

IN THE MATTER OF
INTERNATIONAL HARVESTER COMPANY

FINAL ORDER, OPINION, ETC. IN REGARD TO VIOLATION OF SEC. 5 OF
THE FEDERAL TRADE COMMISSION ACT

Docket 9147. Complaint, Oct. 10, 1980—Final Order Dec. 21, 1984

This Order affirms in part and reverses in part the 1982 Initial Decision of the Administrative Law Judge ("ALJ") and orders that it be adopted as the "Findings of Fact and Conclusions of Law of the Commission, except as is inconsistent with the accompanying Opinion." The ALJ had ruled that a Chicago, Ill. manufacturer of farm machinery had violated Sec. 5 of the FTCA by failing to adequately disclose to consumers that its gasoline-powered tractors were subject to a safety hazard known as "fuel geysering," even though the company knew of the potential danger. While the Commission agreed that the company's failure to disclose the safety risk constituted an unfair trade practice, it ruled that, contrary to the ALJ's finding, the practice could not, as a matter of law, be considered deceptive since there was no representation, practice or omission likely to mislead consumers found in this case. Although the Commission ruled that the manufacturer has violated the FTCA, it upheld the ALJ's decision not to order further remedial action because the company no longer manufactures gasoline-powered tractors and because the company's 1980 voluntary notification program had already provided as much relief as could be expected from a Commission order.

Appearances

For the Commission: *Richard H. Gateley, Michael Milgrom, Rosemary Rosso, Michael L. Sirota and Cynthia E. Smith.*

For the respondent: *James R. Fruchterman*, in-house counsel, Chicago, Ill. and *J. Alan Galbraith, Aubrey M. Daniel, III, William E. McDaniels, Carolyn H. Williams and Michael S. Sundermeyer, Williams & Connolly*, Wash., D.C.

COMPLAINT

The Federal Trade Commission, having reason to believe that International Harvester Company, respondent, has violated the Federal Trade Commission Act, and it appearing to the Commission that a proceeding by it in respect thereof would be in the public interest, issues this complaint.

1. Respondent is a Delaware corporation with its executive offices at 401 North Michigan Avenue, Chicago, Illinois.
2. Respondent is now, and has been, engaged in the design, manu-

facture and marketing of agricultural equipment, including but not limited to tractors.

3. Respondent causes agricultural equipment to be shipped to purchasers in various states and, therefore, maintains, and at all times mentioned in this complaint has maintained, a substantial course of trade in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act. [2]

4. Respondent manufactured approximately 1.6 million gasoline-powered tractors from 1939 through 1975. Such tractors include model numbers such as 300, 350, 400, 450, 600, 656, 706, 756 and 806. The tractors were designed with the fuel tank located in front of the operator above and behind the engine. As many as 800,000 of these tractors may still be in use and be subject to resale by respondent or its dealers.

5. The location, and in some cases the shape, of the fuel tank in such gasoline-powered tractors subjects the tank to fuel heating and vaporization, causing pressure build-up in the fuel tank during normal operation. If the fuel cap is dislodged or removed when the tractor is hot or running, fuel vapors and liquid fuel can shoot or geyser up to 20 feet, spraying the operator or the tractor with gasoline which can, and has, spontaneously ignited. A reasonable likelihood exists that the fuel cap may be dislodged or removed when the tractor is hot or running. In fact, numerous incidents of fuel geysering have occurred on International Harvester tractors. As a result of fuel geysering, some operators of the tractors were severely burned and at least one operator has been killed. In other cases, tractors have exploded as a result of fuel geysering. Fuel geysering, which was not reasonably to be expected by many operators of such tractors, creates a substantial risk of injury or death. Fuel geysering is, therefore, a safety hazard.

6. Beginning in 1955, respondent had information by which it knew, or should have known, that tractors containing fuel tanks located in front of the operator above and behind the engine were subject to fuel geysering due to a pressure build-up in the fuel tanks.

7. Beginning in 1958, if not earlier, respondent determined that a quick release of pressure from the fuel tank, as occurs in removal of the fuel cap, may result in fuel geysering which, in the presence of a hot engine or other means of ignition, can lead to fire.

8. Respondent has failed to disclose adequately the facts concerning the existence of fuel geysering. Respondent has failed to disclose adequately the facts concerning the nature or extent of injuries due to fuel geysering and steps which might be taken to prevent injury or death. Absent adequate disclosures of such facts, some prospective purchasers or some owners or operators of respondent's gasoline-powered tractors have reasonably assumed that fuel geysering does

not occur or that fuel geysering is not a safety hazard. Such facts, if known by many prospective purchasers, would likely affect their considerations of whether to purchase new or used agricultural equipment manufactured by respondent. Such facts, if known by many owners or operators, would likely affect their decisions concerning the use or care of agricultural equipment manufactured by respondent, which could prevent substantial personal or economic injury. Therefore, respondent has failed to disclose material facts. Such failures to disclose constitute deceptive or unfair acts or practices. [3]

9. Respondent's acts and practices in failing to disclose adequately material facts have had, and now have, the capacity and tendency to mislead many members of the public, particularly those who may consider purchasing, or who own or operate, agricultural equipment produced by respondent. Such acts and practices cause and have caused substantial personal or economic harm to many members of the public.

10. Respondent's acts and practices in failing to disclose material facts as alleged herein were and are all to the prejudice and injury of the public and constitute unfair or deceptive acts or practices or unfair methods of competition in or affecting commerce, in violation of Section 5 of the Federal Trade Commission Act, as amended.

STATEMENT OF COMMISSIONER DIXON* DISSENTING FROM
ISSUANCE OF THE COMPLAINT

I agree that the Commission has "reason to believe" that a violation of Section 5 has been committed by International Harvester in this case, but I cannot agree that it is in the public interest for a complaint to issue. International Harvester has already completed the better part of an extensive program to remedy the alleged violation of law and it is unalterably committed by events to take those steps that remain. This remedial program was planned before the Commission began its investigation of International Harvester, and within days of being formally contacted by Commission staff and apprised of their suggestions, International Harvester modified its program to take those suggestions into account.¹

* Paul Rand Dixon, Commissioner 1961-1981.

¹ In stating my reasons for dissenting from the issuance of the complaint, I am mindful that any or all of the matters I discuss may be subject to proof or dispute at the trial, and I shall base any decision I am required to make upon the record developed there. My dissent is based only upon matters that I now have "reason to believe" as a result of the Commission's brief investigation of this case. The evidence before the Commission as to the scope of IH's pre-investigational remedial initiatives is certainly subject to a variety of possible interpretations.

I should also note that I draw no inference whatsoever about IH's liability under Section 5 from the fact that it has chosen to warn farmers about the possible risks of fuel geysering. IH contends that the number of reported geysering incidents (estimated variously as between about 30 and 60) works out to one incident per 500 million tractor operating hours. IH further contends that geysering can occur only when a tractor is running hot and the gas cap is loosened. IH also notes that the incidence of geysering is related to the age of the tractor and the recent

(footnote cont'd)

International Harvester has, however, refused to agree to a consent order requiring it to do what it has already done or will soon do. [2] Under the unusual circumstances described, I would not commit the Commission to the considerable time and expense that litigation entails. I would simply announce the existence of this investigation, announce the program that Harvester long ago began (and modified at our request), and hold that investigatory file open against the exceedingly remote possibility that Harvester fails to complete a program that it has publicly pledged itself to complete to hundreds of thousands of consumers and nearly two thousand dealers.

The Commission's investigation of International Harvester was commenced in late May, 1980. The first formal notification to International Harvester that the investigation had begun occurred in July, 1980. On July 29, 1980, the Commission authorized its staff to seek a preliminary injunction to remedy the alleged violation of law. Before proceeding to court the Commission's staff made substantive contact for the first time with representatives of IH, and learned that the company had begun more than one year earlier to plan a program that would warn of and remedy the danger of fuel geysering.

The program began in Spring, 1979 by International Harvester, and in which it had already expended some millions of dollars, contemplated development of a new gas cap for the pre-1975 model tractors subject to the alleged hazard, provision of the gas cap to dealers, notification of owners of affected tractors as to alleged safety hazards in their operation and the availability of a fix, and follow-up notification in various farm journals.²

Harvester has completed work on the gas cap and is about to distribute it. After being contacted by FTC staff in August, 1980, Harvester adopted various of their suggestions as to the text of a warning letter to be sent to consumers, and mailed more than 600,000 such letters in mid-August. The letters to consumers promise them a free gas cap in exchange for the one presently on their tractors. The letters to Harvester dealers commit Harvester to a follow-up program of media publicity for its replacement program. Given the advanced state of its

increase in the volatility of tractor fuels. All of these asserted considerations may bear upon whether fuel geysering in IH tractors is actually a "safety hazard" and upon whether IH was under any legal obligation to take the steps that it has. While I do join in the Commission's "reason to believe" determination, I also believe that the case is somewhat closer than the necessarily bare-bones assertions in the complaint may suggest.

² While my review of the evidence indicates to me that all of the aforementioned elements were contemplated in the program that Harvester officials began planning in Spring, 1979, I can find no evidence to indicate that they planned to relate the generalized safety message of "gasoline fire hazards" to specific incidents of fuel geysering in early model Harvester tractors. Drawing such a connection, of course, might well increase significantly the seriousness with which any warning would be regarded. Such a connection is drawn in the letters actually mailed by Harvester in August, 1980. To the extent that this may be a product of suggestions by FTC staff members, I think that they are to be commended for this, and for any other changes Harvester may have made in its program in response to staff suggestions. But given that Harvester was in a position to complete the details of an acceptable remedial program within so short a time of FTC intervention I cannot agree that the Commission's involvement necessitates an order.

program, the [3] large investment already made in it, and the commitments publicly undertaken by Harvester in letters to hundreds of thousands of consumers and nearly two thousand dealers, I find no credible basis for doubting that Harvester will complete those steps of its remedial program that have yet to take place.

In the ordinary Commission case, the bulk of what constitutes adequate relief consists of requirements that a company "go and sin no more." In those cases, it is quite reasonable for the Commission to insist that the company's future compliance be guaranteed by an order to cease and desist, carrying with it substantial civil penalties if violated. Relief in such cases consists not of expenditures made in the present but of abstinence from certain acts stretching far into the future. There can clearly be no guarantee that relief of this sort will be achieved without the financial deterrent of an order.

This case is different. Regardless of what one may think of IH's motivations in undertaking its gas cap program, it seems to me that it has been undertaken (long before the Commission intervened) and is now in its final stages. There is no conclusion to question whether an order is needed to secure effective relief; that relief is largely secured. In what way, then, will the substantial expenditure of funds that any litigation entails benefit consumers in this case?³

It might be argued that it sets a poor precedent and undermines law enforcement efforts in other cases for the Commission not to place under order a respondent that has allegedly violated the law in a serious way. So far as I can see, however, the only precedent established by not litigating this case would be that anytime the Commission begins an investigation and finds that the investigated party has long had underway a remedial program which it conforms to FTC standards immediately upon being first contacted by FTC staff, the Commission will not insist that the provision of such relief to consumers be celebrated by the issuance of an order to cease and desist. Far from being an occurrence to dread, such immediate voluntary compliance strikes me as an occurrence to welcome. I would gladly see the Commission issue fewer orders if that meant more immediate but still effective relief for the victims of alleged safety hazards.⁴ [4]

Where effective relief is achieved by a company without substantial Commission involvement, the Commission must seriously consider

³ The Notice of Contemplated Relief attached to the Commission's complaint does indicate that the Commission may order that IH desist from failing to notify of any future hazards in its tractors, if it is found in violation of Section 5. The Commission has not, however, routinely insisted upon such prospective orders in cases of this kind for various reasons, and in this case such relief seems unnecessary.

⁴ It may be argued that the violation alleged here has continued for many years, and was remedied by IH for other than eleemosynary reasons. Assuming *arguendo* that this is true, it seems to be irrelevant. The only proper purpose of a Commission order is to relieve. The past conduct of an alleged violator may be probative of whether it can be expected to undertake voluntary remedial steps in the future absent an order. But where expensive relief has *already* been undertaken, I cannot see how it makes any difference to any proper concern of the Commission's whether the violation has been long-lived or not.

conserving its scarce resources for cases where they will do more good. In my opinion, the lawsuit being undertaken today will do little or nothing to augment the protections already being afforded owners of IH tractors, nor will it serve to vindicate any broader principle of sound law enforcement that I can discern. Therefore, I would make public what has transpired but not issue the complaint.

October 10, 1980

INITIAL DECISION BY

JOHN J. MATHIAS, ADMINISTRATIVE LAW JUDGE

JULY 16, 1982

PRELIMINARY STATEMENT

The Complaint in this matter was filed on October 10, 1980, and charged International Harvester Company (IH), a corporation engaged in the design, manufacture and marketing of agricultural equipment, including tractors, with failure to disclose material facts to operators of tractors which it manufactured, in violation of Section 5 of the Federal Trade Commission Act, as amended (Complaint, ¶ 10).

The gravamen of the charges against respondent is that gasoline-powered tractors which it manufactured since 1939, having the fuel tank located in front of the operator and between the operator and the engine, are subject to a safety hazard which has been termed "fuel geysering." It is alleged that in all of such tractors "the location, and in some cases the shape of the fuel tank, . . . subjects the tank to fuel [2] heating and vaporization causing pressure build-up in the fuel tank during normal operations." It is further alleged that "[i]f the fuel cap is dislodged or removed while the tractor is hot or running, fuel vapors and liquid fuel can shoot or geyser" out of the fuel tank "spraying the operator or the tractor with gasoline which can, and has, spontaneously ignited." Such phenomenon, it is alleged, can and has resulted in serious injury, and even death, is not reasonably to be expected by "many operators," and is, therefore, a "safety hazard" (Complaint, ¶ 5).

It is further alleged that respondent was aware of this problem in 1958, or earlier, and failed to adequately disclose the facts concerning "the nature or extent of injuries due to fuel geysering and steps which might be taken to prevent injury or death." It is charged that if the facts concerning pressure build-up and fuel geysering had been known by many operators it "would likely affect their decisions con-

cerning the use or care of agricultural equipment manufactured by respondent. . . .” As to prospective purchasers of new or used tractors manufactured by respondent, it is urged that if they knew such facts it might affect their decision to purchase that equipment. It is therefore alleged that respondent’s failures to disclose this information constitute deceptive or unfair acts or practices or unfair methods of competition in or affecting commerce (Complaint, ¶ 8).

The Complaint does not allege that respondent’s gasoline-powered tractors were defective, nor does the Complaint charge that respondent’s tractors represented anything other than the state of the art in the design and manufacture of tractors for farm use during the periods when they were manufactured.

Respondent generally denies the allegations of the Complaint, but it admits that incidents alleged to have involved fuel geysering have occurred on IH tractors and that injuries and one death have occurred in such incidents. It specifically denies, among other things, that fuel geysering can occur during the normal operation of its tractors, that such incidents are numerous, and “that fuel geysering can or will occur on any IH gasoline-powered tractor if the operator securely tightens the cap, the gas cap is in reasonable working order and the operator abides by the basic safety instruction not to remove the gas cap when the engine is running or hot.” It admits that if fuel geysering does occur, it is a safety hazard (Answer, ¶ 4). It also raises a number of affirmative defenses in its answer, which range from contesting the Commission’s jurisdiction to allegations that the proceeding is moot. [3]

The principal issues presented for hearing were:

1. Does fuel geysering occur on IH gasoline-powered tractors due to pressure build-up which occurs during the normal operation of such tractors?
2. Are there basic safety rules which, if followed, would prevent fuel geysering?
3. Were those basic safety rules so obvious and well-known that all operators of gasoline-powered tractors should have been aware of them and followed them?
4. Under the circumstances revealed by the evidence, was respondent’s knowledge of alleged fuel geysering incidents and the phenomena which could give rise thereto, such that it imposed a duty on IH to disclose this safety hazard to users and prospective users of its gasoline-powered tractors?
5. If there was a duty to disclose, did IH’s actions at any particular point in time discharge that duty under the conditions existing at the time?

FEDERAL TRADE COMMISSION DECISIONS

Initial Decision

104 F.T.C.

6. Have the users of IH's gasoline-powered tractors now been adequately warned of the safety hazard of fuel geysering?

7. Has there been a violation of Section 5 of the Federal Trade Commission Act and, if so, what, if any, kind of order is required?

The hearing in this matter commenced on Tuesday, October 13, 1981, and the record was closed on Friday, February 26, 1982. During the course of their case-in-chief and rebuttal complaint counsel called 26 witnesses and introduced well over 300 exhibits into evidence. Respondent in its defense called 24 witnesses and introduced into evidence about 200 exhibits. The hearings consumed a total of 34 trial days and 5662 pages of transcript.

This initial decision is based upon the entire record including proposed findings of fact and conclusions of law and supporting memoranda filed by the parties, as well as their replies. I have also taken into account my observation of the witnesses who appeared before me and their demeanor. Proposed findings not herein adopted, either in the form submitted or in substance, are rejected either as not supported by the evidence or as involving immaterial matters. [4]

The findings of fact include references to supporting evidentiary items in the record. Such references are intended to serve as guides to the testimony and exhibits supporting the findings of fact. They do not necessarily represent complete summaries of the evidence supporting each finding. The following abbreviations have been used:

- Tr. - Transcript, preceded by the name of the witness and followed by the page number.
- CX - Complaint Counsel's Exhibit, followed by its number and the referenced page(s).
- RX - Respondent's Exhibit followed by its number and the referenced page(s).
- CF - Complaint Counsel's Proposed Findings.
- CB - Complaint Counsel's Memorandum Of Law In Support Of Proposed Findings.
- RF - Respondent's Proposed Findings.
- RB - Respondent's Memorandum Of Law In Support Of Proposed Findings.
- CRF - Complaint Counsel's Reply To Respondent's Proposed Findings.
- CRB - Complaint Counsel's Reply Brief.
- RRF - Respondent's Reply To Complaint Counsel's Proposed Findings.
- RRB - Respondent's Reply Brief.

FINDINGS OF FACT

I. THE RESPONDENT

1. International Harvester Company is a Delaware Corporation with its executive offices located at 401 North Michigan Avenue, Chicago, Illinois. Respondent is engaged in the design, manufacture, and marketing of three major product [5] lines: agricultural equipment, construction machinery and highway trucks. IH and its corporate predecessors have been major suppliers of farm machinery since the 1840's. Its agricultural equipment line includes, among other things, tractors (Complaint and Answer, ¶¶ 1, 2; Colwell, Tr. 3635; McCormick, Tr. 1492-93; RX 49, p. 153).

2. IH built its first farm tractor in 1906. Since then it has been a pioneer in the development of the agricultural tractor. In 1939, it introduced a new gasoline-powered tractor, the Farmall "M", which was geared to modern power farming and gave the farmer the capacity to perform a wide variety of farming tasks by mounting different power-driven implements on his tractor. The Farmall line also included the model "A" and "H" tractors. These basic models, with some improvements over the years, were IH's primary farm tractors through 1954. Beginning in 1955, IH also marketed a line of utility tractors. The utility tractors had a lower profile and were closer to the ground. They were suitable for many farming chores. Since the mid-1950's respondent has built many different models of tractors, generally of increasing size and horsepower (RX 49, pp. 154-62; RX 89H-I; Coleman, Tr. 963, 967, 1051, 1318-20, 1329-36; Link, Tr. 1995; Borghoff, Tr. 4000-02).

II. COMMERCE

3. IH distributes and at all relevant times distributed, agricultural equipment including tractors and accessories and parts therefor through its independent dealer organization. In the late 1940's there were 7000 dealers in North America (including Canada), but the overall number of dealerships has since declined and the dealerships have become larger. As of today there are about 2000 of such dealers in the United States and Canada. Respondent also sells its agricultural equipment through a few company-owned retail stores. As of October 1980 there were 10 of such company-owned stores. These were located in the states of New York, Alabama, Mississippi, Kansas, Oklahoma and Texas (RX 220; Gast, Tr. 3749-50; Hartzell, Tr. 2950-51; Hill, Tr. 3834; Allen, Tr. 3684; *Affidavit of James R. Fruchterman, attached to Motion to Dismiss for Absence of Conduct in Commerce*, February 6, 1981).

4. IH causes the agricultural equipment, including tractors, accessories and parts to be shipped from the place of manufacture to independent dealerships and its own retail stores in the various states, including states other than the place of manufacture. Such tractors, accessories and parts are then sold by the dealerships and the company-owned stores to customers in their respective sales areas. The number of gasoline-powered [6] tractors manufactured and sold by IH declined precipitously in the 1970's. Respondent has not manufactured and shipped any gasoline-powered tractors since 1978. It does continue to print owner's manuals and supply accessories and parts for the tractors which have gone out of production and distribute these through the normal distribution channels in interstate commerce. It also prints, and distributes interstate, parts catalogues for such tractors, which parts catalogues are sent through its mailing list to farmers in the various states urging them to purchase parts and equipment through the dealerships and stores (Complaint and Answer, ¶¶ 3, 4; CX 219A-B; CX 221; CX 269; CX 269-Z-96; CX 270K; CX 272K; CX 351; RX 5 (p. 7); RX 26 (p. 16); RX 26 (p. 29); RX 89H-I; RX 211; RX 220; Bennett, Tr. 3161, 3240-41; Lirtzman, Tr. 4707-09).

5. It is alleged in the Complaint that a substantial number of respondent's gasoline-powered tractors "may still be in use and be subject to resale by respondent [through its company-owned retail stores] or its dealers." The only evidence in the record concerning the sale of used gasoline-powered tractors in IH's company-owned stores is an affidavit of James R. Fruchterman, reporting on a survey of the 10 company-owned retail stores made in the Fall of 1980, which showed that as of October 21, 1980, there were, collectively, five used gasoline-powered tractors in inventory in said stores. No other evidence was introduced by complaint counsel to show any other course of dealings in such tractors by the company-owned stores. Therefore, respondent's dealings in used tractors must be considered *de minimis* (*Affidavit of James R. Fruchterman, attached to Motion to Dismiss for Absence of Conduct in Commerce, February 6, 1981*).

