## In re Agent Orange Product Liability Litigation (1979-1984)

In the legal case In re Agent Orange Product Liability Litigation of the early 1980s, US military veterans of the Vietnam War sued the US chemical companies that had produced the herbicide Agent Orange, and those companies settled with US veterans out of court. Agent Orange contains dioxin, a chemical later shown to disrupt the hormone system of the body and to cause cancer. As veterans returned to the US from Vietnam, scientists further confirmed that exposure to Agent Orange caused a variety of cancers in veterans and developmental problems in the veterans' children. The veterans and their families held the chemical manufactures of Agent Orange liable for their injuries and the injuries to their children. The chemical companies settled the case out of court in 1984 for \$180 million, to be used for medical expenses or compensation for death relating to veterans' exposure to Agent Orange. Agent Orange's use in the Vietnam War affected close to ten million people in the US, including members of the US military directly exposed to it, and their children conceived years after direct exposure.

Scientists developed herbicides as commercial weed killers in the 1930s and 1940s for agricultural purposes. Chemical herbicides, such as Agent Orange, kill plants by mimicking natural plant hormones to interfere with the growth of the plant. During World War II, the US military began experimenting with herbicides to restrict enemy food supplies and ground cover. In the 1960s, the US Defense Advanced Project Research Agency (DARPA), a US Department of Defense agency responsible for development of new defense technologies, began experimenting with various combinations and concentrations of chemical herbicides for use in the Vietnam War. Agent Orange was created when developers combined two of the most potent herbicides, 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) and 2,4- Dichlorophenoxyacetic acid (2,4-D).

DARPA created several combinations of herbicides for use in the Vietnam War, including Agent Purple, Agent Pink, Agent Green, Agent White, Agent Blue, and Agent Orange, all named for the band of colored tape on their containers. In 1961, the US military began spraying those herbicides on the vegetation in Vietnam, as part of Operation Ranch Hand, to eliminate enemy food supplies and destroy cover for military bases and movements. Between 1962 and 1971, the US Air Force sprayed nineteen million gallons of herbicide over the vegetation of Vietnam, eleven million of which were Agent Orange.

During the 1960s and 1970s, researchers began to better describe and explain the human hormone system and that system's interaction with outside chemicals. That research spurred investigations into the effects of drugs like thalidomide and diethylstilbestrol, and into pesticides such as DDT (dichlorodiphenyltrichloroethane) and Agent Orange on human physiology. The manufacturing process for Agent Orange creates a byproduct, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), in addition to the targeted herbicide chemicals. TCDD is one of the most toxic chemicals in a group of substances classified as dioxins. Dioxins bind to a specific part of the cell responsible for transcribing the genome, and they affect the expression of several hundred genes. Dioxins also act as endocrine disruptors, which interfere with the hormones in the body and disrupt development and sexual reproduction. The effects of initial exposure to dioxins have been recorded in three subsequent knew about the toxic effects of exposure to dioxin as early as 1962, and scientists had criticized the use of chemical herbicides prior to the start of the Vietnam War.

At the end of the Vietnam War in 1975, US veterans returned home with concerns about the effects of their exposure to Agent Orange. Veterans that had been exposed to Agent Orange died prematurely,

showed an increased rate of diseases like non-Hodgkin's lymphoma, lung cancer, and Parkinson's disease, and reported birth defects in their children, such as spina bifida, congenital heart disease, and neural tube defects. By 1978, evidence supported the claim that low-level exposure to dioxins like TCDD was toxic to both the individuals exposed, and to their children.

In 1978, Vietnam War veteran Paul Reutershan saw some of the early information on the toxic effects of exposure to Agent Orange. Reutershan claimed that his abdominal cancer had been caused by his exposure to Agent Orange during the Vietnam War. He later contacted Edward Gorman, an attorney in Long Island, New York, to sue the chemical manufacturers of Agent Orange. Gorman filed a \$10 million lawsuit on Reutershan's behalf against three of the chemical manufacturers of Agent Orange. Dow Chemical Co., Monsanto, and Diamond Shamrock. During this time, Reutershan founded Agent Orange Victims International (AOVI) and spoke publicly about his cancer and the possible correlation from exposure to Agent Orange. Reutershan died of cancer several months after Gorman filed the lawsuit.

