Mr. GARMATZ, today, for 10 minutes.

Mr. RARICK, today, for 30 minutes.

Mr. CONYERS, today, for 60 minutes.

Mr. FLOOD, today, for 15 minutes.

EXTENSION OF REMARKS

By unanimous consent, permission to revise and extend remarks was granted to:

Mr. CAREY in six instances and to include extraneous matter.

Mr. CRANE to revise and extend his remarks during debate on H.R. 17849.

Mr. HAMMERSCHMIDT to extend his remarks on the bill H.R. 19519 and to include extraneous matter.

Mr. SAYLOR, today, and that his remarks appear prior to passage of H.R. 693 on August 13, 1970.

Mr. RANDALL, and to include extraneous matter in two instances.

(The following Members (at the request of Mr. FREY) and to include extraneous matter:)

Mr. ROUDEBUSH in two instances.

Mr. ANDERSON of Illinois in three instances.

Mr. STEIGER of Wisconsin in two instances.

Mr. GUBSER.

Mr. CRANE in six instances.

Mr. SCHWENGEL in three instances.

Mr. MILLER of Ohio in six instances.

Mr. SEBELIUS.

Mr. FREY in two instances.

Mr. GERALD R. FORD in five instances.

Mr. MCDADE in six instances.

Mr. WYMAN in six instances.

Mr. HORTON in six instances.

Mr. ARENDS in four instances.

Mr. SMITH of California.

Mr. SPRINGER.

Mr. SCOTT.

Mr. HARSHA.

Mr. MINSHALL in four instances.

Mr. PRICE of Texas in five instances.

Mrs. HECKLER of Massachusetts.

Mr. BRAY in six instances.

0501538

STLCOPCB4044780