6. However, based on the evidence cited in Findings 3 and 4 above, I find that respondent has, at all times relevant to the Complaint, been engaged in a substantial course of trade or commerce, as defined in the Federal Trade Commission Act, with respect to the tractors which are the subject of the Complaint (*See also, RX 89H-I*).

7. In the course and conduct of such business in commerce, at all times relevant to the charges of the Complaint, respondent IH has been and is now in substantial competition in commerce with corporations, firms and individuals engaged in the manufacture, sale and distribution of agricultural equipment, including tractors (RX 49A; Coleman, Tr. 1321-23).

INTERNATIONAL HARVESTER CO.

949

Initial Decision

III. RESPONDENT'S GASOLINE-POWERED TRACTORS

8. The evidence in this case was limited to respondent's gasoline-powered tractors over 25 horsepower used in farm [7] operations, the fuel tanks of which were located between the engine and the operator. This excludes all tractors designed for home use and industrial tractors, as well as a number of gasoline-powered tractors which IH manufactured in the later part of the complaint period, which had the fuel tank located behind the operator (*Order Respecting Complaint Counsel's Subpoena Duces Tecum*, January 21, 1981; RX 89H-I; CX 221). The model designation of the tractors in issue, as well as the years during which they were built are as follows:

Model	Years Built
A, AI, AV, B, SA, SAI, SAV	1939-1955
100 and 130	1955-1957
140	1958-1978
C and SC	1948-1954
H, M, SMTA, W-4, W-6, SH, SM, SW-4, SW-6	1939-1954
200	1954-1955
F-230	1957
F-300	1955-1956
I-300	1955-1956
F-400	1955-1956
I-400	1955-1956
I-350	1957-1958
F-350	1957-1958
I-330	1956
F and I-240	1958-1961
F and I-404, 2404	1962-1967
424, 2424	1956-1967
444, 2444	1968-1971
F-450	1956-1958 [8]
I-450	1956-1958
I-340	1958-1963
F-340	1958-1963
I-504, 2504	
2500 Constructall	1963-1967
I-600	1956
I-650	1957
F-504	1960-1967
I-460	1958-1963
F-460	1958-1963

FEDERAL TRADE COMMISSION DECISIONS

Initial Decision

104 F.T.C.

<u>Model</u>	<u>Years Built</u>
F and I-560	1958-1963
I-660	1958-1963
I-606	1964-1967
F-544	1968-1973
I-544, 2544	1968-1973
I-656, 2656	1968-1973
F-656	1965-1971
F and I-706, I-2706	1963-1967
F and I-806, I-2806	1963-1967
F and I-856, I-2856	1967-1970
F-666, Hydro 70	1972-1975
686, Hydro 86	1976-1978
F-766	1971-1976
F and I-826, I-2826	1969-1971
F and I-756, I-2756	1967-1970
(RX 89H-I). [9]	

The models preceded by the letter "F" are of the Farmall line, while those preceded by the letter "I" are of the utility line of tractors (Coleman, Tr. 1051, 1329-31). During the period 1939 to 1978, IH built a total of 1,363,063 of the tractors listed above (RX 89H-I).

9. Although all of the tractors listed in Finding 8, above, had the fuel tank located between the operator and the engine (CX 219A-U; CX 221A-C; Coleman, Tr. 971-72), where were substantial differences in design and horsepower among such tractors (CX 219A-U; Link, Tr. 1995). However, within the above list, various of the tractors can be grouped together with respect to their design, insofar as the type of fuel tank and its location in relation to the engine and operator's seat are concerned. The first seven tractors and groups of tractors listed above, down through F-230, had the same teardrop fuel tank, not covered by the hood, located in the same location between the engine and the operator's seat, (CX 219A; CX 221A; Coleman, Tr. 971), except that the 4 and 6 models in the fifth group have a different seat location (CX 219A). The 240 model is essentially the same as the 340. Models B-275, B-414, 404, 444 and I-504 are essentially the same as Model 424. The I-300 and 330 are essentially the same as the I-350 and the F-300 is essentially the same as the F-350. F and I-400's are essentially the same as the F-450. The F-460 is essentially the same as the F-560, and the I-460 as the I-560. Models I-544 and I-606 are essentially the same as the I-656. The F-666, 686, the Hydro 70 and Hydro 86 are essentially the same as the F-656. The F-504 is essentially the same as the F-544. Models 766 and 826 are essentially the same as Model 756. The I-806, I-856 and I-756 are essentially the

same as the I-706. The 600 and 650 are essentially the same as the "M", and the 660 is the same as the 560, except for the seat location (CX 219A-U).

IV. FUEL HEATING, VAPORIZATION AND PRESSURE BUILD-UP

10. In all of the tractors listed in Finding No. 8, above, the location of the fuel tank subjects it and the gasoline within it to additional heat from the engine during the normal operation of the tractor. This is due both to the radiator fan blast and radiation from the engine.¹ (Creighton, Tr. 2245; [10] CX 43C-D; CX 47; CX 51; CX 55 through 58). Most of the models of IH gasoline-powered tractors where the fuel tank is enclosed by a cowl also include a heat shield which lowers the fuel tank temperatures somewhat. The heat shield is designed to deflect the radiator fan blast away from the tank. However, this shield primarily delays the heating process. The fuel tanks which are so equipped still suffer from temperature rise well above the ambient temperature, when the tractor is operated for a substantial period of time (Link, Tr. 2025-26; Den Besten, Tr. 1794; CX 19B, CX 46A; CX 48D; CX 51A-B; CX 55D; CX 56D-E; CX 58B; CX 81A-B; CX 382A-C).

11. The heat from the engine reaching the fuel tank can increase the temperature of the fuel as much as 65° F. above that of the ambient air (CX 16D-E; CX 17A-B; CX 19A-B; CX 43Q; Coleman, Tr. 1069, 1072, 1076; Den Besten, Tr. 1805; RRF 90). Engine heat can increase fuel temperature by 69° F. in three hours, even when the tank is equipped with a heat deflector (CX 382A-C; RRF 90). Even after the engine is stopped, fuel tank temperatures may continue to rise for a time, because of the residual heat stored in the engine (CX 79B; CX 379, Ziskal Dep., pp. 104-105; Coleman, Tr. 1209-10; RRF 90).

12. As the temperature of the gasoline in the fuel tank rises, it begins to vaporize. Gasoline is a blend of various hydrocarbons beginning with those with four carbon atoms, up through hydrocarbons with 9 or 10 carbon atoms. Those hydrocarbons with the lowest number of carbon atoms, the butanes and pentanes, are known as the "light ends." These "light ends" have a dominant influence on fuel volatility. The "light ends" begin to vaporize at about 95-97° F. (Creighton, Tr. 2271-72; Hurn, Tr. 3899-3900; CX 379, Ziskal Dep., pp. 27-34).

13. When the gasoline in the tank vaporizes more rapidly than it can be vented by the cap, pressure builds up in the fuel tank (CX 16D-E; CX 17; CX 19A-B; CX 43Q; CX 44A; CX 55B; CX 58; CX 64A; Creighton, Tr. 2207; RRF 93).

14. Other things also have an effect on the degree to which pressure

¹ The radiator fan blast is a stream of hot air blown away from the engine by the radiator fan (Creighton, Tr. 2245).

is built up in the fuel tank. Agitation of the fuel, which occurs during normal operations as the tractor is driven over rough ground, can temporarily increase pressure in the fuel tank as much as 50% to 100% (CX 46C; RX 32, p. B-80; Creighton, Tr. 2251-53; Coleman, Tr. 1174-75). The shape and size of the fuel tank can also affect fuel heating and fuel pressure (RRF 97). Heat and consequent pressure build-up are also affected by external conditions. The velocity and direction of the wind and radiant heat from the sun can have an important effect on the temperature of the fuel and the resultant pressure build-up in the fuel tank (Creighton, Tr. 2253-54; Coleman, Tr. 1010; RRF 98). Although pressure build-up can occur at widely disparate temperature ranges of the outside air, the [11] ambient air temperature can also play an important part in raising the temperature of the fuel in the tank, and, consequently, the pressure within the tank (CX 208J; Hartzell, Tr. 2963-64). Some equipment or accessories mounted on the tractor, such as corn pickers, heat housers and front end loaders, tend to trap heat near the engine and fuel tank and can also be factors in raising the temperature of the fuel and causing pressure build-up (CX 379, Ziskal Dep., pp. 29-30, 41).

15. Fuel volatility is also a very important factor in pressure build-up in the fuel tanks of these tractors. A more volatile fuel is more hazardous because it has an increased tendency to form vapors and the more vapor that is discharged into a contained vessel at any given temperature, the greater the potential for pressure build-up within the container. There is also more opportunity for fire with a fuel of higher volatility (Hurn, Tr. 3935-36). Gasoline volatility has been generally increasing since the 1930's (Hurn, Tr. 3924, 3957, 3967). For example, the volatility of gasoline produced in the Spring in the Midwest has increased by 20% during the period 1965 to 1980 (CX 153).

16. The volatility of fuel is also greatly affected by the practice of refiners to produce different blends of gasoline for the different seasons of the year. Winter fuel is more volatile in order to improve starting capability (Hurn, Tr. 3899-3902). However, pressure build-up in the fuel tanks of the tractors at issue can occur even when summer-grade gasoline is used (Hartzell, Tr. 2979).

17. Other factors can also affect the amount of pressure build-up in the fuel tank of these tractors. The venting capacity of the fuel cap can affect the pressure in the tank. If the vent hole is plugged with dirt, or missing, then vapor cannot escape from the tank at all and pressure build-up is greatly increased (CX 38; CX 49B; CX 68; CX 69B; Reed, Tr. 3027-28). Tractor maintenance can also play an important part in increasing the temperature to which the fuel tank is subjected and, thus, the pressure build-up within it. A poorly maintained trac-

tor may expose the fuel tank to a greater amount of heat (RX 220B; Bennett, Tr. 3187; Allen, Tr. 3690-91).

18. Some of the symptoms which accompany the pressure build-up in the fuel tanks of the IH tractors are: boiling of the gasoline in the fuel tanks (Coleman, Tr. 1069, 1072; Nichols, Tr. 2092; CX 24A; CX 27B; CX 44A; CX 45A; CX 90; CX 112; CX 163A; CX 171B); a hissing sound created by the gasoline vapors escaping through the vent in the filler cap (CX 35A; Creighton, Tr. 2276; Didion, Tr. 673; Clowes, Tr. 1834-36; Cox, Tr. 830; Holtz, Tr. 718-19); "vapor lock" caused by fuel vaporizing in the fuel line or carburetor, which can cause the [12] engine to sputter or "die" (CX 35; CX 80; RX 25Y; Creighton, Tr. 2777); surging of the engine, because the pressure forces too much fuel into the carburetor (Coleman, Tr. 1015-16; Creighton, Tr. 2295); stalling of the engine due to flooding, when the pressure forces too much fuel into the carburetor (Coleman, Tr. 1003); and gas squirting out of the vent hole of the fuel cap (CX 46A; CX 119A; CX 177; Coleman, Tr. 999-1000, 1004-05, 1012; Cameron, Tr. 401).

V. FUEL GEYSERING

19. When sufficient pressure has been built up in the fuel tank and it is suddenly released, such as when the gas cap is suddenly removed from a hot or running tractor, there may be a sudden ejection or expulsion of gasoline and gasoline vapors out of the filler neck. Such ejection or expulsion has sometimes been called "fuel geysering." As used in this case, the term "fuel geysering" has included varying degrees of fuel loss, ranging from a spray to a solid column of gasoline (Creighton, Tr. 2190; Coleman, Tr. 1077, 1140, 1337; CX 44; CX 250 through 254; CX 375A-B; RRF 86). Fuel geysering involves the release of energy accumulated in the liquid mass of the fuel as boiling is suppressed by built-up vapor pressure (Coleman, Tr. 1142).

20. Fuel geysering can occur when pressure exceeds 1 pound per square inch (psi) in the fuel tank (CX 46B). Tank pressures as high as 5 psi can be attained during the normal operation of one of the subject tractors (Hillstrom, Tr. 3553; Den Besten, Tr. 1805; CX 44A-B; CX 46A-P; CX 55A-B; CX 56A; CX 57A; CX 58A-B; Findings No. 66, 69, 71, 76-80, 82-83, 85, 88, 96, 99-101, below).

21. Geysering is affected by the level of fuel in the tank. Generally, fuel tank pressure follows a curve in which it increases gradually to a peak, then decreases as more of the fuel is used up (CX 57F-H; RX 267M-N; CX 379, Ziskal Dep., p. 27; Coleman, Tr. 1681; RRF 103).

22. Fuel geysering is the result of a combination of circumstances involving pressure build-up, fuel temperature, the amount of fuel in the tank and the sudden release of the pressure in the tank (Reed, Tr. 3024-30; RRF 103; Findings No. 19-21 above). Respondent admits

that under some combination of circumstances fuel geysering could occur on all of the IH gasoline-powered tractors listed in Finding No. 8, *supra* (CX 216D; RRF 86, 103).

23. A "fuel geyser" can result in the expulsion of a stream of vapor and liquid fuel to a height well above the tractor and its operator (Buatte, Tr. 149; Cameron, Tr. 401; Didion, Tr. 675). Fuel gushed 20 feet high and fuel loss was seven [13] gallons, when IH tested one of its production tractors at a fuel tank pressure of 2 psi with the tank 3/4 full (CX 46B). One farmer who experienced fuel geysering said, "It was frothy-looking—it appeared to be like a frothy-looking orangeish white mass, and it just went up like that" (Cameron, Tr. 402). Another described the release of pressure when he removed the cap by stating, "You couldn't put any more pressure in there with an air hose. . . ." (Shawback, Tr. 583). Other farmers tried to put the cap back on the filler neck, but were unable to because of the pressure (Great-house, Tr. 201).

24. The fuel expelled from the tank may fall on the operator soaking him with gasoline (CX 28; Buatte, Tr. 148-49; Cameron, Tr. 400-02; Shawback, Tr. 582). Even if the fuel does not spray directly on the operator, he can be burned if it ignites (Kangas, Tr. 489-93; Great-house, Tr. 201-02).

25. The fuel which is ejected from the tank of a hot or running tractor can ignite in several ways. Fuel ignition can occur if the tractor is hot (CX 29D). The auto ignition temperature of gasoline (that is, the temperature at which gasoline will ignite without a spark or an open flame, also known as spontaneous ignition) is 800°-860° F. The exhaust manifold of the tractor can reach temperatures as high as 1,200° F. Other sources of ignition include: sparks from the commutator brushes on the generator, or from the muffler (CX 28D; CX 36H; CX 379, Ziskal Dep., pp. 46, 49; Coleman, Tr. 1211; RX 27-4; Creighton, Tr. 2280-85, 2292-94), and bits of dirt and chaff which can get on hot parts of the tractor during operation and serve as sources of ignition (Sullivan, Tr. 5138; CX 379, Ziskal Dep., p. 42). Ignition will not occur every time liquid gasoline comes in contact with a hot or running tractor, but it is always a possibility (Creighton, Tr. 2292-94).

26. Ignition can occur almost simultaneously with the release of fuel. One witness testified that:

... [w]hen I opened the gas cap up, gas shot in the air. It said "Whoosh" and gas went about two and a half, three feet. Then I tried forcing the cover back on, but it was all engulfed in flames right away, as soon as the gas came out. (Wholetz, Tr. 634.)

Wayne Shawback said:

Well, the minute I got sprayed with gas, I reached for the switch to shut the motor off. But that time, it had ignited. I was one ball of fire. (Shawback, Tr. 583). [14]

27. Fuel geysering can result in serious injury, and even death. It is undisputed that Charles Kraus died as a result of a fuel geysering incident in 1978 (CX 308; Creighton, Tr. 2237-39; Bennett, Tr. 3356-57). Eleven other incidents about which there was testimony at trial resulted in serious injury (Buatte, Tr. 149; Greathouse, Tr. 208-10; Cameron, Tr. 405-09; Kangas, Tr. 489-93; Shawback, Tr. 584-85; Wohletz, Tr. 635; Didion, Tr. 675; Holtz, Tr. 720; D. Jolicoeur, Tr. 765; S. Jolicoeur, Tr. 818-19; Cox, Tr. 832; Clowes, Tr. 1838). In one incident related at trial, the operator escaped relatively uninjured, but the fuel exploded and the tractor was heavily damaged (Guynn, Tr. 890, 903-04, 908-09; CX 265; CX 266; CX 267). IH acknowledges that one, perhaps two, additional deaths have occurred in "alleged" fuel geysering incidents (*Answer*, ¶ 5; CX 220A-K; *Supplemental Memorandum in Opposition to Complaint Counsel's Motions for Leave to Submit Additional Evidence on the Issue of Public Interest*, July 21, 1981, pp. 9-11).

28. Although a number of fuel geysering incidents did not involve personal injury, those which did often resulted in extremely serious burns, disfigurement and permanent impairment (Buatte, Tr. 175; Greathouse, Tr. 208-10; Cameron, Tr. 405-09; Wohletz, Tr. 635; Didion, Tr. 675; Holtz, Tr. 720-21; S. Jolicoeur, Tr. 818-19; Cox, Tr. 832-33; Clowes, Tr. 1837-38).²

29. The record contains evidence of more than 90 alleged fuel geysering incidents involving respondent's tractors which occurred from the mid-1950's through August 1981 (CX 24A; CX 48D; CX 53; CX 220; CX 409; CX 410; Sullivan, Tr. 5159; Rezek, Tr. 3102; Nichols, Tr. 2092-93; Clowes, Tr. 1840). Moreover, one early report (1955) simply states that complaints had been received by IH "stating the owners were sprayed with gasoline when removing the fuel cap due to pressure build-up in the fuel tank" (CX 19A). Obviously this indicates more than one occurrence, but whether it represents many, or few, cannot be determined. Then too, some of respondent's files on early incidents were lost or discarded, so it is possible that some [15] fuel geysering incidents which were reported to IH are not identified on this record (Bennett, Tr. 3289-90, 3323-25; CX 44A; CX 48D). Some fuel geysering accidents were not reported to respondent (Bennett, Tr. 3361-64; CX 440; RX 254A-H), and others are reported years after the occurrence (CX 379, Ziskal Dep., p. 84; CX 440). Therefore, the num-

² I curtailed complaint counsel's examination of injured witnesses in an off-the-record discussion with counsel, very early in the hearings, since it obviously caused some of the witnesses mental anguish to testify as to the extent of their injuries and since such testimony was unnecessary. It was obvious from seeing some of the witnesses that they had been severely injured and disfigured.

ber of fuel geysering incidents established on the record herein cannot be considered a complete enumeration of all such accidents.

30. Respondent points out in its Reply to Complaint Counsel's Proposed Findings that CX 220, an affidavit of an IH official and a supplement thereto, which is the principal listing of alleged fuel geysering incidents in this record, contains as many as four accidents which did not involve "fuel geysering," but rather involved fuel "spurts" (gas squirting through the vent hole) (RRF 119). Such fact does not materially affect the number of fuel geysering incidents as listed in Finding No. 29, above. Further, respondent urges that a number of the other accidents reported as "fuel geysering" may not have involved that phenomenon. However, I find that the weight of the evidence establishes that all of the incidents to which there was direct testimony offered herein by operators involved in such accidents, with the exception of the Killingbeck incident, were "fuel geysering" incidents (Buatte, Tr. 146-82; Greathouse, Tr. 183-235; Cameron, Tr. 352-448; Kangas, Tr. 477-568; Shawback, Tr. 569-611; Wohletz, Tr. 624-59; Didion, Tr. 662-707; Holtz, Tr. 709-43; D. Jolicoeur, Tr. 752-811; S. Jolicoeur, Tr. 812-21; Cox, Tr. 823-39; Guynn, Tr. 870-941; Clowes, Tr. 1825-70; Nichols, Tr. 2085-2117). In addition, the weight of the documentary evidence of record indicates that fuel geysering was definitely involved in the Bedke, Binder, VandenHoek, and Ostendorf accidents (CX 28A-G; CX 40; CX 144A; RX 262). Based on these established cases of fuel geysering and respondent's admissions that the other incidents counted in Finding No. 29, *supra*, were alleged fuel geysering incidents (with the exception of as many as four, as mentioned above), I can only draw the inference that all of the accidents referred to in Finding No. 29 actually involved "fuel geysering" (RRF 119, 120).

31. Of the fuel geysering incidents established in the record: more than seven were reported to IH which occurred during the latter half of the 1950's (over four of these were prior to May 1958) (CX 19A; CX 220); at least 25 were reported to respondent as occurring in the 1960's (CX 24A; CX 48D; CX 220);³ at least 30 were reported which occurred in the [16] 1970's (CX 220); at least 24 were reported which occurred in 1980 and 1981 (CX 220); and at least seven were reported whose date of occurrence is unknown (CX 220)).⁴

32. Under the definition of "fuel geysering" adopted herein, gasoline and gasoline vapors are expelled or ejected out of the fuel tank

³ CX 48D mentions that 11 of such incidents were reported in connection with IH's 460 and 560 tractors (manufactured from 1958 to 1963) by the date of the meeting reported therein—March 4, 1961. No date or other information is given regarding these incidents. Since they certainly occurred in the late 1950's or early 1960's, all are credited to the 1960's.