After his death, Reutershan's mother and sister, members of the AOVI, and other Vietnam War veterans Reutershan had spoken to about the effects of Agent Orange, worked to further publicize the effects of Agent Orange, and they pursued a class action lawsuit for damages. A class action lawsuit occurs when a group people with similar legal claims gather together to sue the party they deem responsible. Vietnam War veteran Frank McCarthy led the group and sought to amend Reutershan's original suit as a class action suit. However, Reutershan's original attorney, Gorman, refused to amend the suit, claiming that a class action suit would be overly expensive. McCarthy instead sought legal counsel from Victor J. Yannacone, a Long Island, New York, attorney who specialized in workmen's compensation, specifically in cases dealing with toxic substances.

On 8 January 1979, Yannacone filed a class action lawsuit in the court of the Southern District of New York in Manhattan, New York, against US chemical manufacturers of Agent Orange, including Dow Chemical Company and Monsanto. Yannacone defined the aggrieved party for the class action suit to be any individual in current or future generations at risk from their own exposure, or a parent's exposure, to Agent Orange. The class wanted, at minimum, four billion dollars in damages set up in a trust fund, which members of the class could access when necessary.

Before and during the time when Yannacone consolidated the class action case, Vietnam War veterans and their families throughout the US filed other suits against the chemical manufacturers of Agent Orange for injuries caused by exposure to the herbicide. The attorney for Dow Chemical Company, Leonard L. Rivkin, noted the similarity in the cases and contacted Yannacone about consolidating all of the Agent Orange cases into a single federal case. A single federal case assured that a decision against the chemical manufacturers in one case could not be used against them in a separate case. It would also lower the legal costs for the chemical companies by allowing them to fight only one case rather than thousands of different cases across the US. For Yannacone, consolidating the cases would lower his litigation costs, as more individuals would be paying his legal fees. Therefore, Yannacone and Rivkin petitioned the Judicial Multidistrict Litigation Panel, headquartered in Washington D.C., to consolidate all of the Agent Orange liability cases into a single federal case. In May 1979, the court granted their petition and assigned the case titled In re Agent Orange Product Liability Litigation to Judge George C. Pratt of the United States District Court for the Eastern District of New York in New York City.

By late 1979, Yannacone and his associates represented 8,300 clients against eleven chemicals companies: Dow Chemical Co., Thompson-Hayward, Diamond Shamrock, Monsanto, Hercules Inc., Ansul Co., Riverdale Chemical Co., Uniroyal, Occidental Petroleum Co., N.A. Phillips, and Hooker Chemical Co. After deciding a series of technicalities that held up the case for almost a year, Judge Pratt gave an initial ruling on In Re Agent Orange in December of 1980. In the ruling, Pratt addressed five different issues, three of which dealt with legal technicalities. The two most pressing issues Pratt addressed related to the inclusion of the US government in the case and the liability of the chemical manufacturers.

In March of 1980, the chemical manufacturers of Agent Orange had named the US government as a third party defendant in the case. The chemical companies argued that the US government was partially responsible for the injuries claimed by the veterans and their families. The chemical companies further argued that because the government controlled the manufacturing and use of Agent Orange through military contracts, the chemical companies should be protected from any responsibility for the effects of Agent Orange on military personnel. The chemical companies claimed that their military contracts protected them from liability, as they had acted under government orders. Such orders are called government contract defense, or military contract defense. However, lawyers for the US government argued that it was not liable for injuries caused by Agent Orange on the basis of sovereign immunity, whereby a governmental body is immune to civil lawsuits.

In his 1980 decision, Pratt first addressed the US government's argument for sovereign immunity. This decision was complicated by the fact that the US government had waived its right to claim sovereign immunity in the Federal Tort Claims Act of 1946. However, in 1950, the US Supreme Court case Feres v. United States held that the US government was not liable for injuries of military service men or women sustained during military service. Further, in the US Supreme Court case Stencel Aero Engineering Corp. v. United States in 1977, the court had ruled that third party claims against the US government, like those made by the chemical manufacturers of Agent Orange, were barred. Because In re Agent Orange dealt with injuries sustained by servicemen during military service, and as the government had been a part of the case only through a third party claim, Pratt dismissed the US government from the case.

Pratt then addressed the chemical companies' defense that they were merely executing a government contract. The manufacturers had argued that they were not liable for injuries caused by Agent Orange because they were acting on behalf of the government. They claimed that they had not manufactured Agent Orange before or after the time of the military contracts, that they had no indication that fulfilling the contracts would cause harm, that their own actions had caused no harm, and that they could therefore not be held liable. Pratt stipulated three requirements that the chemical companies must meet if they were to use the government contract defense and be dismissed from the case. The companies must first show that the government gave them the specifications for orders of Agent Orange, second, that the company met those specifications in the Agent Orange they supplied to the government, and third, that the government had more information about the risks of Agent Orange than did the companies. Pratt determined that only a full trial could determine whether any of these requirements were met.