⁴ These include as many as four "spurting" incidents (RRF 119). However, since the figures for the 1950's do not take into account all of the incidents referred to in CX 19A and CX 44A, which allude to "field complaints" and "field reports," the total number of incidents established on the record is undoubtedly still over 90.

filler neck when the fuel cap is removed or dislodged (Complaint ¶ 5; Finding No. 19, *supra*). The weight of the evidence in this record establishes that a *properly secured* fuel cap cannot be dislodged or "blown off" (CX 27A-E; CX 46A-R; CX 67A-B; CX 68A; CX 69A-C; CX 108A-F; CX 109A-F; *Concessions of complaint counsel*, Tr. 2362, 2408, *Transcript of telephone conference* of May 7, 1982). The weight of the evidence also establishes that the fuel cap can be removed or dislodged if the operator physically removes it (CX 116), or if an improperly secured cap vibrates off during the operation of the tractor (*see* Finding No. 33, below).

33. The only inference I can draw from this record is that an *improperly secured* gas cap can vibrate off a running tractor. (This includes the situation where the cap or filler neck are so poorly maintained that the cap cannot be properly secured). Several witnesses appeared before me and testified that the fuel cap came off while their tractor was running, without their having touched it (Buatte, Tr. 147-49; Cameron, Tr. 401, 404; D. Jolicoeur, Tr. 763-66; Guynn, Tr. 889-99). I find no basis to doubt their credibility.⁵ At the same time, I am precluded by this record, including complaint counsel's [17] concessions, from finding that a properly secured gas cap can "blow off" one of respondent's tractors (*See* Finding 32). However, an expert who testified for respondent in connection with private litigation concluded that an improperly secured fuel cap can vibrate off a running tractor (RX 262J; CX 291H-I; *see also*, CX 28A, CX 52A and Answer ¶ 5) and other evidence indicates that a fuel cap or filler neck might be so poorly maintained by a tractor owner that the cap fits loosely on the filler neck (Cameron, Tr. 442; Nelson, Tr. 4389; Sullivan, Tr. 5120, 5126, 5128-30; Answer ¶ 5), thus giving rise to the inference that the fuel cap might vibrate off under such circumstances. This evidence, coupled with the testimony of Messrs. Buatte, Cameron, Jolicoeur and Guynn, as well as evidence from IH's files that others have made similar claims of blow-offs (CX 28A; CX 44A; CX 61A; CX 119A), gives rise to the inference that a fuel cap can vibrate off the tractor under these conditions and that a fuel geyser might result if the other causal factors are present.

34. There is a reasonable likelihood that the fuel cap on one of respondent's gasoline-powered tractors may be removed or dislodged when the tractor is hot or running. The number of fuel geysering

⁵ For example, respondent contends that Mr. Guynn must have removed the fuel cap and placed it on the right fender, since the physical evidence shows it sat there during the fire (RRF 138). However, it is not beyond belief that a fuel cap blown off a tractor and up into the air might come back down and land on the tractor in an upright position. Since respondent can point to no other evidence to support its contention and Mr. Guynn was the only actual witness to the incident, I have no reason to reject his credibility on this point. Certainly, it is also difficult to perceive of a man who was on fire taking the time to set a fuel cap down before abandoning a burning tractor, notwithstanding the fact that he did have enough composure to first turn off the ignition. (Guynn, Tr. 889-99, 926). Respondent's contention, based on speculation, must therefore be rejected.

incidents which have occurred, while not great in relation to the number of tractors which IH has produced, is a strong indication of such likelihood (Findings 29, 30, 32 and 33). This is especially true for those model tractors which do not have fuel gauges. Mr. Coleman, a retired chief product development engineer for respondent, testified that he was sure that even some of the IH personnel at its test facilities had taken the cap off such a tractor (one without a fuel gauge) when it was running, in order to determine how much fuel was left (Coleman, Tr. 1446). Many of the earlier model tractors involved herein did not have fuel gauges (Coleman, Tr. 1446). [18]

35. Owners and operators of IH gasoline-powered tractors have different degrees of knowledge concerning scientific principles which affect the fuel systems of tractors and tractor operation. Some have advanced formal education in engineering-related areas (Greathouse, Tr. 184-85), while others have had no formal instruction concerning such principles (Cox, Tr. 824-25). Regardless of the amount of training they received, many owners and operators of IH gasoline-powered tractors consider themselves knowledgeable about tractor operation and fuel-handling procedures (Buatte, Tr. 152, 155, 157, 160; Greathouse, Tr. 189-90, 195, 202-05; Cameron, Tr. 357-58, 380-81; Shawback, Tr. 569-70; Wohletz, Tr. 627, 651; Didion, Tr. 667, 670-71, 684-85; Holtz, Tr. 711, 725-27; Guynn, Tr. 873-84, 920-22; D. Jolicoeur, Tr. 754-55, 785-86; S. Jolicoeur, Tr. 812-13; Nichols, Tr. 2086-88, 2091; Clowes, Tr. 1826, 1828, 1868-69; Killingbeck, Tr. 5266-67). IH itself recognizes that farmers are generally familiar with the operation of IH gasoline-powered tractors (Borghoff, Tr. 4141). In fact, IH is aware that many farmers do much of their own tractor maintenance work (RF 411; D. Jolicoeur, Tr. 756; Allen, Tr. 3690-91).

36. Despite their familiarity with tractors and tractor maintenance, however, many tractor owners and operators were not aware of the potential for fuel geysering if the fuel cap were removed or dislodged from a hot or running IH tractor (Greathouse, Tr. 206; Kangas, Tr. 557; Shawback, Tr. 604, 606, 609; Wohletz, Tr. 634, 644-45, 652; Didion, Tr. 700, 705-06; Holtz, Tr. 409-10; Drummond Test. in *Stambaugh* case, CX 285E; Gaul Test. in *Stambaugh* case, CX 286F-G; Borghoff, Tr. 4130; Sullivan, Tr. 5143-44).

37. Had the owners and operators of such tractors been aware of the potential for fuel geysering it might have affected their decisions to purchase new or used tractors of this type, or their manner of care and use of such equipment (Buatte, Tr. 156-57; Greathouse, Tr. 233; Kangas, Tr. 504-05; Shawback, Tr. 589; Wohletz, Tr. 644-45, 652-54; Didion, Tr. 680-81; Holtz, Tr. 722-23).

VI. RESPONDENT'S KNOWLEDGE

A. *The Farm Tractor Engineering Department*

38. Since 1946, the Farm Tractor Engineering Department has been responsible for the design, testing and development of IH gasoline-powered farm tractors (Coleman, Tr. 946-47, 949). Since its inception this department has tested both prototype [19] and production tractors, as well as experimental tractors (Coleman, Tr. 950, 958, 1181, 1203). In general, it was responsible for all testing done on farm tractors by IH, except for testing solely related to quality control (Coleman, Tr. 951-53). However, it did not test individual components such as engines, electrical systems, distributors, filters, etc., not installed on complete tractors. It dealt only with the complete vehicle. (Coleman, Tr. 952).

39. The Farm Tractor Engineering Department, headed by the Manager of Engineering, was composed of two basic groups, the Design Group and Test and Development. Each group was supervised by a Divisional Chief Engineer who reported to the Manager of Engineering, directly or through his assistant. (CX 313; Coleman, Tr. 1184, 1978). IH engineer Richard N. Coleman was in charge of the test and development function during most of the time relevant to this proceeding (Coleman, Tr. 944, 948, 950; RF 24).

40. The Test and Development Group worked in close conjunction with the Design Group. The Design Group often gave Test and Development assignments to work on. (Coleman, Tr. 1072-73). The Test and Development Group, in turn, reported any type of investigation that would require design action to the Design Group (Coleman, Tr. 1181). In addition, the Test and Development Group reported results on prototype tractors which were performed after a design had been committed to a prototype (Coleman, Tr. 1181). The Test and Development Group's work on production tractors was also reported to the Design Group, including those engineers in the Design Group who were working on designs far into the future (CX 1; CX 2; CX 7; CX 11; CX 17; CX 19; CX 20; CX 41; CX 42; CX 44; Coleman, Tr. 1026-27, 1033, 1073, 1083-85, 1094, 1159, 1171, 1178-79, 1182).

41. Among other things, the Test and Development Group conducted field investigations into field problems arising with IH tractors (CX 36; Coleman, Tr. 956-57, 1204). Any written reports of such investigations were circulated to various engineers and in most, if not all, cases to the Divisional Chief Engineer of Test and Development (Coleman, Tr. 957, 1204). In addition, the Design Group requested the Test and Development Group to investigate particular problems arising in the field (Coleman, Tr. 1203). The Test and Development Group was given similar assignments, on occasion, by the Manager of Engineering,

who followed such investigations closely (CX 28; Coleman, Tr. 1119, 1122, 1145, 1216). [20]

B. The 1940's And Early 1950's

42. In the early 1940's, IH received reports that "fuel spurting" was occurring on its gasoline-powered tractors (RX 3 and 4). "Fuel spurting" described the condition where a solid stream of gasoline was expelled from the vent hole in the gasoline cap (Coleman, Tr. 1337), as opposed to "fuel geysering" wherein fuel and vapors are ejected from the filler neck when the cap is removed or dislodged. At the time fuel spurting came to IH's attention, IH gasoline-powered tractors used a flat gasoline cap which had a 1/16th inch vent hole in the top to allow proper venting of gasoline vapors inside the tank (RX 3; RX 131; Coleman, Tr. 1002, 1006, 1343, 1647, 1695; CX 379, Ziskal Dep., p. 21).

43. "Spurting" occurred when the cap was fully in place on the filler neck and involved a combination of factors, primarily the sloshing of fuel in the tank and the exhaling through the vent hole of pressure built up in the tank (Coleman, Tr. 999, 1000). The sloshing of fuel caused the fuel to get up into the chamber on the underside of the cap, where it was forced out of the vent hole as the pressure in the tank was exhausted during the normal venting process (Coleman, Tr. 1000). The pressure in the tank was caused by increased fuel temperatures due to heat flow to the tank (CX 1; RX 162; RX 163; RX 169; Coleman, Tr. 999-1004). Fuel spurting was a very common occurrence on IH tractors during the 1940's and early 1950's (Coleman, Tr. 1337-38).

44. IH knew, even in the 1940's and early 1950's, that increased fuel volatility could increase the pressure within the gasoline tank of its tractors, leading to a greater incidence of fuel spurting (Coleman, Tr. 1007-08). IH found that fuel spurting was most likely to occur in the Spring and Fall seasons and in hot-weather operations (Coleman, Tr. 1032; CX 379, Ziskal Dep., pp. 22-23).

45. IH received many reports of fuel spurting between 1941 and 1954; with such reports increasing in the late 1940's and early 1950's (RX 3; RX 161; RX 175; CX 1; CX 2; CX 6; CX 64A; Coleman, Tr. 1346). IH recognized that fuel spurting was a hazard (CX 18; CX 64B; Coleman, Tr. 1601). IH knew that fuel spurting increased the risk of fire and that operators could be sprayed with gasoline (Coleman, Tr. 1004, 1018-19; CX 6B; CX 379, Ziskal Dep., pp. 22-23; RX 162). In fact, a fire was reported to IH as a result of fuel spurting on an IH gasoline-powered tractor in June 1950 (RX 160).

46. An engineering docket was opened to deal with the fuel spurting complaints involving the flat cap, and the Test and Development

Group was instructed to experiment with design alternatives (CX 1; Coleman, Tr. 1343). The engineering undertook [21] to duplicate the condition as reportedly experienced in the field (CX 1; Coleman, Tr. 1343-45). They then tested a host of different types of caps and experimented with fuel tanks containing a variety of internal baffling arrangements under the reported circumstances for the purpose of determining whether other designs would overcome fuel spurting (CX 1; RX 161; RX 163; CX 2; RX 166; CX 64A; Coleman, Tr. 1345).

47. In the course of their dealing with the fuel squirting problem, respondent's engineers were aware that the heating of the fuel in the fuel tank was causing pressure to build up in the tanks of the IH tractors (Coleman, Tr. 999, 1026; CX 379, Ziskal Dep., pp. 23-24).

48. By July 1954, IH developed and made available a fuel cap which reportedly eliminated fuel spurting by using a series of baffles in the cap (CX 64; Coleman, Tr. 1036). The cap was designed and tested by IH (CX 7; CX 11; CX 64; RX 17; RX 171; Coleman, Tr. 1405). The cap had the same size 1/16th inch vent hole used on previous production caps which vented through a hole in the top of the cap (Coleman, Tr. 1647, 1695). IH referred to the cap as the triple baffle cap (Coleman, Tr. 1037, 1393; Link, Tr. 1997; CX 64). IH believed, as a result of testing, that the triple baffle cap overcame fuel spurting and was otherwise satisfactory in field operation (CX 13). IH therefore marketed the triple baffle cap for use on all IH tractors, claiming it reduced fire hazards (CX 18; Coleman, Tr. 1040).

49. In 1954, when IH began marketing the triple baffle cap, IH knew that using the cap on IH gasoline-powered tractors did not lower the temperature of the gasoline in the tank to any significant degree (Coleman, Tr. 1040). IH also knew that the cap did not affect the rate of heat flow to the gasoline tank of IH gasoline-powered tractors (Coleman, Tr. 1041). IH further knew that the difference in either the rate of pressure build-up or the amount of absolute pressure in the tank was not great, as between the flat cap and the triple baffle cap (Coleman, Tr. 1046, 1398-1400; Sullivan, Tr. 5190).

C. 1955-1958

50. By 1955, reports of fuel geysering incidents began to come to respondent's attention (CX 19A). By this time IH also was conducting tests to determine the amount of pressure build-up in the fuel tanks of its tractors, factors which influenced such pressure, and ways to deal with it (CX 16D-E; CX 17B; CX 19A; CX 20; Coleman, Tr. 1097). Although the amount of pressure build-up varied among these tests, IH knew in 1955 that factors present during the normal operation of its tractors, [22] such as engine heat, agitation of fuel in the tank, ambient air temperature and wind direction and velocity could sub-

stantially affect the vapor pressure build-up in the tank (CX 17A; CX 19A; CX 20A; Coleman, Tr. 1053-54, 1069; Link, Tr. 1986-87).

51. By 1955, it was also common knowledge among IH engineers that gasoline was being heated to the point of boiling (rapid vaporization) in the tanks of its gasoline-powered tractors (Coleman, Tr. 1055, 1069, 1072). IH was routinely obtaining temperatures of over 100°F. in its fuel tanks during the course of various tests (CX 16D-E; CX 17A-B; CX 19A-B). It knew, and had known for many years, that gasoline usually begins to boil, or vaporize, at approximately 96°F. to 97°F. (CX 16A-C; CX 379, Ziskal Dep., pp. 27, 33-34; Coleman, Tr. 1070; Creighton, Tr. 2271-72; Hurn, Tr. 3899-3900). It also knew that high gasoline temperatures in the fuel tank led to rapid pressure build-up (CX 16D-E; CX 17A; CX 19A; Coleman, Tr. 1088-89). IH further knew that a sudden release of that pressure from the fuel tank, as might occur on removal of the cap, could result in the boiling of the gasoline in the tank (Coleman, Tr. 1055) and even the ejection of fuel from the tank and the spraying of the operator with gasoline (CX 19A). (RRF 156). By this time IH had received "field complaints" stating that tractor owners had been "sprayed with gasoline when removing the fuel cap due to a pressure build-up in the fuel tank" (CX 19A).

52. By December 1956, IH management was aware of a number of reports received from the field that the fuel tank on the International 300 model tractor became excessively hot during field operation, causing the gasoline to boil. One of the reports mentioned a geysering incident which resulted in a fire, when the operator removed the fuel cap. (CX 24A; Coleman, Tr. 1104-05). These reports were submitted to the Farm Tractor Committee, which made policy decisions concerning IH agricultural equipment. The Committee was comprised of representatives from the Engineering, Manufacturing and Sales departments. (Coleman, Tr. 1104; CX 403D).

53. In January 1957, an incident occurred at the Harvester Farm (respondent's test facility) wherein fuel geysered from the filler neck of an IH gasoline-powered tractor when the operator removed the cap. This accident occurred while the tractor was operating on a belt dynamometer in an enclosed room with the fuel being supplied from a mobile storage tank, rather than the fuel tank.⁶ As the tractor operated in the enclosed room the [23] temperature mounted and the fuel got hotter. The high ambient temperature and the heat from the engine caused the fuel to boil violently. The vent hole in the cap could not release the vapor pressure as fast as it was being generated by the

⁶ A dynamometer is a testing device which measures power or force. In this case it is an electrical generator which is connected to the engine. By varying the electrical load on the generator you can vary the load being put on the engine. The dynamometer has means for measuring the torque of the engine. By knowing the rotating speed you have the parameters to compute power (Coleman, Tr. 953-54). Thus it is used to study the performance of the tractor under varying loads, under laboratory conditions as opposed to field testing.

boiling fuel and there was squirting of fuel out of the vent hole. When the operator released the cap it was blown out of his hand. (CX 27B; Coleman, Tr. 1426-27). IH engineering recommended that a heat shield be used on all International "300" and "350" tractors to reduce heat flow and that a larger vent hole in the fuel cap, to reduce pressure, be considered. In connection with the latter recommendation they noted that the volatility of fuels would probably increase in the future (CX 27B).

54. Later in 1957, respondent for the first time received a report of personal injury resulting from a fuel geyser on an IH tractor. This was the Karl Bedke accident which occurred on August 10, 1957; a sunny day with temperature in the 90's. (CX 28A-B). The tractor involved was an I-300 utility tractor equipped with a center-tube baffle and an inertia-pin cap.⁷ IH engineer R. N. Coleman investigated this accident in September 1957. Mr. Coleman concluded that a fuel geyser had occurred due to the sudden release of pressure in the fuel tank, [24] causing a solid column of fuel to be forced up through the cylindrical baffle inside the tank and up into the air directly above the filler neck. The fuel was blown back upon the operator and ignited, possibly by a cigarette. The operator was severely burned. (CX 28A).

55. Mr. Coleman had two hypotheses as to how the fuel cap came off, releasing the pent-up pressure in the tank. The first was that the fuel cap was improperly secured by the operator and that after pressure had built up in the fuel tank to 2 to 4 psi it was sufficient to force the improperly installed cap off the filler neck. This hypothesis was supported by Mr. Bedke's insistence that he did not remove the cap. (CX 28A). The second hypothesis was that Mr. Bedke did in fact remove the cap, releasing the pressure. This hypothesis was supported by Mr. Coleman's feeling that it was unlikely that the gas cap would be blown off and land in an upright position on top of the hood about 6 inches in front of the filler neck and, further, by Mr. Coleman's opinion that the odds were against having the cap improperly installed in a position where pressure can be built up and where it can still be blown off with a pressure of 2 to 4 psi. (CX 28A-B).

56. During the course of Mr. Coleman's investigation of the Bedke accident, he learned of another fuel geysering incident which occurred on an I-300 tractor owned by the Pickett Sheep Company. Several employees of that company reported that the fuel tank runs

⁷ The triple baffle cap was not included on the I-300 Utility tractor and subsequent I-350 Utility tractors because the new cap was somewhat higher than the ordinary flat cap and Sales objected to its appearance. The fuel tank for these Utility models were therefore designed with a center-tube baffle, extending from the filler neck down into the tank, to prevent gasoline from sloshing up under the filler cap and resultant "fuel spurting". The center-tube baffle was discontinued and the triple baffle cap was installed on later production of I-350's, shortly after the Bedke incident (CX 29D). The inertia-pin cap had an inertia arm vent pin which was used on a flat cap to prevent squirting through the vent holes. This cap had two vent holes on the side, rather than one in the center as on the standard flat cap (Coleman, Tr. 1356-57; CX 3).

too hot on their I-300 and that they had smelled fumes while operating that tractor. On one occasion when one of their young operators complained of the fumes the fuel cap was suddenly removed and fuel "spewed" up out of the tank, but no fire resulted. (CX 28F).

57. Although tests conducted by IH earlier in 1957 had indicated that a fully secured gas cap could not blow off the filler neck (CX 28A-E) respondent undertook further tests following the Bedke incident, to assure itself that this was the case.⁸ Within two to three weeks after Mr. Coleman returned from investigating the Bedke incident the engineers at IH's Test and Development Group undertook further testing to determine the venting capacity of the various fuel caps and whether a fully secured cap could "blow off." (Coleman, Tr. 1447; CX 31). In [25] these tests the tank of an I-300 tractor was removed from the tractor and immersed in a tub of water, where it was heated with live steam. The tests showed that the new triple baffle cap was superior to the standard flat cap and the inertia-pin cap in venting pressure from the tank. However, when the triple-baffle cap was removed after the pressure in the tank was lowered to 2.46 psi (from a high of about 3.84 psi) a column of gasoline geysered out of the filler neck to a height of eight feet.⁹ Three and three-fourths gallons of the five gallons of fuel originally in the tank were lost (CX 31A-B). It should be noted that the rate of heat transfer to the fuel under these laboratory conditions was much higher than that experienced in field conditions and that the more volatile winter gasoline was used in the testing (CX 31A). However, this testing did again illustrate that fuel geysering could occur and the factors involved therein. In none of these tests did the fuel cap blow off the filler neck. (Coleman, Tr. 1445; Link, Tr. 2043).

58. Another geysering incident occurred in Wisconsin on April 16, 1958. The operator of the tractor, an I-300 model, was Arnold J. Fischer. The facts surrounding this incident are not in the record, nor can it be determined from the record just when this incident was reported to respondent. (CX 53; CX 220). It can be determined however, that IH had a closed file on this incident as of June 11, 1963. A memo of that date identifies the incident and IH's file number and indicates that Mr. Fischer was deceased. (CX 53). It cannot be determined from the record evidence whether or not Mr. Fischer died as a result of the fuel geysering incident.

59. As of May 1958, IH was aware of one, and possibly two, fuel

⁸ The earlier tests indicated that even a partially secured cap could not be blown off, if it had been turned on at least a quarter turn. However, these tests were conducted under laboratory conditions and not under field conditions where greater vibration might be present. (CX 28C).

⁹ A 14-foot geyser occurred when the standard flat cap was removed with a pressure build-up of 4.42 psi (CX 31A, C; Coleman, Tr. 1128). The tests showed that the venting capacities of the standard flat cap and the inertia-pin cap were about the same (CX 31A).

geysering incidents which had resulted in personal injury—the Bedke incident and, possibly, the Fischer incident (Findings No. 54, 55, 58). It was also aware of at least several others where personal injury had not been reported (CX 19A; CX 24A; Findings No. 50, 52, 56). At least one of these reports indicated that a fire had resulted (CX 24A). A number of other complaints had been received concerning the boiling of fuel in the fuel tanks of IH's I-300 tractors during field operations (CX 24A). [26]

D. 1959-1963

60. In 1959, IH learned of two more fuel geysering incidents which resulted in bodily injury. Those were the Ronald Frisch and Lyle Binder accidents (CX 36B; CX 40). There was also a fuel geysering incident on an I-300 tractor in April 1959, involving James Buatte of St. Mary's, Missouri, which resulted in serious bodily injury (Buatte, Tr. 147-49, 175). However, this accident apparently did not come to respondent's attention until suit was filed some years later (Coleman, Tr. 1216-20).

61. On May 4, 1959, respondent learned of the tractor fire involving Ronald Frisch, which occurred on that same date at a farm near Earlville, Illinois. Mr. Frisch was operating a Farmall-350 tractor equipped with a fuel gauge filler cap when the accident occurred.¹⁰ Mr. Coleman was again assigned by IH to investigate the accident and did so on May 13, 1959. Mr. Coleman was informed that the accident occurred shortly after refueling and that the "fire started in an explosive nature." The fuel gauge filler cap was setting partially over the filler neck, but not secured, with the lower part (the float assembly) setting down in the tank during the fire. Mr. Frisch was severely burned. (CX 36A-H; Coleman, Tr. 1635). Mr. Coleman admitted during the hearing that when he wrote his report on this incident he "had some feeling" that Mr. Frisch may have removed the gas cap. In a later civil suit, Mr. Frisch alleged that his accident involved fuel geysering. *Frisch v. International Harvester Co.*, 33 Ill. App. 3d 507, 338 N.E. 2d 90 (1st Dist. 1975). Mr. Coleman, however, feels that this accident actually involved fuel splashing out of the tank as a result of the cap not being properly secured after refueling and that the fuel was ignited by some source other than the tractor itself, but he admitted in his report that the evidence was insufficient to give real substance to this feeling (CX 36B).

62. In September 1959, IH learned of the Lyle Binder incident. The accident involving Mr. Binder of West Bend, Wisconsin, occurred on

¹⁰ A fuel gauge filler cap was one which incorporated a fuel gauge. It consisted of a cork float mechanism attached to the triple baffle cap, which mechanism extended down into the fuel tank from the cap. There was a gauge on top of the cap. (RX 181; CX 26).

an I-350 tractor. Respondent's report of [27] this occurrence indicates that Mr. Binder removed the fuel cap after smelling gasoline fumes and that a tractor fire resulted. (CX 40). Mr. Binder's tractor was manufactured prior to the time that heat deflectors became factory-installed equipment on I-350 tractors. Later tractors of this model were so equipped. (CX 40).

63. Also in September 1959, Mr. Coleman prepared a report which was intended for use by the Zurich Insurance Company in an investigation being conducted by that company (CX 41). Zurich Insurance Company was the insurance company which handled IH's product liability claims (Coleman, Tr. 1160). In this report, which dealt with the I-300 utility tractor, Mr. Coleman stated that if pressure were generated in the I-300 utility tank by an abnormally high rate of heat application or through the use of more volatile gasoline, that solid fuel will be "squirted" out of the tank if the filler cap is removed.¹¹ He also noted that gasoline was becoming more volatile. (CX 41).

64. The Farmall-350 tractor involved in the Frisch accident went out of production in 1958 (RX 89H). In the late '50's and into the '60's, IH (and other tractor manufacturers) responded to farmers' demands for larger tractors with increased horsepower engines and greater fuel capacity. Introduced in 1958, IH's six-cylinder tractors had their fuel tanks in the conventional location, but some models were equipped with L-shaped tanks, which could hold more fuel than the tanks employed on earlier models. (CX 42). The new six-cylinder tractors were equipped with improved heat shields between the engine and fuel tank. They were also equipped with instrument-panel gauges, and with triple baffle caps. (Coleman, Tr. 1167-68; 1333, 1410; CX 219, RX 89H-I).

65. Respondent knew in the late 1950's, that the L-shaped tank affected the rate of heat transfer to the gasoline in the fuel tank and that this, along with the activation of the fuel in the tank when the tractor was in motion, was a factor in creating pressure in the fuel tank (Coleman, Tr. 1173-75).

66. By March 1960, Coleman reported to R. D. Barrett, Chief Engineer for 400 and 500 series tractors, that there was considerable correspondence dealing with service reports of gasoline boiling and squirting on Farmall 460 and 560 tractors [28] when used in the early fall with corn pickers (CX 42; Waechter, Tr. 1732-33). The 460 and 560 tractors had L-shaped tanks (CX 219A, M, N). IH knew that these problems were not caused by specification discrepancies in the fuel caps, but rather by the combination of heating of the fuel tank, fuel volatility and venting characteristics of the fuel cap and the way the

¹¹ When Mr. Coleman here referred to fuel being "squirted" out of the tank he was referring to "fuel geysering" as described in the Complaint (Coleman, Tr. 1202).

corn picker fit around the tractor, trapping heat (CX 42; Coleman, Tr. 1671). Coleman testified that, in CX 42, unlike CX 41, the term "squirting" did not refer to fuel geysering, but fuel spurting through the cap vent hole (Coleman, Tr. 1166). However, he acknowledged that the same factors noted in this report were involved in fuel geysering (Coleman, Tr. 1168-71). IH did not conduct any follow up investigation to these service reports because it already knew the underlying causes (Coleman, Tr. 1170). Although Mr. Coleman concluded in his report that modifying the fuel cap would "require major changes in design concept which are not known even now," the Test and Development Group opened a docket dedicated to studying new concepts in fuel cap venting. In the meantime, the use of mounted corn pickers was declining due to the development of the combine (CX 42; Coleman, Tr. 1462-64).

67. The concerns reflected in CX 42 were not unique to IH. In a report of April 1960 addressed to "the tractor industry" generally, and circulated to many manufacturers besides IH, the Ethyl Corporation described an investigation it had conducted into the problem of gasoline evaporation losses from a tractor fuel tank. (CX 43B).

68. The particular model used in the Ethyl Corporation's study was an IH Farmall-560, which was representative of the state-of-the-art of gasoline-powered tractors at the time: "The investigation was carried out on a late model production tractor having a fuel system representative of current design practice" (CX 43E; *See also*, Den Besten, Tr. 1815-17).

69. The Ethyl Corporation recognized that a solution to the vapor loss problem would not only improve the tractor's fuel economy but also reduce the hazards associated with pressure in the tank (CX 43C). The Ethyl report emphasized some of the same factors identified by Coleman: use of increased volatility fuel, high ambient temperatures, and shielding of the tractor engine compartment by mounted machines and other devices (CX 43C). Like Coleman, the Ethyl engineers considered the possibility of enlarging the vent hole: "[i]t may appear that a large unrestricted vent, despite a small increase in vapor loss, would have merit in virtually eliminating spontaneous boil-up of the fuel when the cap is removed" (CX 43H). However, the Ethyl report recommended consideration of "corrective measures" such as "tank insulation, better shielding and baffling of the tank, and even a pressurized fuel system," but did not recommend any change in the size or number of cap vent holes. (CX 43R). [29]

70. The Ethyl Corporation report was received and reviewed by engineers in IH's Test and Development group (Coleman, Tr. 1187; Den Besten, Tr. 1788). In fact Mr. Den Besten, a member of that group, referred to this report as a point of comparison in a later report

of tests run by IH dealing with the same problems (CX 47; Den Besten, Tr. 1789-90).

71. In June 1960, IH engineer A.F. Voss filed another report dealing with excessive pressure in the fuel tanks of respondent's tractors (CX 44A-B). In his report Mr. Voss stated:

The problem of gasoline "boiling" and generating excessive fuel vapor in tractor fuel tanks has been with us for a long time.

He also stated:

[W]e continue to receive field reports of accidents wherein owners or members of their families have been seriously injured by inadvertent ignition of gasoline gushing from the tractor fuel tank.

Mr. Voss noted that most complaints occurred in the Spring and were probably related to the use of more volatile winter fuels in warmer weather. He felt that excessive pressures were building up in the tank and that such pressure resulted "in noticeable vapor, or squirting of fuel from the vent hole, or if the fuel tank cap is removed, the tank will empty itself of gasoline." (CX 44A). He also noted that:

Most field complaints make mention of the cap "blowing off."

However, he stated that the Test and Development group had not been able to substantiate such "blowing off" even with over 100 psi pressure in the fuel tank. (CX 44A).

72. Mr. Voss stated that some of IH's competitors used larger vent holes than did IH. This reduces pressures but is conducive to "sloshing" of fuel from the tank even in cold weather (CX 44A).

73. Mr. Voss recommended that IH test a fiberglass fuel tank and greater diversion of the fan blast as a possible answer to these problems (CX 44A-B). From the tone of CX 44A-B it is clear that Voss addressed a problem (boiling and excessive fuel vapor) which was known to peers and superiors at IH (RRF 191). [30]

74. In August of 1960, IH sent two of its employees, Fred Waechter, an engineer, and a Mr. Geggie of its St. Louis District Office, to investigate problems with a new I-460 tractor which had been reported by David Nichols, of Lebanon, Missouri (CX 45A; Nichols, Tr. 2096-98). Mr. Nichols originally made his complaints to his IH dealer in May 1960, but after hearing nothing further, he later contacted both IH directly and the National Safety Council, by letter, stating his problems (Nichols, Tr. 2096-98). Nichols' complaints included: excessive gasoline fumes emitted from the fuel cap which caused his son to become nauseated; excessive fuel tank pressure accompanied by

the noise of gasoline boiling; excessive fuel consumption due to vaporization; and a fuel geysering incident which his son had experienced when he removed the fuel cap (CX 45A; Nichols, Tr. 2092-98, 2103-05; Waechter, Tr. 1727-30). Mr. Nichols testified that he reported the fuel geysering incident to IH, along with his other complaints, but respondent maintains that Mr. Nichols only referred to the fuel boiling and other symptoms which he and his son had experienced (Nichols, Tr. 2103-05; CX 45A-B; Waechter, Tr. 1764). After IH's investigation, respondent fitted Nichols' tractor with an improved heat shield (CX 45A; Nichols, Tr. 2098-99, 2110-11; Waechter, Tr. 1731, 1743, 1769), but the tractor continued to boil even after the new shield was attached (Nichols, Tr. 2101-03). Mr. Nichols reported to an IH employee in a later visit to his farm that the heat shield had improved the conditions reported, but that the fuel in the tank would still boil "under the right conditions" (Nichols, Tr. 2101). He admitted, however, that he never did fill out a form he was provided for further report to the IH district office (Nichols, Tr. 2102). Moreover, he continued to use the tractor until he sold it in 1967 (Nichols, Tr. 2102).

75. IH engineer Frederick Waechter conducted a detailed investigation into fuel tank pressure build-up and related problems during the Spring and Summer of 1960 and reported the results in writing on September 23, 1960 (CX 46A-R; Waechter, Tr. 1732). Waechter had daily conversations with Mr. Coleman during the time he was conducting these tests and Coleman approved Waechter's report before it was distributed to various personnel in Test and Development, Design, and other members of IH's Engineering staff (Waechter, Tr. 1732).

76. Part of Waechter's investigation consisted of tests to determine the severity of, and to try to eliminate, "fuel gushing"—the term Waechter used to describe "fuel geysering" (CX 46A; Waechter, Tr. 1718). These tests were conducted under laboratory conditions by placing a fuel tank from a 460 tractor into a tub of water and applying agitation and heat (Waechter, Tr. 1751-52). Waechter was able to duplicate fuel geysering [31] when the fuel cap was removed with fuel tank pressure at 2 psi and the fuel tank three-quarters full. Fuel geysered 20 feet high, and fuel loss was seven gallons. (CX 46B). It is likely that Waechter obtained other fuel geysers as well, since he notes that geysering can occur at widely varying fuel levels (CX 46B). Although Waechter's tests were conducted under experimental conditions, Waechter concluded in his report that fuel geysering "could occur on production tractors at widely varying fuel levels when tank pressure exceeds 1 psi" (CX 46B).

77. In another set of tests, using tractors in both laboratory and outdoor track tests, Waechter confirmed previous findings that pres-

tures in the fuel tanks of IH's gasoline-powered tractors exceeded 1 psi (CX 46A, C, H, I, J, K, L, P and R). Although his tests were generally confined to the I-460 utility tractor, one test conducted on an F-460 Farmall tractor showed similar results (CX 46R; Waechter, Tr. 1735). At least one test showed that pressure exceeding 1 psi could occur even when using summer grade gasoline, but only at a much higher fuel temperature. The latter test was conducted with the production heat shield (CX 46J). Another test using summer grade fuel and an improved heat shield did not yield appreciable pressure in the tank (CX 46Q). When using winter grade fuel, pressures of over 1 psi were usually obtained with both the production heat shield and the improved heat shield (CX 46A, H, I, K, L, M, P and R). Waechter reported fuel tank pressure over 4 psi and believed that pressure could go as high as 5 psi or more (CX 46C, I).

78. Mr. Waechter's tests also reconfirmed IH's knowledge concerning the effect of agitation on fuel pressure build-up in the fuel tanks on its gasoline-powered tractors. His tests indicated that agitation increased fuel tank pressure from 50% to 100% and that such pressure would return to normal when agitation was stopped. (CX 46C). He also reconfirmed earlier findings concerning the effects of wind direction and velocity on fuel tank pressures (CX 20; CX 46D).

79. Waechter's tests also showed that the location of the fuel tank is a contributing factor to pressure build-up in the tank (CX 46D). The tests indicated that a tank location above the engine with a tight baffle between tank and engine is better than a location to the rear of the engine or partly above and partly to the rear, as in IH's designs at that time (CX 46D).

80. The Waechter tests also demonstrated that there was an extremely hot spot on the I-460 tractor at the right hand corner of the fuel tank, adjacent to the exhaust manifold. The effect of this hot spot was shown by comparing the I-460 with Ford's Model 641 tractor. After one hour of operation, with fuel tank temperatures nearly the same, pressure in the fuel [32] tank of the I-460 was more than three times greater than that in the Ford 641. (CX 46D).

81. Mr. Waechter also conducted tests to determine whether the production cap (the triple baffle cap) could be blown off the filler neck of the fuel tank (CX 46A; Waechter, Tr. 1736). He found that a production cap could not be blown off the filler neck even at 18 psi fuel tank pressure. He found that maximum fuel tank pressure was limited to 7-8 psi, the pressure at which IH's triple baffle cap would relieve (experience tang relief)¹² (CX 46B). He believed that field reports of

¹² "Tang relief" occurs when the pressure becomes high enough to raise the cap up through the spring action of the tangs which hold the cap on the filler neck. When this occurs the seal between the filler neck and the gasket on the cap releases, allowing the pressure in the tank to escape beneath the cap (CX 27A).

fuel tank caps blowing off were, in fact, cases where the operator removed the cap and gushing (geysering) fuel carried the cap out of his hand (CX 46D).

82. Mr. Waechter also reported that the noise of boiling fuel and the whistle of escaping vapor is alarming to the operator of the tractor when the tractor is stopped after a hard run (CX 46D).

83. Because Waechter's investigation indicated that IH tractors could generate excessive fuel tank pressure, even when the improved experimental heat shield was used, he recommended that future tractor designs be such that maximum fuel tank pressure would not exceed 1 psi under the most adverse conditions of using winter fuel in high ambient air temperature (CX 46A). He also strongly urged that his proposed experimental heat shield be adopted for production tractors in order to reduce fuel tank pressures (CX 46A).

84. At the time Waechter made these recommendations in 1960, IH knew that it was possible to design tractors that would not generate excessive pressures. His report refers to two model tractors of IH's competitors, the fuel tanks of which are so located and insulated that pressure build-up presents no problems. (CX 46E, F). He does note some venting problems with each, however, in that one (the Massey-Ferguson 65) appeared to be subject to fuel spurting and the other (the John Deere 730) was subject to damage and blocking in the venting system (CX 46F). [33]

85. Through the end of 1960, IH continued to receive field complaints of gasoline boiling in its fuel tanks. Prompted by such reports, another IH engineer, Mr. Den Besten, conducted a further investigation into this problem of fuel evaporation losses from the fuel tanks of its tractors. (CX 47A). The report notes that the results of this investigation should be compared to those of a similar investigation conducted by Ethyl Corporation—the Ethyl Corporation report referred to in Findings 67 through 70, *supra* (CX 47A).

86. Den Besten's investigation was assigned the same docket number as the Waechter investigation, referred to above, and received similar circulation among IH officials (CX 46A; CX 47A). The report, dated December 12, 1960, found that gasoline evaporation from the fuel tank was a significant factor in fuel economy, as reported by Ethyl Corporation. As much as 6% of the fuel can be expelled via the fuel tank filler cap. It noted that the gasoline tank is heated by the radiator fan blast as well as by engine radiation. (CX 47A).

87. Den Besten tested a Farmall-560 tractor using winter grade gasoline. The tractor was belted to an electric dynamometer and operated under test conditions until the fuel supply was exhausted (CX 47A). The ambient air temperature in the room where the tests were conducted ranged from 105° F. to 110° F. during the greater part

of the tests (CX 47C). Fuel tank pressures in excess of 3 psi were generated (CX 47C, D). Den Besten recommended, based on his investigation, that consideration should be given, in designing future tractors, to a double-shell insulated tank, or relocation of the tank to a cooler position. He also recommended further investigation of the merits of a fiberglass fuel tank (CX 47A).¹³

88. In March 1961, a report of the Farm Equipment Tractor Committee (an upper-management level body) considered the recommendation of Mr. Waechter that his improved heat shield be installed on I-460 and I-560 tractors (CX 48D). The report states that "complaints have been received of gasoline boiling and spurting out of fuel tank during operation." It notes that although complaints of this sort were most prevalent with the I-460 tractor, that some complaints of this nature had also been received in connection with the Farmall-560 tractor. (CX 48D). It quotes Mr. Waechter's report of 9-23-60 as stating: [34]

Gushing of liquid fuel can occur on the production tractor at widely varying fuel levels when tank pressures exceed 1 p.s.i. When tested at a fuel tank pressure of 2 p.s.i. with the tank 3/4 full, fuel gushed 20 feet high and fuel loss was seven gallons.

The Committee noted that although the experimental heat shield recommended by Test and Development gave significant improvement in fuel tank pressure, that it was still possible to have excessive fuel tank pressure even with this shield. (CX 48D). The Committee also noted that the "new-line" models of these tractors were already to be equipped with an improved heat shield. In light of these circumstances, and the "low" number of complaints received, it was the consensus of the Committee that the increase in product and equipment cost for the improved heat shield recommended by Waechter (\$3.49 direct manufacturing product cost per unit) was not warranted. (CX 48D).

89. In the March 1961 report of the Farm Equipment Tractor Committee it was noted that there had been 11 such complaints received (about boiling and spurting) in connection with the I-460 and F-560 tractors—six in connection with the I-460 and five about the F-560 (CX 48D).

90. In February 1962, IH learned of another fuel geysering incident in which the operator was injured. At that time respondent's Fargo District Office reported that Gunnard Pearson had been injured in a tractor fire involving the fuel tank cap on a Farmall-450 tractor. (CX 9A, B). Respondent did not investigate the cause of this accident, so

¹³ Waechter had found that there were serious problems with fiberglass fuel tanks, particularly with the bonding the filler neck to the tank. (Waechter, Tr. 1762-63; CX 46A).

the details are lost to this record (Coleman, Tr. 1603). A report to the insurance company, in evidence as CX 49B, merely recites some of the possible causes of such an accident. Several possible factors are mentioned which might cause a fuel geyser when the fuel cap is suddenly removed (CX 49B). It is also noted that this was the first such complaint received about an F-450 tractor, although approximately 25,500 of such tractors had been built (CX 49B). The last F-450 tractors had been produced in 1958 (*See* Finding No. 8, above).

91. By 1963, respondent started to get involved in litigation as a result of private suits seeking damages for injuries sustained in fuel geysering incidents. The Buatte incident, mentioned above in Finding No. 60, gave rise to the first of these suits (CX 52; CX 53). These suits gave rise to further testing by respondent's engineers and outside experts in preparation for such litigation (Coleman, Tr. 1217-18, 1220, 1606; CX 52; CX 53; CX 68; CX 69; CX 70). [35]

92. Mr. Buatte alleged that the fuel cap on his I-300 tractor was blown off and that fuel geysered out spraying him with gasoline and that he was seriously burned (CX 52; Buatte, Tr. 147-49, 175). Mr. Coleman conducted a field investigation and inspected the I-300 tractor, which was equipped with a center-tube baffle, a flat cap and no heat shield (Coleman, Tr. 1217-18, 1606). He concluded that Mr. Buatte must have removed the fuel cap, despite Mr. Buatte's statements to the contrary (Coleman, Tr. 1220). Mr. Coleman also felt that there must have been pressure in the gas tank of Mr. Buatte's tractor sufficient to cause the geysering of fuel out of the tank (Coleman, Tr. 1221).