In October of 1983, Pratt stepped down from In re Agent Orange due to his increasing responsibilities as a Court of Appeals judge, to which he had been appointed in 1982. Judge Jack B. Weinstein took over the case. Weinstein focused on causation as the most important part of the case, dismissing Pratt's earlier focus on the government contract defense. In a product liability case, like In re Agent Orange, the injured party must show that the actions of the party they are suing caused the injuries. Further, in liability cases involving toxic substances, the injured party must show that a specific substance produced by a specific company caused their injury. In In Re Agent Orange, each Vietnam War veteran would have to show that their injury, or the injury of their child, was caused not only by the herbicide Agent Orange, but also by the specific formulation of Agent Orange produced by a specific chemical company. To establish this causation, Weinstein set a trial date for May 1984.

In the interim, Weinstein reopened the issue of the government's role in In re Agent Orange, holding the government liable for the birth defects of the children of Vietnam veterans. Pratt had never filed a formal dismissal of the US government from the case, enabling Weinstein to readdress the government's liability. Weinstein held that military service men and women's claims of injury against the US government were barred under federal law. However, not barred were the claims of veteran's children for genetic defects caused by their parent's exposure to Agent Orange. He stated that the government was liable for these injuries, as they did not occur to men and women of the armed services during the course of military service. This established the precedent that veterans' children may sue the government for developmental damages.

Though Weinstein addressed several unanswered issues of the case, he also stated that he thought the case should end in settlement. He worked toward that end, drafting a settlement statement, and encouraging both sides to negotiate. On 7 May 1984, nine years after the last US troops had withdrawn from Vietnam, the Vietnam War veterans and chemical manufacturers settled out of court for \$180 million. One term of the settlement allowed the chemical manufacturers to renounce all liability for injuries in return for establishing a settlement trust. The companies could renounce liability, despite the fact that over the duration of the case, the veterans and their attorneys had found messages sent by the chemical companies indicating that they knew about the toxic effects of Agent Orange before manufacturing it and had manufactured it regardless. This discovery made them liable for the injuries of the veterans and their children, and it would have cost them far more than the \$180 million settlement.

Many Vietnam War veterans reported dissatisfaction with the settlement. They claimed that the settlement was too small and left questions unanswered about the responsibility of the chemical manufacturers, given that the manufacturers of Agent Orange denied any wrongdoing or liability. To address these claims, Weinstein held a set of fairness hearings in August of 1984 to determine whether or not the settlement was fair, reasonable, and adequate. Testimony showed that veterans almost universally agreed that the settlement was too small and that the information regarding the claims allowed for by the settlement was unavailable. In the end, Weinstein, who had drafted the settlement, concluded that the settlement was fair.

The settlement was paid out between 1988 and 1994. Though veterans and their families filed 105,000 claims, only 52,000 claims received cash compensation of on average \$3,800 per claim. Those claims had to be filed by or on behalf of veterans who had served in Vietnam between 1962 and 1972 and had served in a capacity that involved probable exposure to Agent Orange. Claims could be made for medical costs associated with the diseases and conditions caused by Agent Orange. Family members could also make claims for compensation for the death of a related veteran or the child of a related veteran. The settlement accepted claims until 31 December 1994, when it ran out of funds. After In re Agent Orange, the US Department of Veteran Affairs, headquartered in Washington, D.C., began reimbursing veterans and children of veterans who were affected by Agent Orange and could provide medical evidence of specific diseases.

Endocrine disruptors, such as chemicals like Agent Orange that disrupt the hormone system of the body, were more widely identified as potential toxins in the 1990s. After the identification of potentially toxic endocrine disruptors, the US government established the Endocrine Disruptor Screening Program to test agricultural and industrial chemicals for endocrine disrupting effects prior to their use. Testing on those chemicals began in 2009. By 2014, the US Department of Veteran Affairs recognized fourteen different types of diseases caused by Agent Orange, including leukemia, Parkinson's disease, respiratory cancers like lung cancer, and diabetes. They also recognized nineteen birth defects caused by exposure to Agent Orange during development, including neural tube defects, cleft lip and palate, and hip dysplasia.

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