93. An independent engineering consultant, Wayne Worthington, was consulted by respondent's local counsel at the suggestion of Mr. Coleman (Coleman, Tr. 1217). Mr. Worthington reviewed certain information forwarded by the local counsel and formed a hypothesis as to how the accident might have occurred. This hypothesis involved, among other things, Mr. Buatte's failure to properly secure the gas cap, spillage of gasoline when Mr. Buatte filled the tank shortly before the accident and ignition of fuel vapors under a cocked filler cap. (RX 27). After later consulting with Mr. Coleman and another independent expert, Professor J. D. Liljedhal, at the Harvester Farm, and reviewing certain internal IH documents and test results, as well as participating in certain experiments at the Harvester Farm, Mr. Worthington conceded that his original hypothesis was incorrect (CX 53A). He then concluded that Mr. Buatte had secured the filler cap only to the point where it sealed the gas tank against leakage, but could work loose. He opined that the gas cap could then be expected to "fly off" suddenly at some point of loosening. (CX 52A).¹⁴ He further

¹⁴ Mr. Worthington admitted that he had never seen this occur and that such had not been demonstrated during
(footnote cont'd)

informed respondent that it was his opinion that tractors of this design—with center-tube baffles and no heat shield—were dangerous if certain necessary conditions were present. The necessary conditions were improperly secured cap, volatile fuel and sufficient heat (CX 52B). He characterized the I-300 tractor as including “a built-in accident” under these conditions (CX 52B).

94. In June 1963, IH officials and others involved in the Buatte litigation, including insurance company representatives, [36] also reviewed a number of files dealing with other incidents involving “similar allegations” (CX 53; Coleman, Tr. 1249). A memorandum for the file (CX 53) shows that IH then had seven files involving accidents occurring during the period August 1957 through May 1962 which were reviewed. Included were the Bedke, Fischer, Frisch, Binder and Pearson accidents mentioned above (Findings No. 54, 58, 61, 62, 90), as well as two additional accidents which occurred in May 1962 (CX 53). The one, involving a Mr. George Brittain, occurred in Wisconsin and the other, involving a Mr. Dale Storer, occurred in the area covered by respondent’s Kansas City field office (CX 53). Although no details of these last two accidents are contained in the record, CX 53 refers to them as involving allegations similar to those in the Buatte incident. Although the memo refers in its heading to “Alleged Product Failure-Fuel Tank Cap Model 300 Utility Tractor,” the incidents listed therein were not limited to the I-300 tractor. The listed accidents included incidents which also involved the I-350, F-350, and F-450 tractors. The record does not show what model tractors Messrs. Brittain and Storer were operating (CX 53; CX 220; CX 410).

E. 1964-1972

95. Subsequent to his 1960 investigation (Findings No. 85-87), respondent’s engineer, John Den Besten, and other engineers working with him, continued to investigate fuel tank pressurizing and ways to deal with it (CX 55-58). From 1960 to 1965, Mr. Den Besten continued his efforts to convince IH management and the Design group that the fuel tank on future tractors should be relocated so as to reduce fuel tank temperatures and pressure (Den Besten, Tr. 1798).

96. In March of 1964, his group reported on tests conducted on an I-606 tractor utilizing a venting system which consisted of a small diameter tube connected to the filler neck which ejected fuel spill-over and vapors downward below the fan blast. The tube had a valve on the end to eliminate excessive loss due to spill-over and evaporation. This venting system still provided a maximum fuel tank pressure of

the testing at respondent’s test facilities. This was his theory of the cause of the Buatte accident, based upon “extensive discussion.” (CX 52A). Mr. Coleman had previously considered such a possibility in connection with the Bedke fuel geysering incident (CX 28A; Finding No. 55).

4 psi and allowed a 6% loss of fuel as vapors. (CX 55A). Using a larger diameter vent tube and eliminating the valve on the end, reduced the maximum fuel tank pressure to 1.7 psi, but the fuel vapor loss increased to 11.4% (CX 55A). The report states:

In the interest of safety it may be necessary to further reduce fuel tank pressure. However, the customer must pay a severe penalty in fuel cost for this added safety (CX 55A). [37]

The report also noted that vapor lock became more severe when the larger vent tube was used (CX 55A). The report then recommended as follows:

The laboratory has in past reports complained about excessive fuel tank temperatures of our six cylinder tractors. We believe this series of tests emphatically points out that on all future tractors, the fuel tank location must be changed.

To correct the excessive fuel vapor loss *and/or the dangerous fuel tank pressures on our present production tractors*, we recommend that a docket be written to provide improved heat shield material. (CX 55B) (Emphasis added).

97. This group of engineers conducted similar tests on the F-806 tractor using the same sizes of vent tubing. The report on these tests was dated April 8, 1964 and revealed similar results. (CX 56A). This report makes the same recommendations for relocation of the fuel tank on future tractors and testing to develop improved heat shield materials for present production tractors (CX 56B).

98. In August 1964, Den Besten approved a report on further tests relating to fuel vaporization losses and tank pressure on respondent's gasoline tractors (CX 57A). This report concerned tests made with a Farmall-806 gasoline tractor pulling Model 47 and 37 disc harrows during field operations (CX 57A). These tests yielded maximum fuel tank pressures ranging from 4.3 to 4.9 psi, which the report characterized as:

... constituting a definite safety hazard. (CX 57A).

99. In May 1965, Den Besten approved a report of tests conducted by another group of IH engineers which was concerned with the subject of fuel tank heating in connection with the preliminary planning of a tractor then under consideration for production—the TX-19 (CX 58). This model was the prototype [38] of IH's later "World Wheel Tractor" production (CX 59B).¹⁵ It was addressed to a conferee to the

¹⁵ The World Wheel Tractors were planned, and later produced, for worldwide distribution, unlike previous tractors designed at IH's engineering center in Illinois which were planned and produced for distribution in only North America (McCormick, Tr. 1521-22).

World Wheel Tractor Committee (CX 58A; CX 59A). The report begins by stating:

There has been considerable discussion and investigation on the subject of fuel tank heating. Preliminary layout of the TX-19 tractor locates the fuel tank above and behind the engine. In our opinion, the tank should be located behind the driver's seat. (CX 58A).

It stated further that:

The shape and location of the fuel tank on the TX-19 tractor, subjects the tank to all the fuel heating and vaporization problems that have arisen on other IH tractors with similar design [the L-shaped tank located above and behind the engine]. (CX 58A).

The report further notes that the tank in such design is subjected to the heat of the fan blast and to radiation from the engine and, further, that cooling tests on other tractors indicate that the tank sheet metal temperature will approach the fan blast temperature after approximately four to five hours of operation (CX 58A).

100. CX 58 also states that the L-shape of the tank on the TX-19 tractor allows certain portions of the tank to be exposed (not covered by fuel) when operating with a partial tank of fuel. "These surfaces will quickly heat to the fan blast temperature, possibly 180° F. to 210° F. Fuel that is sloshed over these surfaces as the tractor operates in the field, will readily vaporize. Vaporization of the fuel raises the fuel tank pressures *which constitutes a safety hazard.*" (CX 58B) (Emphasis added). Mr. Den Besten testified that these problems existed on all IH tractors with the L-shaped tank. He said that such tractors included all of the six-cylinder [39] type tractors, which included the 460, 560, 660, 706 and the 806, as well as the 606 which later became the 656 (Den Besten, Tr. 1811).

101. Moreover, in connection with their recommendation that the fuel tank be relocated on the TX-19 and future production tractors, that group urged:

The relocation position should be away from the extremely hot areas of the tractor since the Cooling Test Group feels that shielding and insulation of the tank in a hot area are only token measures in eliminating the over-heating problems. (CX 58A).

Mr. Den Besten testified on this record that at the time of this report the evidence indicated "that additional insulation would not have a substantial effect in reducing fuel tank temperatures or pressures" (Den Besten, Tr. 1794).

102. The World Wheel Tractor Committee considered the question of location of the fuel tank during the years 1965 and 1966. Over this period of time the Committee considered many pros and cons for

locating the fuel tank to the rear of the operator's seat, rather than in the conventional location above and behind the engine (CX 59; CX 71; CX 72; CX 73; CX 74; RX 182). The Committee ultimately decided to move the tank to the rear of the driver's seat on this line of tractors (CX 73; CX 74). Safety—possible fire hazard—was one of the factors which prompted the Committee to relocate the fuel tank on this line of tractors (CX 72; CX 73).

103. Although the fuel tank was relocated on the World Wheel line of tractors, IH continued to produce its North American tractors with the fuel tank located in front of the operator (CX 221).

104. In March 1966, respondent received a report of another operator who was injured in a fuel-geysering incident. Mr. Paul McClure of Gideon, Missouri was operating an F-706G tractor when the accident occurred. Mr. McClure reported that he heard a hissing noise and that fuel started spewing out of the vent and from around the filler cap. He stated that he immediately put the tractor in neutral and was preparing to jump off when he was blown off from an explosion. The report from IH's St. Louis office notes that the cap was found about 15 feet from the tractor (CX 61). The report also indicates that Mr. McClure's tractor had recorded only 34 hours of operation when this accident occurred (CX 61). IH engineers, after later testing, felt that the operator must have removed the cap, despite his statement to the contrary (CX 62). [40]

105. Shortly thereafter respondent received another report from Gideon, Missouri concerning an F-706G tractor that had experienced problems with excessive pressure in the gas tank. This tractor was owned and operated by a Mr. Robert Sanders. The pressure problem was apparently relieved satisfactorily by replacing the fuel cap with another from a Model 560 tractor which was operating in the same field. (CX 62).

106. By 1966, respondent was also preparing its defense to a lawsuit filed by Ronald Frisch for injuries resulting from his fuel geysering incident (CX 69A; Findings No. 60-61). In connection with this lawsuit, upon request of IH's counsel, certain engineering tests were conducted by IH engineers Robert Reed and William Shubert (CX 67; CX 68; CX 69; CX 70; Reed, Tr. 3018-19; Shubert, Tr. 1884). Upon advice of counsel, neither Reed nor Shubert discussed the findings of these tests with any other IH officials (Reed, Tr. 3019, 3030, 3060; Shubert, Tr. 1893). For example, Mr. Coleman, who testified and assisted counsel at the table during the *Frisch* litigation, was not aware of these tests until after the *Gauges* litigation, which began in 1978 (CX 400B; Coleman, Tr. 1255, 1258-63, 1273-75).

107. The Reed-Shubert tests revealed that the standard production cap (the triple-baffle cap), when only screwed on a half inch or less,

might unscrew and come off a running engine (Reed, Tr. 3022; CX 67A-B; CX 69; CX 70). In one test, using a float cap, with the engine running wide open, air pressure applied and pressure in the tank of 3.5 psi, the cap vibrated off even though it was screwed on to the distance of one inch (CX 68A). It took a turn of about three inches to fully secure the cap (CX 69B). Overall, the results of the Reed-Shubert tests were quite erratic (CX 67-70).

108. The Reed-Shubert tests also attempted to create a geyser (CX 67-70; Reed, Tr. 3024-30). The results of their tests in this regard indicated that pressure alone was insufficient to cause a geyser. The tests indicated that a combination of pressure in the tank and high fuel temperature was necessary to effect a geyser (Reed, Tr. 3024-30).

109. Additional tests were conducted in connection with the *Frisch* case by IH engineer George T. Rezek (Rezek, Tr. 3075-82). On the basis of those tests, which attempted to simulate the conditions claimed by Mr. Frisch, the engineers concluded that a properly affixed fuel cap could not be blown off the tractor during normal operations (Rezek, Tr. 3075-82).

110. In 1968, the test and development process was completed for the World Wheel tractor and they were released for production with rear-mounted tanks (McCormick, Tr. 1562). [41] Although initially conceived as a diesel-powered tractor, a small number of these tractors were equipped with gasoline-powered engines for sale in the United States (McCormick, Tr. 1538, 1549, 1570-71; CX 221C). By the end of the 1960's the majority of the tractors being built by IH were World-Wide (World Wheel) tractors with the fuel tank located in the rear (CX 221). This line of tractors was not alleged to have been involved in "fuel geysering" incidents (CX 220).

111. In 1968, respondent's engineers also continued testing ways to control gasoline vapors and pressures in the fuel tanks of its other models of gasoline-powered tractors. CX 79A-D reports on tests to determine whether gasoline vapors in a fuel tank could be controlled by a refrigeration process. For a variety of reasons this process was determined to be unsatisfactory (CX 79B).

112. Other tests were run that year (1968) on an I-656 tractor to investigate whether fuel tank temperatures could be reduced by circulating the fuel through a cooler mounted in front of the radiator. These tests also considered the effect on fuel temperatures of insulating the heat shield and fuel tank (CX 81A). Fuel temperatures were reduced by the fuel cooling system and stabilized at a temperature of 115° F. with a 95° ambient air temperature (CX 81A). The fuel temperature was further decreased and stabilized at 110° F. by installing a 2.75 inch extension along the bottom of the heat shield and applying insulation to the back of the shield. Scotfoam was applied along the

edge of the heat shield to form a tight fit between the shield and the hood. This prevented fan blast from travelling beyond the shield (CX 81A). The fuel cooling system was found to be unsatisfactory for several reasons (CX 81B), but further study was recommended on future designs of heat shields (CX 81B). The engineers concluded that a heat shield should not be made of a material that is capable of radiating heat to the fuel tank and that the heat shield must be able to prevent all the fan blast from contacting the fuel tank. They also found that the hood sheets are heat generators, as well as the fuel tank support. They recommended an investigation be made to control the heat flow to the hood sheets and the fuel tank support (CX 81B).

113. Tests to control fuel tank temperatures and pressures continued into 1969. CX 382, dated January 7, 1969, reports the results of tests on a Farmall-656 gasoline-powered tractor with the fuel tank coated with a rigid urethane foam. CX 83, dated June 5, 1969, reports on tests conducted with an underslung fuel tank. Both of these methods were found to have drawbacks and, therefore, were not put into production (Coleman, Tr. 1622-24; CX 83). [42]

114. In August 1969, however, one of the improvements tested, the insulated upper and lower heat shield assemblies and front hood assemblies, was released for production and service use on the Model 656 and 544 tractors (CX 84A-B).

115. In January 1969, respondent received a report that a Mr. Max Howell was burned when gasoline spurted out of the vent hole of his fuel cap and ignited. Mr. Howell was operating a Model 656 IH tractor. After his accident Mr. Howell traded his gasoline-powered tractor for a diesel tractor (Model 656). (CX 82). Although this was a fuel squirting incident, rather than a fuel geyser, it further illustrates the fuel temperature and pressure problems which IH was having with its tractors (Findings 42-112).

116. During the decade of the 1970's, IH's production of gasoline-powered tractors, which was already small in comparison to diesel-powered tractor production, dwindled to zero. This was part of an industry-wide shift to diesel in response to farmers' demand for more powerful and more energy-efficient tractors. By 1970, the vast majority of the gasoline-powered agricultural tractors being manufactured by IH were World-Wide tractors with rear-mounted tanks. By 1975, IH's production of gasoline-powered tractors with fuel tanks located above and behind the engine was down to only 1700. (RX 212). In 1976, 1977, and 1978 this production figure was down to 600, 300 and 80 respectively. No such tractor has been produced since 1978 (RX 212).

117. In April 1970, IH learned that David Didion of Bellevue, Oh had been burned as a result of fuel geysering from the fuel tank of a 706 tractor he was operating (CX 89; CX 90; CX 91A-B). Mr. Colem

FEDERAL TRADE COMMISSION DECISIONS

Initial Decision

104 F.T.C.

investigated the Didion accident (CX 91A-B; Coleman, Tr. 1293). The various reports filed with respondent showed that Mr. Didion heard a hissing noise and noticed vapors escaping from the vent hole in his fuel cap. He then removed the fuel cap and gasoline spewed out and ignited (CX 89; CX 90; CX 91A-B). After the accident, the local IH distributor repaired the tractor and installed fiberglass insulation batting around the tank. David Didion's father, the owner of the tractor, then reported that gasoline vapors still came out the vent hole of the cap. The distributor then checked and adjusted the engine and put on a new fuel cap into which they had drilled a slightly larger vent hole. When Mr. Coleman visited the Didion farm he had the distributor install the insulation pad and the heat shield extension which were then in current production for the Farmall-656 tractor. The insulation battings previously installed by the distributor were left in place. (CX 91A-B). When Mr. Coleman visited the Didion farm, Mr. Ed Didion, the father, was absent. Word was left for him to contact Mr. Coleman at the distributors. After checking the [43] tractor and having the additional insulation and heat shield extension installed, Mr. Coleman waited at the distributor's until 6 P.M., but was not contacted by Mr. Didion. (CX 91A-B).

118. The Wendell Tietz fire also occurred in 1970. Tietz alleged that a blow-off had occurred on his F-656 tractor, which was built in October 1966. Mr. Tietz later filed suit and IH engineer George Rezek conducted a number of tests in connection with this litigation. Mr. Rezek's tests indicated that: a fully secured cap could not be blown off; a cap partially secured beyond a quarter inch turn could not be blown off; and a cap secured only one-eighth of an inch to a quarter inch may build up pressure and may be blown off. (Rezek, Tr. 3084, 3087-90). Mr. Rezek's tests also indicated that it would take an extraordinary amount of force to pull a fuel cap vertically off the filler neck (Rezek, Tr. 3085-87).

F. 1972-1982

119. Prior to 1972, respondent did not have a separate product reliability organization. In that year it established the Product Reliability Group which brought together in one place all product reliability information (Bennett, Tr. 3141). Prior to that time there had been no central record keeping for such information and the responsibility for investigating safety problems was divided among different departments (Arp Dep., RX 257C-E, S-T; RRF p. 102, No. 543). Once established, the Product Reliability Group monitored the performance of product still under warranty, as well as the safety performance of all product, including older products in the field (Bennett, Tr. 3141-42). The product performance engineer in charge of monitoring the safety

performance of older product was James F. Bennett (Bennett, Tr. 3141-42). He was in charge of the Product Integrity Group which was a subgroup inside the Product Reliability Group (Bennett, Tr. 3143).

120. The Product Integrity Group collected records of accidents only back to 1969. There were a few records obtained concerning accidents prior to that time, but basically, the only records of accidents on older models in the field which this group obtained were those from 1969 and after. (Bennett, Tr. 3288-90). This was due, at least in part, to respondent's record retention policies (Borghoff, CX 278Y, CX 278Z-13; Bennett, Tr. 3290).

121. During the period 1972 to 1976, a few reports of fuel escaping through the filler neck came to Mr. Bennett's attention (Bennett, Tr. 3149). These included the Tietz, Ostendorf and Clowes incidents (Bennett, Tr. 3149-51, 3304-05). The Clowes [44] accident, which occurred in May 1972 on an F-656 tractor, occurred when Mr. Clowes removed the cap while the tractor was running and hot (Clowes, Tr. 1836-38). Mr. Clowes heard a hissing noise from the fuel cap while he was operating his tractor on a warm day. On previous occasions when he heard such a noise he had loosened the cap, letting out a puff of air and the hissing had stopped. On this occasion, when he did so, the gasoline geysered out, knocking the fuel cap from his hand and the gasoline ignited, burning him severely (Clowes, Tr. 1834-38).

122. Mr. Bennett was surprised when he heard that Clowes had removed the fuel cap from a hot and running engine. This was the first time Mr. Bennett had ever heard of an operator doing such a thing. (Bennett, Tr. 3304-05). Had Mr. Bennett had access to earlier reports from IH's files, he would not have been surprised (Findings 52, 53-56, 62-63, 71, 90, 92, 94, 104).

123. Another fuel geysering incident which came to Mr. Bennett's attention was the Junior Ostendorf fire which occurred in 1973. Mr. Ostendorf was operating an F-806 tractor. He filed suit against IH, alleging that the fuel cap blew off the filler neck. (Bennett, Tr. 3150-51). Respondent retained an independent expert, Professor Donald Hunt. Based on tests he observed at the IH testing facilities, Professor Hunt testified in that case that it was his opinion that the fuel cap had not been properly secured and that it vibrated off. (CX 291C-D, H-I). The only other possibility, in Professor Hunt's opinion, was that the fuel cap had been removed by Mr. Ostendorf, but the Court struck this latter hypothesis on the basis that there was no evidence that this occurred (CX 291H).

124. In August 1974, IH engineer George Rezek visited a dealer in Greenville, Pennsylvania to inspect a tractor owned by Ken Wood of Polk, Pennsylvania (CX 101B). Mr. Wood was badly burned in a fire which he alleged was the result of a blow-off. Mr. Rezek's investiga-

tion led him to conclude that the fire was the result of the operator's negligence and was not a blow-off. (CX 101A-B, E, F).

125. In December 1975, IH learned of a fuel geysering incident experienced by William Hartman of Pesotum, Illinois. Mr. Hartman was plowing with his 706 tractor and went in to refuel. When he removed the fuel cap, gasoline came out the filler neck. (CX 110; CX 138A-B). This incident did not result in a fire (CX 138A).

126. In 1976, IH learned of another alleged geysering incident, when Robert Gauges filed suit for injuries he suffered in a tractor fire which occurred on April 19, 1974. Mr. Gauges [45] was driving an F-756 tractor, which was built in June 1970. (Borghoff, Tr. 4022; CX 220D). Mr. Gauges claimed in his suit that the cap had blown off his fuel tank and that gasoline had geysered out (Borghoff, Tr. 4025-26). Mr. Borghoff, an IH engineer, concluded on the basis of his investigation and testing, and testimony in the *Gauges* and the later *Stambaugh* litigations, that a geyser did not occur and that the accident was caused by a windshield which was folded down over the vent hole of the fuel cap, the subsequent removal of the fuel cap by Mr. Gauges, and an in-rush of air into the tank, which caused gasoline to splash out as the tractor moved along (Borghoff, Tr. 4066-68; *Order Granting In Part Complaint Counsel's Motion to Strike Portions of Testimony of William Borghoff*, dated February 3, 1982, p. 2). However, respondent offered no substantiating evidence in this record to support this hypothesis (Borghoff, Tr. 4066-68).

127. Also in 1976, IH learned of the *Stambaugh* fire on a 706 tractor. The Product Liability Accident report indicates that the operator made similar allegations to those in the Gauges incident concerning a fuel geyser. (CX 111). This incident also later resulted in litigation in which a fuel geyser was alleged (CX 278).

128. Subsequent to 1976, Mr. Bennett and the Product Liability Group became aware of a number of other incidents involving claims of fuel fires or explosions on IH tractors. By early 1979, Bennett was aware of about 13 such incidents. (Bennett, Tr. 3154, 3326-27, 3415-16; CX 408A-F; CX 409A-B). These accidents with the year of occurrence in parentheses were: Buatte (1959), Frisch (1959), Howell (1968), Didion (1970), Tietz (1970), Clowes (1972), Gauges (1974), Wood (1974), Greathouse (1975), Ostendorf (1975), Stambaugh (1975), Biemeret (1976) and Laux (1978) (Bennett, Tr. 3302-03; CX 220A-H; CX 408C).

129. In May 1979, Mr. Bennett learned of the fuel geysering accident which occurred on an F-656 tractor operated by James Laux of Coldwater, Ohio. Mr. Laux told Mr. Bennett that he was baling with his tractor in the field when it started missing. He noticed a fine stream of gasoline spurting from under the fuel cap. He stopped the tractor in neutral, leaving it idling, and started reaching for the cap

with the intention of tightening it up. He didn't remember touching the cap, nor did he remember seeing the cap move, but he recalled seeing a column of gas going straight up out of the tank. He then started to jump off the tractor and was engulfed in flames. Mr. Bennett's report notes that the fuel cap could not be found after the accident. (CX 119A-B). [46]

130. In early 1979, while engaged in the early stages of the *Gauges* litigation, Bennett heard the contentions of plaintiff's counsel that there were more fuel geysering incidents than IH's Product Integrity Group was aware of. Against this background, Mr. Bennett had discussions with Messrs. Sullivan and Hillstrom.¹⁶ Out of their discussions emerged the concept of the need for renewal of warnings disseminated to the field and a new attempt by engineering to address fuel geysering problems (Sullivan, Tr. 5149-54, 5186-89; Hillstrom, Tr. 3453; Bennett, Tr. 3155-56, 3327, 3416).

131. On March 30, 1979, Mr. Bennett wrote a note to Harlan K. Arp, then director of the Product Reliability Group (Bennett, Tr. 3155-56). The note stated:

Apparently more people than we realized are removing gas caps while tractors are running. Even tho[ugh] this is cautioned against in op[er]ator man[ual]s and all general safety material, I think we should put out another info bulletin specifically warning about the hazard this creates. Perhaps something along the lines of a facts brochure for dealer hand out to customers. (CX 116).

By note of April 6, 1979, Mr. Arp replied, agreeing with Mr. Bennett's suggestion and stating, "Lets try and put together a program that gets this message to customers as well as our own Regions and Dealers" (CX 116). This was the beginning of the idea for the Fuel Fire Prevention Program discussed below in Findings 167 to 261.

132. In April-May 1979, additional accidents involving allegations of fuel geysering were brought to the attention of Bennett's group. This brought the total known to them to about 30. (Bennett, Tr. 3324, 3327, 3416-17). Some of these accidents had occurred prior to 1969, and had been known to IH previously, but were not known in the Product Reliability and Integrity Groups or recorded in any of the documents assembled by that group in 1972 (which only went back to 1969) (Bennett, Tr. 3289-91, 3324-25). [47]

133. In November 1979, respondent learned of another fuel fire on an F-756 tractor in which Vernon VandenHoek was burned (CX 140A-B; CX 144A-B). This accident had occurred in October 1978. Mr. VandenHoek had been operating his tractor most of the day. It had been running hot. At about 4:00 P.M. he stopped the tractor and shut

¹⁶ Mr. Sullivan was IH's Manager of Safety and Value Engineering. Mr. Hillstrom worked under him and was in charge of product safety engineering (Sullivan, Tr. 5116; Hillstrom, Tr. 3437-40).

it off. After about a minute he removed the fuel cap to relieve the pressure in the tank. Some gasoline erupted. He replaced the cap and started to get off the tractor when he heard two explosions and then noticed fire. Mr. Borghoff's report of his investigation indicated that one of the explosions might have been the sound of gasoline igniting and the other might have been an engine backfire (CX 144A).

134. Up through 1981, respondent continued to learn of incidents involving other allegations of fuel geysers on various models of its gasoline-powered tractors (CX 149; CX 220A-K).

VII. RESPONDENT'S WARNINGS AND THEIR SUFFICIENCY
IN LIGHT OF ITS KNOWLEDGE

A. *The 1940's and Early 1950's*

135. The earliest operator's manuals for IH gasoline-powered tractors contained a warning against filling the fuel tank around sources of ignition such as a running tractor (RX 2B). For example, the 1945 manual for the Farmall-"M" states, under the heading "Operating Precautions," as follows:

SAFETY FIRST! Never fill the fuel tank when lamps are lighted, when near an open flame, or when the engine is running. When pouring fuel, keep the funnel and container in contact with the metal of the fuel tank (see Illust. 12) to avoid the possibility of an electric spark igniting the gas. Do not light matches near gasoline as the air within a radius of several feet is permeated with a highly explosive vapor (RX 5-3).

The 1945 manual also admonished that the fuel cap vent hole "should be kept open at all times to assure proper flow of the fuels" (RX 5-3). On a page bearing the "Universal Safety" symbol and the heading "Accidents can be prevented with your help," the 1945 manual contained "Rules for safe tractor operation," which rules were prepared by the Farm Safety Committee of the Farm Equipment Institute and approved by the National Safety Council (RX 5-5). One of these rules was "Never [48] refuel tractor while motor is running or extremely hot" (RX 5-5).¹⁷

136. Beginning in 1947, IH operator's manuals contained not only the "Safety First!" paragraph quoted in Finding 135, but also an illustrated cartoon stressing that the operator should wait until the tractor cools off before refueling (RX 7-3). This cartoon and the language quoted in Finding 135 was the basic format throughout the 1950's and early 1960's for IH's Farmall and Utility tractor operator's

¹⁷ Operators manuals were provided with new tractors. They were also available through IH's dealer network for purchase by owners of used tractors and others who may not have a copy (Heyen, Tr. 5475-76; Borghoff, Tr. 4141). However, one IH dealer estimated that from one percent, up to a maximum of thirty to forty percent of his customers who bought used tractors received operator's manuals (Heyen, Tr. 5475-76). Mr. Borghoff, IH's Manager of Product Integrity, testified that dealers do not generally stock a supply of operator's manuals, especially for older models (Borghoff, Tr. 4141).

manuals (*See, e.g.*, CX 269Z16-17). In certain manuals, there was also a caption under the cartoon ("Never refuel the tractor while the engine is running or extremely hot.") and/or the National Safety Council's "Green Cross for Safety" next to the "Safety First!" paragraph (CX 270E; CX 339E; CX 351F; CX 352E; CX 343E; RX 26-11). The "Green Cross for Safety" signified National Safety Council approval of any message that was accompanied by the emblem (Swanson, Tr. 4788).

137. These early manuals did not warn against removing the fuel cap while the engine was running or hot, nor was there any mention of fuel geysering, or a like phenomenon, as a possible result of such action (RX 5-5; RX 7-3; CX 269Z-16-17; CX 339E; CX 351F; CX 352E).

B. 1955-1958

138. During the period 1955 to 1958, an unspecified number of field reports came to respondent's attention concerning fuel geysering incidents, in which it was believed that the tractor owners had removed the fuel caps from a hot or running tractor (Findings No. 51, 52, 54, 55 and 56). It had also experienced a fuel geysering incident at its own test facilities at the Harvester Farms, under experimental conditions (Finding No. 53). The evidence reveals that by 1958 respondent was aware of at [49] least two incidents where the gasoline was ignited, and at least one incident where the operator was injured (Findings No. 52, 54). In view of the fact that over 150,000 IH gasoline-powered tractors had been produced and sold prior to 1958 (RX 89H) the incidents which had come to respondent's attention by 1958 probably did not represent an alarming situation. However, these reports, along with knowledge it had acquired through the tests which it had been running before and during this period, did put it on notice that a potentially serious safety hazard existed (Findings No. 43, 44, 47, 49, 50, 51, 53, 57).

139. In 1958, respondent reacted to this knowledge by issuing two communications to its dealer network—a "Service Bulletin" in January 1958, and a "Service Slant" in May 1958. (Findings No. 143-145, below).

140. Documents known as "Service Slants" were used to communicate urgent or especially important information or when IH's service section wanted to highlight vital information with respect to which dealers were to take action (Coleman, Tr. 1455, 1461-62; Hartzell, Tr. 2946). Relatively few Service Slants were issued in any given year, thereby emphasizing the importance of their messages. A master copy of any given Service Slant would be sent first-class mail to IH's district managers, each of whom would then mimeograph copies and

mail them to the appropriate dealers in their respective districts (CX 204B; Coleman, Tr. 1449-51).

141. Documents known as "Service Bulletins" were used for more routine messages and as more formal announcements of the information transmitted to the dealers via "Service Slants." Service Bulletins were printed in bulk and shipped via truck to IH's district offices. This consumed more time than the handling of a Service Slant. (Coleman, Tr. 1131; Hartzell, Tr. 2980; CX 204C). They were then provided to the dealers. Typically, the Service Bulletins were circulated among dealership personnel who then could pass on any relevant information to their customers. (Gast, Tr. 3750-53, 3778; Hill, Tr. 3839-40; Jacoby Dep., CX 396C; Purdy, Tr. 3815-16). It was understood by IH service personnel that urgent messages would not be communicated through service bulletins (Hartzell, Tr. 2981). Although there is no regular pattern and the number received at any one time may vary, a dealer receives a large number of Service Bulletins. They may arrive 20 at a time (Gast, Tr. 3771). The district offices hate to receive Service Bulletins because they present so much work. They usually are not processed the day they are received in the district office. (Hartzell, Tr. 2980). [50]

142. Dealers have a great deal of discretion in handling service slants and bulletins. When a dealer receives a service slant or bulletin, he decides whether the information contained in it is applicable to his customers and how, if at all, to transmit the information. (Gast, Tr. 3750-52, 3778; Hill, Tr. 3839-40; Jacoby Dep., CX 396C; Purdy, Tr. 3815-16). A dealer can delegate this discretion to his employees (Jacoby, Dep., CX 396C-D). IH intends that the dealers could transmit the information "in whatever fashion they saw fit" (Waechter, Tr. 2999; Jacoby Dep., CX 396C-D). Dealers generally do not send service slants or bulletins to their customers (Gast, Tr. 3750-53; Purdy, Tr. 3813; Heyen, Tr. 5472-73; Hill, Tr. 3858).

143. The January 1958 Service Bulletin set forth specifications for seasonal fuel use, explained the correlation between Reid Vapor Pressure (RVP) and fuel volatility,¹⁸ emphasized the greater volatility of winter-grade gasoline, and cautioned against the pressure build-up that could be caused by volatile gasoline out of keeping with the season of use. It did not warn specifically about fuel geysering, but did mention some of the possible consequences of out-of-season use of winter-grade gasoline, such as, excessive evaporation losses of fuel, pressure build-up in the fuel tank and percolation of fuel in the carburetor (CX 34).

¹⁸ The Reid method of vapor pressure testing is one measure of the volatility of gasoline, wherein the pressure exerted by the vapors of the fuel in a confined space and under controlled temperatures are measured in pounds per square inch (psi) (CX 34C).

144. Service Slant #24-58 was then issued in May 1958. After referring to the earlier Service Bulletin (Finding No. 143) about fuel volatility and seasonal changes thereof, this Service Slant explained some of the problems of using the more volatile winter-grade gasoline under warm weather conditions. It specifically noted:

Due to rapid evaporation of this fuel on warm days, more vapor will be produced in the tractor fuel tanks than can escape through the filler cap vents resulting in pressure build up within the tank. This will result in higher fuel bowl liquid levels in the carburetor effecting [sic] fuel-air mixture and economy. The hiss of escaping vapor from filler cap vents is an indication [51] of pressure build up in the tractor fuel tank; removal of the filler cap should not be attempted until the pressure has dropped and the tractor cooled down. A quick release of pressure from the tractor fuel tank by the operator's removal of filler cap will result in a temporary effervescence of fuel, this in the presence of a hot engine or other means of ignition can be a fire hazard. Refer to Operator's Manual - Warnings against refueling a tractor while the engine is hot or while the engine is running. (CX 35; RX 22).

145. The engineers who drafted Service Slant #24-58 felt that "effervescence" was the best word to describe the entire range of problems which an operator might encounter upon removing the cap from a hot or running tractor (Coleman, Tr. 1137-38, 1452-53; Waechter, Tr. 3001). Although "effervescence" does not convey a message commensurate with a number of fuel geysering incidents mentioned in this record (Buatte, Tr. 149, 177; Cameron, Tr. 401; Didion, Tr. 675, 680; Kangas, Tr. 507, 550-52; Wohletz, Tr. 634; Shawback, Tr. 583; Coleman, Tr. 1138, 1670; Link, Tr. 2024; Hartzell, Tr. 2972, 2985; Gast, Tr. 3814; Borghoff, Tr. 4154; Borghoff Test. in *Stambaugh* case, CX 278Z-7-8), the message conveyed by this Service Slant was probably adequate in view of the state of IH's knowledge of the situation as of May 1958. Although it was aware of the existence of a potentially serious safety hazard, the record only shows knowledge at this point in time of two accidents wherein fire resulted and one in which the operator was injured. (Finding No. 138, *supra*).

C. 1959-1963

146. In 1962, IH first published a Tractor Maintenance and Tune-Up Manual (RX 25) which was prepared by its tractor service supervisor, Harrison Hartzell, with the assistance of the University of Georgia (Hartzell, Tr. 2959-61). IH engineer Waechter also participated in its preparation (Waechter, Tr. 2993). This manual was designed to be used by servicemen and tractor users (Waechter, Tr. 2994). This manual, and its later reprints, were given away to farmers and agricultural colleges and used by dealers in informal meetings such as [52] "smokers" (RX 222; Hartzell, Tr. 2960-61). In 1962, several

thousand copies were distributed (Hartzell, Tr. 2984).¹⁹

147. The Tractor Maintenance and Tune-Up Manual contained a section on fuel volatility, which repeated the language from the 1958 Service Slant, quoted above in Finding No. 144 (RX 25Z-11-12).

148. In 1963, when respondent introduced a new line of tractors (the 806 model), the operator's manual was changed to state that the fuel cap was not to be removed from a hot or running tractor (Waechter, Tr. 2995-97; RX 26-21; RX 26-78). This warning was put under the heading "Filling The Fuel Tank," or "Preparing The Tractor For Each Day's Work" in the 806 and subsequent operator's manuals (RX 26-21; RX 26-118; RX 26-209; RX 48C). The operator's manuals for earlier models were not so amended (RX 2; RX 5; RX 7; RX 26-11; CX 269; CX 270; CX 339; CX 343; CX 351; CX 352). In fact, several of these manuals were reprinted as recently as 1979 without the addition of this language, or any other citation related to fuel geysers (CX 269Z-115; CX 339J; CX 352K).

149. Respondent's actions in distributing the Tractor Maintenance and Tune-Up Manual in 1962 and strengthening the wording of the operator's manuals for later model tractors in 1963 was insufficient in view of respondent's knowledge at the time. Since 1958, further reports of fuel geysers and injuries resulting therefrom, as well as greater knowledge of the underlying causes, had been coming to its attention (Findings No. 60-94). By June of 1960, IH engineer A. F. Voss had reported that:

The problem of gasoline "boiling" and generating excessive fuel pressures in tractor fuel tanks has been with us for a long time. (CX 44A).

and that:

[W]e continue to receive field reports of accidents wherein owners or members of their families have been seriously injured by inadvertent ignition of gasoline gushing from the tractor fuel tank. (CX 44A). [53]

In 1963, IH was also warned by an outside expert that it had retained in connection with the *Buatte* litigation that an improperly secured gas cap might loosen and "fly off," giving rise to a fuel geyser under some circumstances (Finding No. 93). (As early as 1957, Mr. Coleman had hypothesized that this might occur, in connection with the Bedke incident (CX 28A)). This, coupled with the persistent claims from operators that their fuel caps had "blown off" (CS 44A), should have caused respondent to question whether the warning in the Tractor Maintenance and Tune-Up Manual was sufficient, even if it could

¹⁹ IH was aware of the fact that farmers do much of their own tractor maintenance work (RF 411; D. Jolicoeur, Tr. 756; Allen, Tr. 3690-91).

consider its dissemination as being broad enough, which it could not—see Finding No. 151, below.

150. The strengthening of the wording in the 806 manual suffered this same defect and more. It did not specify any possible results of cap removal, as did CX 35 and RX 25. Then, it too failed to caution about properly securing the fuel cap. Furthermore, the amendment would not reach the owners of older model tractors whose manuals were not to be amended. (RX 89H-I). This was so even though IH felt that tractor maintenance played an important part in fuel geysering incidents and that older tractors were more likely to be poorly maintained (Allen, Tr. 3690-91).

151. By this time, 1962-1963, IH knew that it had a serious problem on its hands. It knew that the temperatures of gasoline in its fuel tanks and the pressures therein were reaching high enough levels that a geyser could occur, if the fuel cap were removed or dislodged when the engine was running or hot. It knew too, that operators were removing fuel caps from hot or running tractors. In fact, it knew that its own test personnel were acting in this manner. Also, it had reason to believe that an improperly secured cap might vibrate off, precipitating a fuel geyser. (Findings No. 34, 50-66, 71, 73-93). By March of 1961, and since 1958, IH had been aware of at least 11 reported fuel geysering incidents on its I-460 and F-560 tractors alone. (CX 48D; RX 89I). Other reports had been received since 1958 concerning fuel geysering on other model tractors, some involving serious injuries (Findings No. 58, 59, 60, 61, 62, 71, 74, 85, 88, 90-92, 94). These, added to the unspecified number of reports of fuel geysers it had received between 1955 and 1958 (Findings No. 50, 52, 53, 54) gave notice to respondent that its Service Slant of 1958 (Finding No. 144) was insufficient to alleviate this hazard. The passing on of messages from Service Slants and Bulletins was discretionary with IH's independent dealers (Finding No. 142). Therefore, this was a haphazard way, at best, to put out such an important warning. The additional accidents since 1958 put IH on notice that its dealers were not getting the hazard warning to the operators of its tractors in [54] their service areas (Gast, Tr. 3774-75; Heyen, Tr. 5484-85; Hill, Tr. 3858-59; See also, Finding No. 154, below). In fact, it knew that many operators of used tractors might not even be regular customers of its dealer network (Gast, Tr. 3754-55). Since a Service Slant, which was supposed to be reserved for vital information (Finding No. 140) had proven ineffective, respondent could not expect the Maintenance and Tune-Up Manual to do more. The Manual was a much larger document, dealing with many different things, with the message from the Service Slant buried back on the thirty-sixth page. (RX 25). At least the Service Slant had dealt with only one principle topic and had given

some prominence to the caution against removing a fuel cap from a hot or running tractor (Finding No. 144). As for the new operator's manual warning of 1963, even in the unlikely circumstance that respondent still had reason to believe that operators carefully read the entire manual, it did not specifically warn of the hazard of fuel geysering and the vast majority of gasoline-powered tractors manufactured by respondent were not covered, as they were older models for which the manual was not revised (Finding No. 148).

D. 1964-1972

152. During the rest of the 1960's and the early 1970's, respondent's actions with regard to this matter continued in the same vein, despite the fact that its awareness of fuel geysering as a safety hazard continued to grow. (See Findings No. 98 and 100, for example). During the period 1964 to 1972, respondent took several additional steps to communicate safety precautions to the operators of its tractors. None of these really went beyond the steps it had taken through 1963. During this period it:

(a) From 1964 to December 1975, inserted in its operator's manuals a National Safety Council bulletin entitled "Mr. Farmer" which cautioned the operator not to refuel a tractor when the engine was running or hot and directed the operator to read the operator's manual for other safety instructions (RX 155A-B).

(b) Conducted service training schools for its district service personnel where, among other things, the district personnel were instructed in the differences in volatility between winter-grade and summer-grade fuel and were given a demonstration of how heat and agitation can cause highly volatile gasoline to generate significant amounts of pressure in the tanks (Hartzell, Tr. 2962-64, 2977-78). The district personnel were directed to carry the message out to the dealer organization (Hartzell, Tr. 2964).

(c) Repeated the warning message of its 1958 Service Slant in a Service Bulletin which was distributed to the dealer [55] network through its district offices (CX 80A-D; Waechter, Tr. 2998-99; Hartzell, Tr. 2965-66).

(d) In 1971, IH developed a "Farm Equipment Safety Teaching Kit" designed for use in instructing high school age children about farm safety (CX 204E; CX 204Z48-Z49; Bennett, Tr. 3271). Availability of the kit was advertised in a variety of farm trade magazines, and IH offered the kit free-of-charge to Vo-Ag instructors, 4-H clubs and Future Farmers of America organizations (CX 204E; Bennett, Tr. 3271). As of 1977, approximately 9,000 kits had been distributed (CX

204E). The kit included a warning to refuel only when the tractor engine was cool (CX 204; CX 204Z48).

(e) In 1972, published a brochure entitled "18 Ways to Make Fieldwork Safer" (RX 37B-E; RX 266A-D; CX 204F, Z54-Z55; Bennett, Tr. 3272). Among other things, this brochure warned that a tractor should be refueled only when the engine is cool; the brochure also stated: "Stop tractor engine and let it cool before refueling. Be careful not to overfill tank or spill fuel on a hot engine. No smoking near fueling areas" (RX 37D; CX 204Z55). "18 Ways to Make Fieldwork Safer" was distributed to IH dealers with instructions to make it available to farmers (RX 37A; Heyen, Tr. 5495-96). "18 Ways" also appeared in IH's house magazine, *IH Farm* (the predecessor of IH's *Farm Forum*) (RX 37A).

Through 1972, respondent continued to receive reports of fuel geysering incidents and conducted further tests which indicated the unlikelihood that a mechanical solution (such as better shielding, better material for the fuel tank or better venting and cooling systems) could be found for the fuel geysering problem (Findings No. 95-121). This additional information and the continued lack of effectiveness of its normal communications channels (through its dealer network and its operator's manuals) should have prompted IH to make a more direct effort to warn tractor operators of this peril.

153. Moreover, this should have been quite obvious to respondent by this time. Accidents were continuing to occur despite its efforts (Findings No. 104, 105, 117, 118, 121; CX 220). This alone should have put it on notice that operators were not thoroughly reading the operator's manuals and that dealers were not passing on its warnings concerning removal of the gas cap. In the first place, IH knew that many of the gasoline-powered tractors in the field had changed hands a number of times and that many owners, as well as renters, did not even have an operator's manual (Buatte, Tr. 152; Greathouse, Tr. 194, 224; Cameron Tr. 372; Kangas, Tr. 487; Wohletz, Tr. 632; D. Jolicoeur, Tr. 755; Heyen, Tr. 5475-76; Borghoff, Tr. 4141). Secondly, it knew that the manuals for its older [56] models did not even contain a warning against cap removal (Finding No. 148). Finally, it also knew, or should have known that many operators, because of their great familiarity with tractors and tractor maintenance, don't read operator's manuals from cover to cover and are unlikely to read sections of the manual dealing with refueling procedures and the handling of fuel (Greathouse, Tr. 194; Kangas, Tr. 489, 494, 521, 550; Shawback, Tr. 587-88; Wohletz, Tr. 627; Didion, Tr. 670-71; Holtz, Tr. 714-15; D. Jolicoeur, Tr. 755; Clowes, Tr. 1827, 1830; Nichols, Tr. 2091; Borghoff, Tr. 4141; Swanson, Tr. 4861; RX 32, pp. 85-86). In fact, a Department

of Transportation report in 1971, giving the consensus of a number of university personnel concerned with operator elements of tractor safety, stated that too few operators bother to read the manual in sufficient detail (RX 32, pp. 85-86) and IH official William Borghoff testified in private litigation in 1979 that he believed about half of the people who operate IH gasoline-powered tractors do not read the operator's manual (Borghoff, Tr. 4140).

154. As for communication of warnings through its dealer network, respondent was also aware of deficiencies in this method of conveying a warning message. As noted in Finding No. 142, above, dealers have a great deal of discretion as to whether a particular message in a Service Slant, Service Bulletin, or other communication should be passed on to their customers. No IH dealer who appeared herein testified that he had ever undertaken to warn his customers about the hazard of fuel-geysering prior to the Spring of 1980, and some testified directly that they had not done so (Gast, Tr. 3774-75; Heyen, Tr. 5484-85; Hill, Tr. 3858-59).²⁰ One dealer said that, prior to 1980, he would not have passed on the information in Service Slant #24-58 concerning the danger of fuel "effervescing" upon removal of the fuel cap, since he did not consider this a problem in his area (Purdy, Tr. 3815-16). It should have been obvious to IH that unless it convinced its dealers that a very definite safety hazard existed, that in the exercise of their discretion the dealers would not pass on this message. The continuation of fuel geysering incidents was concrete evidence of this fact. Furthermore, IH was also aware that many owners of used tractors were not on the dealers' mailing lists and might not be easily located by the dealers (Gast, Tr. 3754-55, 3763-64, 3773-74; Purdy, Tr. 3807-08, 3812). [57]

155. In 1979, the Product Reliability Group of IH (which was founded in 1972) came to the conclusion that the facts as they then knew them warranted more specific warnings that get the message "to customers as well as our own Regions and Dealers" (Finding No. 131). Yet IH knew far more about this problem, and was aware of a far greater number of fuel geysering incidents by the 1960's, than Mr. Bennett and Mr. Arp were aware of in the Spring of 1979. In early 1979, Mr. Bennett was only aware of 13 incidents involving claims of fuel fires or explosions on IH tractors (Finding No. 128). The Clowes accident which occurred in 1972 gave rise to later litigation in which Mr. Bennett became aware for the first time that an operator might remove a cap from a hot or running engine (Finding No. 122). Yet IH knew as early as 1955, that operators were acting in this manner

²⁰ Nor is Mr. Heyen's testimony in this regard muted by his further testimony that he would not have considered the Service Slant message concerning fuel cap removal to be new information, so as to warrant his communicating the message to his customers (See RRF 365). Mr. Heyen also was unaware of the number of fuel geysering incidents which had occurred in his homestate of Illinois—at least 18 according to CX 220.

(Finding No. 51) and this knowledge was reconfirmed in many reports through the latter half of the 1950's and the 1960's and the early 1970's (Findings No. 52, 53, 55, 56, 61, 62, 63, 71, 90, 94, 104, 117, 118). In fact IH knew that its own personnel at its test facilities sometimes removed fuel caps from hot or running engines (Findings No. 34, 53). In the 1960's, IH was also well aware that the pressure build-up in its gasoline-powered tractors with fuel tanks in front of the operator was excessive and constituted a very definite "safety hazard" (Findings No. 50, 51, 52, 53, 54, 57, 59, 60, 62, 63, 65, 71, 74, 76, 77, 78, 85, 88, 89, 90, 91, 94, 96, 98, 99, 100, 101, 102, 104, 115, 117, 118). In fact some reports of IH engineers specifically referred to such pressure build-up as a "safety hazard" (CX 57A; CX 58B).

156. Thus, during the 1960's and early 1970's respondent was far more knowledgeable about the hazard of fuel geysering than Mr. Bennett and his associates were in 1979. It also knew that these incidents were continuing despite its efforts through normal channels of communication to warn operators not to remove the cap from a hot or running tractor (Findings No. 50-118, 153-54). It also had at least two warnings that an improperly secured cap might come loose precipitating a geyser (CX 28A; CX 52A), along with repeated allegations from operators that their fuel caps had blown off (*See e.g.*, CX 44A). Therefore, it should have been clear to respondent by 1963, and even more so by the early 1970's, just as it became clear to its Product Reliability Group in 1979, that a more complete, more explicit and more direct warning was essential, if further serious accidents of this type were to be avoided.

157. Despite such knowledge, respondent failed to initiate such action until 1980 (*See* Findings No. 167-261, below). Had respondent's record retention policy for accident reports and related data, such as tests, been different, and had the Product [58] Reliability Group had the full benefit of respondent's historical knowledge of the "fuel geysering" problem, it is clear that this Group at least, would have reached the conclusion much earlier, that a better and more direct warning was necessary (Findings No. 155-156).

E. 1972-1979

158. As noted in Finding No. 119, the Product Reliability Group was founded in 1972. This group centralized the record keeping for product reliability information, including the safety performance of older products in the field. However, in general, it was only able to collect records of such information back to 1969. (Findings No. 119-120).

159. Starting in December 1975 IH inserted in all operator's manuals a National Safety Council Rural Accident Prevention Bulletin concerning safe tractor operation (CX 204A-B, O-P). It continued to

insert this Bulletin in its operator's manuals until December 1978. This bulletin catalogued the common types of tractor accidents as follows: tractor overturn, falling from the tractor, collision with motor vehicles or roadside obstacles, being caught in the PTO (Power Take-Off) shaft, slipping while mounting or dismounting, running over a bystander, striking overhead wires and other obstructions, being struck by broken tractor parts, being fallen on by a poorly supported tractor during repairs, being burned by a fire resulting from an accident or during refueling, being overcome by exhaust fumes in a closed building, and being injured or burned during repair or maintenance operations. (CX 204-O). The bulletin set forth safe operating practices to avoid these tractor accidents, including a reminder to "[f]uel only when engine is off—don't smoke while doing it." (CX 204P).

160. In 1976 IH released a 16 millimeter color film entitled "For Whom the Siren Sounds" (RX 41; Bennett, Tr. 3269). One of a series of seven safety films produced by IH in recent years, "For Whom the Siren Sounds" portrayed many safety hazards involved in operating agricultural tractors (RX 41; Bennett, Tr. 3268-69). Among other things, the film cautioned against the risks of the tractor rolling or tipping over due to operating on steep inclines, of the tractor rearing up backwards due to improper methods of extricating it from a muddy field, of accidents due to extra riders (especially children) on the tractor, of highway collisions due to failure to equip the tractor with a slow-moving vehicle emblem, of dismemberment of hands and arms due to unclogging harvesting and cultivating equipment without first turning off the PTO power, of crushed fingers due to improper procedures for mounting [59] implements, of being crushed by falling bales of hay due to operating the tractor with the front-end loader in an elevated position, of being crushed while inspecting the hydraulic system due to failure to properly prop up hydraulically-powered implements, of the tractor running away due to failure to remove the ignition key and lock the brakes together, of the operator being pulled into moving machinery by loose clothing threads, of falling off the tractor due to slippery steps leading to the operator's compartment, and of a wide range of accidents due to operator fatigue or inattention (RX 41). "For Whom the Siren Sounds" also cautioned against removing the fuel cap while the tractor was running or hot (RX 41). The film was intended to create awareness of the host of dangers associated with farm tractor operation and won an international award for excellence at the Brussels Film Festival (Bennett, Tr. 3269-70).

161. "For Whom the Siren Sounds" has been made available to IH dealers in cartridge form so that it can be shown in the dealership setting (Bennett, Tr. 3268). The film is also distributed through the Grange Foundation, which loans agriculturally-oriented films free-of-

charge to farm organizations (Bennett, Tr. 3268-69). In addition, IH's photo studio sells "For Whom the Siren Sounds" and the other IH safety films to schools for use in Vo-Ag classes and 4-H clubs (Bennett, Tr. 3269).

162. In 1975 or 1976 IH developed a wall poster (27-3/4" x 18-3/4") setting forth rules that operators were urged to follow to avoid tractor accidents (CX 204D; CX 204Z36; Bennett, Tr. 3271-72). The poster warned, *inter alia*, "[d]on't refuel or remove fuel tank cap when engine is running, hot, or when near an open flame" and "[d]on't smoke around fuel" (CX 204Z36). The poster was produced in pad form (each pad consisting of approximately 50 posters) and distributed to all IH agricultural equipment dealers (Bennett, Tr. 3272). The dealers were instructed to post the pad in their dealerships so that farmers could tear off posters to take home and display them where their employees would see them (CX 204D; Bennett, Tr. 3272). The poster was promoted in *IH Farm* magazine and distributed to Vo-Ag classes, Future Farmers of America clubs, 4-H clubs and safety engineers at the University of California (CX 204D).

163. However commendable these latter efforts (Findings No. 159-162) may have been, they still fell short of a direct warning about the safety hazard of "fuel geysering" and they still were not directly communicated to the operators of IH's gasoline-powered tractors (Findings No. 159-162). [60]

164. In 1976 IH developed a new decal for application on its gasoline-powered tractors (CX 204D; CX 204Z34; Bennett, Tr. 3152). Since 1947 IH had placed decals on all its production tractors urging operators to read their operator's manuals for safety-related information and instructions (CX 204C-D; CX 204Z23, CX 204Z25; CX 204Z28; CX 204Z31; CX 430; Sullivan, Tr. 5161-63; Kangas, Tr. 548; Clowes, Tr. 1866; RX 184). During a review of IH's decals in 1976, Bennett decided to add a decal to remind operators not to remove the fuel cap from a hot or running tractor (Bennett, Tr. 3152, 3304-05; Zitko, Tr. 1947). While the 1976 decal does not use the specific term fuel "geysering," it was intended to cover the sudden eruption of fuel now known as "geysering" (Zitko, Tr. 1952). Operators who adhered to the decal's warning—to tighten the cap securely and not remove it while the engine was running or hot—would be protected against varying degrees of fuel coming out of the tank (Zitko, Tr. 1952-53). The 1976 decal was installed by IH near the fuel tank filler neck on all new gasoline-powered tractors being built (Bennett, Tr. 3153; CX 204D). However, only 980 of the tractors in issue were produced after 1975 (RX 212). In addition, the decal was included in the service package of decals that IH provided for dealers and farmers to apply on older tractors, such as those that were repainted (Bennett, Tr. 3153-54).

165. The new decal (CX 204D; CX 204Z34) would have been the most effective IH warning up to that time, *had it been adequately disseminated*. Under a caution insignia and the word "CAUTION" in large capital letters, it stated

AVOID FIRES. TIGHTEN cap securely. Do not open when engine is RUNNING or HOT. (CX 204Z34)

It did communicate the fact that a hazard existed and the principal steps an operator should take to avoid it.

166. In 1976, IH's operator's manuals were revised again (RX 26-114 through 124; RX 26-199 through 212). The earlier warning language against cap removal (see Finding 148) was further emphasized by the caution symbol—an exclamation mark inside a triangle—recommended for certain hazard warnings by the American Society of Agricultural Engineers in 1975 (RX 26-209; RX 26-118; RX 250E). The manual stated that the exclamation mark triangle was being used "to call your attention to instructions concerning your personal safety" and that operators should "[b]e sure to observe and follow these instructions" (RX 26-116; RX 26-200). The word "CAUTION!" was added in accordance with the ASAE standards, and the warning was printed in bold-faced type (RX 26-209; RX 26-118; RX 250E). The operator's manual warning included a statement of the precautions the operator should take to avoid fuel geysering, among other things (Lirtzman, Tr. 4662, 4664). The revised [61] operator's manual, like the 1976 decal, contained an express caution to "[b]e sure that the filler cap is tightened securely before starting the engine" (RX 26-209; Zitko, Tr. 1962-63). Again, however, the revised manuals did not specify the hazard involved in cap removal and only applied to later production. Old operator's manuals were not revised and distributed. (Finding No. 148).

F. 1979 to Present: IH's Fuel Fire Prevention Program

167. Following the Bennett-Arp exchange of March-April 1979 referred to in Finding No. 131, above, the Product Integrity Group, along with IH Engineering, began to put together a program which became known as IH's Fuel Fire Prevention Program.

168. On April 5, 1979, Bennett, elaborating on his March 30 note, wrote a further note to Arp, in which he stated that he was thinking in terms of a major national program that focused on three general areas: good safety practices, tractor/engine maintenance, and gasoline characteristics. In connection with gasoline characteristics Bennett stated that there appeared to be good reason to think that more light ends were being blended into gasoline, that gasohol might in-

volve new hazards, and that a rewrite of the 1968 Service Bulletin on gasoline properties might be appropriate. Bennett noted that gasoline-powered tractors were out of production but that quite a few of them were in use. (CX 118).

169. On April 9, 1979, Arp, responding to Bennett's April 5 note, instructed Bennett to develop an overall plan that covered all bases. Arp requested that Bennett consult with certain IH departments and also with the National Safety Council. (CX 118).

170. On April 27, 1979, following a meeting, Bennett memorialized the "PROGRAM FORMAT IDEAS" as of that meeting (CX 203L; Allen, Tr. 3687-88). The major elements were a direct mailing to customers, a dealer letter, a dealer parts counter display, a maintenance check list for dealers, and a follow-up summer maintenance advertising campaign (CX 203L).

171. In April-early May 1979, IH Engineering set as its objective a solution which would minimize the possibility of liquid fuel escaping from the filler neck (RX 97B). It discussed several methods of attack, including increased warnings, installation of additional heat shields or insulation around the fuel tanks, modifications of the filler neck, and a new fuel cap (RX 97B; Sullivan, Tr. 5124; Hillstrom, Tr. 3455). IH Engineering agreed that the solution should include a renewal of IH's warnings about fuel safety (RX 97B). Beyond that, IH [62] Engineering, after evaluating the pros and cons of alternatives, "generally agreed that the most fruitful investigation would concentrate on a new fuel cap. A new fuel cap that would fit existing tanks would not require tractors to be transported into dealerships to have work performed." (RX 97D).

172. IH Engineering began by reviewing cap designs that were in 1979 state-of-the-art in the automotive field. It determined, however, that the (red) triple baffle cap worked better on tractors than state-of-the-art automotive caps. The automotive caps, while they worked well in the laboratory and on the test track, did not function when the tractor was operated on the torture track. IH, therefore, began to see what could be done to improve the triple baffle cap (Sullivan, Tr. 5124-28; RX 97E-F). It set a target date for the Fall of 1979 (Hillstrom, Tr. 3548).

173. IH Engineering established that: "The prime objective of the new cap was to prevent liquid fuel from gushing onto the operator upon cap removal. In addition, it should have a warning on its top surface. It should minimize any leakage or spillage in the event of an overturn. It should not spurt or spew liquid gasoline to an unacceptable degree during operation. It should prevent rainwater and dirt from entering the tank. It should fit all gasoline farm tractors which use either the 23995-DC flat cap or the 361 909 R91 triple baffle cap,

from the "M" tractor first manufactured in 1939 through the 686 tractor produced until 1978. The new cap should free-vent in the vacuum mode. The new cap should, insofar as practical, vent pressure in the gasoline tank. It should be removed in two stages. Such removal would provide an intermediate venting stage similar to that of a radiator cap." (RX 97D-E).

174. On May 9, 1979, Bennett informed Arp by note that IH Engineering advised that it might be able to improve on the (red) triple baffle cap, though cautioning that many technical problems were involved (RX 199; Bennett, Tr. 3159). Bennett expressed his hope that IH might be able to run a cap exchange promotion in the Fall, in which the farmer was advised in an information bulletin on gasoline safety about the availability of a new cap, and obtain his new cap from IH by filling in and returning to IH a postcard which could be cut out of the information bulletin (RX 199; Bennett, Tr. 3160; Allen, Tr. 3730). Arp, responding to Bennett's May 9 note, wrote: "Good—keep me advised" (RX 199; Bennett, Tr. 3159).

175. On May 18, 1979, there was a meeting at the Product Support Center, the location of the Product Integrity Group, to establish the parameters for a program that combined an educational program on gasoline fire hazards, tractor maintenance, and distribution of an improved gas cap (CX 121A). [63] At the meeting, the participants discussed the preparation of a fold-out mailer for direct mail to customers, as recommended by Bennett in his May 9 note (CX 121A; Bennett, Tr. 3159-60). The contemplation was that the mailer would be a three-fold $8\frac{1}{2} \times 5\frac{1}{2}$ inch brochure in red colors including a message on gasoline safety, a general safety message, a tractor maintenance check list, and a return postcard (CX 123). The participants discussed the need to determine which of several possible direct mail lists to use, and the need to supplement direct mail with media advertising, displays in dealerships, stories in IH mailers such as Farm Forum, The Winter Overhaul Campaign, a Service Bulletin, and a general news release (CX 121A). They recognized a need to coordinate with the National Safety Council (CX 121B). Further, they considered the preparation of a dealer service check list and a customer safety check list concerning gasoline handling and use. They outlined for further exploration the various considerations involved in mailing out new caps to customers. (CX 121B). They recognized that IH Engineering had to evaluate new cap proposals and that they were to evaluate new warning labels (CX 121B). All basic elements discussed at the May 18, 1979 meeting were ultimately implemented in IH's Fuel Fire Prevention Program (FFPP) (Bennett, Tr. 3161).

176. By May 30, 1979, IH North American Operations had been advised of the overall program and was in agreement to proceed with

it (CX 125B; Bennett, Tr. 3164). As of that date, IH was hoping to promote a new cap by the Fall of 1979 (Bennett, Tr. 3164), and in connection with the new cap IH was continuing to proceed along the lines outlined at the meeting on May 18 (CX 125A). IH was also actively investigating engaging an outside firm to distribute and ship new caps (Allen, Tr. 3690).

177. The projected cap completion date of Fall 1979 was an ambitious one. The normal cycle from innovation to product release in the farm tractor industry is five years (Hillstrom, Tr. 3472-73). If the new product is a component the time can be cut down somewhat, but it is still a long period (Hillstrom, Tr. 3473). The reason for the short goal with respect to the new cap was IH's desire to release it as soon as possible, and its belief that it could utilize proven automotive components from outside suppliers and combine them with the existing tooling and configuration of the (red) triple baffle cap. Unfortunately, the combination was not satisfactory for tractor use. (Hillstrom, Tr. 3473-78).

178. During the Summer of 1979, it became obvious that the development of a new cap was "a complex, involved, difficult thing to do," that a new cap would not be available for distribution in the Fall of 1979, and therefore that IH could not then go forward with a program that touched all bases as [64] envisioned in the Spring of 1979 (Bennett, Tr. 3165; *see Hillstrom*, Tr. 3548).

179. As of August 13, 1979, knowing that the August 15, 1979 date for program release could not be met, IH had two choices: it could eliminate the gas cap exchange element and proceed with the information brochure alone in the Fall of 1979 or it could retarget the entire program for the Spring of 1980. Bennett recommended retargeting on the grounds that Fall was a low risk season for fuel fires and that the advantage of including a new cap offer in the brochure to focus attention on safety information in the brochure outweighed the disadvantage of a few months delay. (CX 133).²¹ Bennett recognized, however, that a new cap, though retargeted for Spring 1980 (Hillstrom, Tr. 3548), might not be available by Spring of 1980. He recommended in strong terms that IH proceed with distribution of the brochure in the Spring of 1980 regardless of whether a new cap was available (CX 133).

180. Beginning November 1, 1979 and continuing for six months, there was a strike at IH (Bennett, Tr. 3166). The strike slowed down the engineering development of a new cap and precluded in that period the manufacture of a new cap by IH (Bennett, Tr. 3166).

181. As of November 15, 1979, IH showed a budget accrual of \$2,850,000 for the field campaign expense for the FFPP (RX 200). As

²¹ There is no evidence of record of any fuel fires occurring during the Fall of 1979 (CX 220).

a result of the budget accrual, \$2,850,000 had been set aside for the FFPP and could not be expended for any other corporate purpose. (Bennett, Tr. 3167).

182. During November of 1979, it became apparent that a new cap would not be ready by Spring 1980. As a result, Bennett decided that the program should be split in two parts, with the safety promotion part of the program being targeted for the Spring of 1980 and with the cap exchange portion deferred until the new cap became available. (Bennett, Tr. 3168).

183. On November 9, 1979, Bennett sent a memorandum to Arp recommending that IH "proceed with a campaign to provide information and instruction regarding gasoline volatility and safety precaution to the agricultural community." Bennett noted that the new cap under development looked promising but advised Arp that reference to it in a field campaign was premature at that time. Bennett observed that IH was "at the point where the information bulletin, posters, and decals must be committed in [65] order to have them in customer and dealer hands in time for Spring field work." (CX 141).

184. IH, acting on Bennett's November 29 recommendation, went forward with the promotional part of the program in the Spring of 1980 (Bennett, Tr. 3169).

185. Pursuant to the decision to proceed with the promotional part of the program, IH prepared for distribution and in the early Spring 1980 distributed (1) NEW FACTS ABOUT FUELS (CX 153); (2) the 1980 Warning Decal (CX 152); (3) a countercard entitled "HOW SAFE ARE YOU?" (RX 55); (4) a letter dated March 3, 1980 from Arp to all AE [Agricultural Equipment] Regions entitled "Facts About Fuels Program" (RX 56A); (5) a Recommended Dealer Announcement Letter entitled "Facts About Fuels Program" (RX 56B); (6) Service Bulletin No. S-3981 dated March 7, 1980 (RX 202A-B); (7) Service Bulletin No. S-3982 dated March 7, 1980 (RX 57A-B); and (8) letter dated March 24, 1980 to AGRICULTURAL SAFETY LEADERS (CX 154). However, this part of respondent's program did not include a direct mailing to IH's customers, media advertising, nor general news releases (See Finding No. 175).

186. "New Facts About Fuels" (CX 153) is a fold-out brochure. The back cover states in large print:

Did you know GASOLINE has become more EXPLOSIVE recently? Gasohol is even more so.

When the brochure is initially unfolded, information concerning fuel volatility and handling is given under three topic headings: "Here's what's happened to gasoline. . .," "And what about gasohol?," and

"There's even more need to be careful!" When the brochure is fully unfolded, the two center pages, with supporting illustrations and text, emphasize the need to work safely with fuel, the importance of a careful operator, a short safety check list for the operator, and an exhortation to attach IH's 1980 Warning Decal (discussed below in Finding No. 188), along with a full size reproduction of the decal.

187. Under the heading "Here's what's happened to gasoline . . ." in CX 153, the brochure discusses increases in fuel volatility over the years and states:

The higher volatility of gasoline being marketed today makes it more explosive and, consequently, more dangerous to use. The more rapid vaporization causes tank [66] pressures to go up. If the cap is quickly taken off a tank when it is hot, explosive vapor or fuel may escape. Any chance spark, lit cigarette, or open flame could ignite it, causing an immediate explosion or fire with the possibility of serious injury to anyone in the area.

Under a heading "Working safely with today's fuel," the brochure cautioned among other things: "Always tighten the cap securely;" "Never take the cap off or refuel when the engine is running or hot;" "Don't fill your tank to capacity . . . allow room for expansion;" "Schedule your gasoline purchasing so that you won't hold 'winter gas' over to Spring;" and "Make sure everyone operating your equipment follows all the safety rules in the operator's manual. If you don't have an operator's manual, contact your local dealer or International Harvester." Under the safety check list for the operator, the brochure advises the operator, among other things, to: check the exhaust system for broken manifolds, loose exhaust pipes, broken mufflers and leaking gaskets; make sure the fuel tank heat shields are in place; and only use the correct fuel cap, making sure it's in good condition. (CX 153).

188. The 1980 Warning Decal (CX 152) which was distributed at this time was larger and more explicit than that put out in 1976 (Findings No. 164, 165). It, and the full reproduction of it in CX 153, had a large ASAE caution insignia and the word WARNING in large print, on a yellow background, for a heading. It then stated:

A FUEL FIRE CAN BURN YOU.

Tighten cap securely. Do not open if engine is running or hot, near flame, sparks, or while smoking. Explosive vapors or fuel may escape. Shut off engine and let it cool before opening cap.

189. The "How Safe Are You" Countercard (RX 55), distributed at this time, was a cardboard poster designed for display in dealerships (Bennett, Tr. 3180). In addition to the title, the countercard had addi-

tional captions, "Do today's gasolines require more care?" "What about gasohol?" and "How can you work safely?" At the bottom, pockets held copies of "NEW FACTS ABOUT FUELS" (CX 153) and the 1980 Warning Decal (CX 152), with "FREE Take One Of Each" printed across the pockets (RX 55). The purpose of the counter card (RX 55) was to [67] attract the attention of farmers to the brochure (CX 153) and decal (CX 152). As Bennett explained: "Getting farmers to pick up these brochures and decals and use them" (Bennett, Tr. 3180).

190. These materials (RX 55; CX 152; CX 153) were distributed in the Spring of 1980 through respondent's dealer network. The dealers were asked not only to prominently display the furnished materials, but also to "hand out brochures and labels when calling on customers and prospective customers, affix labels to all used gasoline engine equipment in inventory and on all such customer machines coming through your service department, promote distribution of this material through local groups such as: 4H, FFA, Vo-Ag classes, etc., and generally promote safe fuel handling practices to the fullest extent." (RX 56B).

191. In Service Bulletin No. S-3981, dated March 7, 1980, which IH distributed through its field service organization to all agricultural equipment dealers, IH advised that "One of the causes of fuel fires on equipment is careless and improper maintenance." IH suggested certain routine checks, including the exhaust system (for broken manifolds, loose exhaust pipes, broken mufflers, and leaking gaskets), heat shields and insulation if required to make sure they were in place, and the fuel cap to be sure it was the correct one and in good condition. (RX 202A-B).

192. The information in Service Bulletin No. S-3981 (RX 202A-B) was the same information as that in NEWS FACTS ABOUT FUELS (CX 153), but IH "wanted to put it into a service bulletin so that it would go into the dealer service bulletin for his book that he keeps there so he would always have it" (Bennett, Tr. 3186). The underlying reason was that IH was of the opinion that improper maintenance was a very important factor in tractor fires because IH investigation of specific accidents had shown improper maintenance to be a major contributing cause (Bennett, Tr. 3186-87, 3211; Allen, 3690-91).

193. In Service Bulletin No. S-3982, dated March 7, 1980, which IH distributed through its field service organization to all agricultural equipment dealers, IH reminded dealers of the policy of updating and replacing safety labels on agricultural equipment, specifically advised dealers of the availability of the 1980 Warning Decal (CX 152), and stated that this decal "should be applied near the fuel cap of all

gasoline-powered machines going through your shop and on your lot." (RX 57A-B; Bennett, Tr. 3185; Allen, Tr. 3703).

194. In the March 24, 1980 letter to AGRICULTURAL SAFETY LEADERS, IH advised that: "Fires can result in extremely serious injuries. Agricultural equipment is particularly [68] vulnerable to fire because of the wide variety of operating environments, long working life, extensive use of hydraulics, frequent lack of proper maintenance, wide range of operator skills, etc. Fuel fires are of particular concern because of the large volume of fuel carried on board and its proximity to the operator. In addition, the changing characteristics of fuels being marketed and the availability of a variety of fuel system modification kits which alter operational factors in ways not contemplated in original design can create serious fire hazards." IH offered to supply at no cost reasonable quantities of NEW FACTS ABOUT FUELS (CX 153) and the 1980 warning decal (CX 152) and enclosed copies for reference. IH urged that leaders stress safe use of farm fuels in these programs. (CX 154; Bennett, Tr. 3189-90).

195. The Agricultural Safety Leaders, who received the March 24, 1980 letter, along with the NEW FACTS ABOUT FUELS (CX 153) and 1980 Warning Decal (CX 152), were the membership of the National Institute of Farm Safety (which includes state farm safety specialists, University specialists, United States Department of Agriculture safety specialists), high school teachers teaching agriculture, Future Farmers of America clubs, and insurance people (Bennett, Tr. 3187). (For IH's actual mailing list, see CX 155A-U).

196. IH received many requests for NEW FACTS ABOUT FUELS (CX 153) and the 1980 Warning Decal (CX 152) from agricultural leaders (RX 271A-C). IH received many favorable comments about these materials, including one from Rollie Schneider of Nebraska, a farm safety specialist and from Bill Cox, a specialist with the United States Department of Agriculture (Bennett, Tr. 3188-89).

197. Although the materials disseminated in the Spring of 1980 did not mention "fuel geysering" by that term, that hazard is clearly covered by the wording of these materials and the precautions urged meet all of the steps indicated by this record which were required to prevent fuel geysers. They warned the operator of the danger posed by pressure in the fuel tank, instructed him to properly secure the fuel cap and never remove it while the tractor was running or hot, and told him to keep his tractor and fuel tank properly maintained (Lirtzman, Tr. 4672-73, 4682-83, 4699-4700; Swanson, Tr. 4806-10). Complaint counsel have implicitly conceded that these warnings are sufficient, by their endorsement of the later August 1980 letter as being effectively written, although it urges no further precautions (CX 375; *Transcript of Prehearing Conference* of December 16, 1980,

p. 9), and by their concession that a properly secured fuel cap cannot be "blown off" (*See* Finding No. 32, above). The only question remaining then is whether these materials were adequately disseminated. [69]

198. There is some question in my mind about the adequacy of the dissemination of RX 55; CX 152; CX 153 and RX 202A-B, in the Spring of 1980. That dissemination still relied primarily on the dealer network and did not yet incorporate an attempt to directly contact the operators of IH tractors. At the same time, the materials being used were more explicit than past materials and were of a type less subject to dealer discretion. It was also coordinated with a program operating through agricultural leaders. This provided a synergistic effect which could be expected to enhance the effectiveness of the materials (Lirtzman, Tr. 4625-26, 4632-34, 4643-45, 4706-07, 4740-42). However, it is not necessary to decide whether this was sufficient without a direct approach to operators, because a direct approach was soon made (Findings No. 199-205, and 224-238, *infra*).

199. As previously noted (Findings No. 170, 175) Bennett had planned in April/May 1979 on a direct mailing to operators which would be coupled to the gas cap exchange when the new fuel cap was ready. In January 1980, an initial draft of such direct mailing was prepared, but shelved since the new fuel cap was not yet ready for distribution (CX 216C-E). Over succeeding months, the new black gas cap progressed toward readiness for distribution. In a memo of May 30, 1980, it was finally noted that 200 sample caps would be available shortly after July 14, 1980 (RX 61). In a July 10, 1980 program proposal, which set forth the "Gas Cap Program Elements," Bennett listed as one of the items under "Program Promotions," a "Direct Mail Layout and Text" (RX 65A). On July 21, 1980, instruction was given to prepare the text of the direct mail piece (CX 216A). The initial outline was prepared on August 3, 1980, and an expanded version was ready by August 5 (CX 216A; CX 216F; CX 216Z2-3). The final version of the letter, mailed on August 14, 1980, adhered in substantial measure to the August 3 and August 5 outlines (CX 216F; CX 216Z2-50; CX 375). Consistent with Mr. Bennett's planning back in May 1979, the purpose of the direct mail piece was not only to warn IH tractor operators, but also to promote the free distribution of the new black cap (CX 375).

200. Complaint counsel concede that the warning of the August 1980 letter is adequate to prevent further fuel geysering accidents, if the precautions therein are adhered to. They only argue that the dissemination thereof was insufficient (*Transcript of Prehearing Conference of December 16, 1980*, p. 9).²² [70]

²² They also argue that the August 1980 letter was not a voluntary undertaking of respondent, but that it was

201. The August 1980 warning letter had a large, bold-type heading which stated:

IMPORTANT SAFETY WARNING AND ANNOUNCEMENT OF NEW, FREE REPLACEMENT GASOLINE CAP FOR OWNERS OF INTERNATIONAL HARVESTER GASOLINE POWERED FARM TRACTORS

Under the heading:

DANGER—Fire and personal injury.

It stated that "If the fuel cap is removed when the gasoline tank is hot and vapor pressure has, under certain circumstances, built up in the tank, this sudden release of pressure could force gasoline out of the tank. If the gas cap is not fully secured and tightened, it could come off the tank, and again, gasoline could escape. This sudden eruption of gasoline exposes the operator to, and may cover him with, liquid fuel and vapors and is a clear fire hazard if a source of ignition is present. . . ." (CX 375)

202. Under the heading "PRECAUTIONS—Observe operator's manual warnings and common sense safety rules" the August 1980 letter further tells the operator:

Always tighten gasoline caps securely. Never, under any circumstances, take the gas cap off a hot or running tractor. (Emphasis in original). (CX 375)

This same heading urges the operator to "Maintain your equipment properly and pay particular attention to its electrical, exhaust, fuel and cooling systems. . . ." (CX 375). It then warns that:

Fires involving serious injury and even death have happened when these precautions were not followed. (Emphasis in original). (CX 375)

203. The August 1980 letter also informs the operator that a new gas cap "designed to inhibit the sudden eruption of liquid fuel if the safety precautions against cap removal are not observed" was being tested and would be distributed soon. The letter then gives instructions on how the fuel cap would be obtained and repeats the warning:

When you do operate your gasoline-powered farm tractor before you get your new cap, [71] be sure to follow all safety precautions mentioned above. Be alert to any unusual sights and sounds during operation; if you suspect overheating or pressure build-up in

prepared and distributed under pressure of the Commission's investigation (CRB 26-28). The evidence cited by complaint counsel is speculative and does not adequately substantiate this claim, as is discussed below in Findings No. 301-308.

the fuel system, do not touch the cap. Turn off the engine and allow the tractor to cool before you touch the cap. (CX 375)

The letter then encourages operators to obtain the "New Facts About Fuels" brochure and a free "Warning" decal from their International Harvester Dealer and to pass on all of this information to other people they know who operate International Harvester gasoline-powered tractors (CX 375).

204. There was no list of present owners of IH gasoline-powered tractors (Allen, Tr. 3725). For a direct mailing, the possible alternatives considered by respondent were: IH's customer mailing list, a list of Rural Route boxholders, and the Farm Journal mailing list (CX 121A).

205. CX 375 was sent to the 630,000 operators on respondent's customer mailing list. This list is updated constantly and is used by IH for mailings to customers and potential customers (Colwell, Tr. 3614). This mailing list is based on information supplied by the dealers, and the names and addresses are grouped by dealership (Bennett, Tr. 3206-07, 3226; Allen, Tr. 3707-08). IH had decided that the most effective gas cap exchange was one arranged through its dealer network. Since the letter also notified the operators of the impending availability of the new safety gas cap and how to go about obtaining one, this was an important factor in the selection of its own customer mailing list as the vehicle for mailing the warning letter. As a result, respondent was not required to ascertain the name of the appropriate dealership in the event the farmer neglected to advise it of his dealership in the same manner that IH carries the name of the dealership on its records. (Bennett, Tr. 3207-08). This was a significant advantage (Bennett, Tr. 3207-08; Allen, Tr. 3717-18; RX 273B, ¶ 7).

206. There is no reliable evidence of record which indicates that a better mailing list was available to IH for the mailing of its warning letter. Therefore, I find that its own customer mailing list was equal to, or better, for this purpose than any other mailing list that may have been available (Findings No. 204-205, above).

207. The August 1980 warning letter was mailed in a special envelope which was embossed across its face with the wording: [72]

Important! Safety Information Enclosed (RX 71G; Bennett, Tr. 3205).

IH also enclosed in the envelope a No Postage Necessary Business Reply Mail Card, on which the farmer was to provide the model and serial numbers of each IH gasoline-powered tractor owned by him, for use in connection with the gas cap exchange program (RX 71E-F; Allen, Tr. 3706-07).

208. Following the mailing of the August 1980 warning letter, IH undertook other steps to supplement this mailing in accordance with its prior plans (Finding No. 175; CX 121; CX 125; CX 126; CX 127).

209. On August 14, 1980, IH sent a letter to each dealer entitled, "SAFETY WARNING AND NEW FUEL CAP PROGRAM TO MINIMIZE RISK OF PERSONAL INJURY IN GASOLINE TRACTOR FUEL FIRES." (Bennett, Tr. 3205; RX 71B-C). The letter advised the dealer that IH was "continuing to alert its gasoline-powered tractor customers to important safety information in connection with the serious hazard of fuel related fires" (RX 71B). IH advised that it would be immediately sending to customers the IH August 1980 letter (CX 375), summarized the purpose of the letter, and enclosed a copy of the letter and the Business Reply Mail card to be sent with it (RX 71B-G). IH advised that "This letter will be followed by advertisements in agricultural trade magazines and counter displays for your dealership to advise tractor owners of the availability of the new cap, to alert them to serious hazards associated with gasoline-powered farm equipment, and to point out the importance of good tractor maintenance." IH advised the dealer that the paramount goal was the protection of the farmer, that the dealer must read the letter carefully, and if he sold a used tractor subject to the program before the black cap was available for distribution, he was to provide the farmer with the information in the Warning Letter, specifically advise him of the new cap, and give him a card so that he could obtain a new cap. (RX 71B). IH stated: "Be sure that you send in cards for every applicable gasoline tractor on your lot and any you know anywhere in your trade area!" IH furnished each dealer the same cards (RX 71E-F; also RX 72, p. 16) enclosed with the IH August 1980 Warning Letter (CX 375) to be filled in and returned by the dealer for all gasoline-powered tractors on his lot. (Allen, Tr. 3707).

210. In September 1980, IH sent a letter to agricultural leaders stating the major points focused upon by the IH program, requesting their assistance, promising quantities of information [73] and warning materials at no cost, and enclosing the IH August 1980 Warning Letter and NEW FACTS ABOUT FUELS (CX 248).²³ (RX 218; Bennett, Tr. 3208; Allen, Tr. 3709; RX 72, p. 19). IH sent the letter to all persons on IH's mailing list of agricultural leaders (CX 155), as well as many others (Bennett, Tr. 3209; Colwell, Tr. 3614). The purpose of sending the letter to agricultural leaders was "to put it in the hands

²³ This was a new or second version of the NEW FACTS ABOUT FUELS brochure (Compare CX 248 with CX 153). It had been revised to distinguish between gasohol made from ethyl alcohol and that made from methyl alcohol, as a result of criticism received from the gasohol industry. I find that the criticisms underlying this change and the changes in wording which resulted are not relevant to the central charges of the Complaint herein (Bennett, Tr. 3170-71; 3190-91, 3194; Allen, Tr. 3696-97).

of what we call opinion leaders. People who have strong influence on farm safety throughout the country." (Colwell, Tr. 3614).

211. IH prepared for delivery to each dealer a printed INSTRUCTION MANUAL (RX 72; RX 203D). This manual entitled "Gasoline Powered - Agricultural Tractor" and subtitled, "Fuel Fire Prevention Program" described for the dealer IH's FFPP (RX 72; Allen, Tr. 3700). The intent was to give the dealer all the information he needed in order to administer his end of the program (Bennett, Tr. 3210; Allen, Tr. 3700). It was 32 pages in length, and, in addition to text specially prepared for the manual, contained a reprint of the materials that IH developed in connection with the Program. It especially discussed features of the black cap, identified the tractor models covered by the cap exchange, and provided the details involved in the actual cap exchange. (Allen, Tr. 3701 and 3710-11; RX 72). The INSTRUCTION MANUAL was bound in thick, glossy paper, and was perforated for storage in a three-ring binder (RX 72).

212. IH prepared an "Outline for District Personnel" to be used as a talking paper by IH district personnel to guide them in explaining the IH program to dealers when they personally called on each dealer for the purpose of explaining the IH program and delivering the Fall kit and INSTRUCTION MANUAL (Bennett, Tr. 3212-13; RX 203A-E). The outline began: "IH is contacting its Dealers to discuss an important problem—the threat of serious injuries from gasoline fuel fires on tractors with the traditional gasoline tank location in front of the operator. The phenomenon that creates the threat is the excessive build-up of heat in gasoline tanks, which build-up causes high vapor pressure. If an operator fails to tighten the gasoline cap securely or improperly removes it while the engine is running or hot, gasoline and vapors could, under certain [74] circumstances, erupt from the tank, covering the operator with fuel." The outline then reviewed the entire IH FFPP, with emphasis on the importance and scope of the dealer's participation. The outline stressed that the FFPP had the complete support of IH management and "was not forced [on IH] by the government." (RX 205D). The outline emphasized the need to review the Fall kit and the INSTRUCTION MANUAL with each dealer. (RX 203-O).

213. IH conducted one meeting in each of its six regions, with regional managers and as many district managers as possible in attendance, to explain the IH program and to instruct them on how to administer the program in their areas (Bennett, Tr. 3215, 3231-32; Allen, Tr. 3719-20, 3735). A presentation, based on the "Outline for District Personnel" (RX 203A-E), was made at each dealership (Bennett, Tr. 3213-14). IH District personnel visited each dealership in September/October 1980, at which time the INSTRUCTION MANU-

AL and Fall kit were delivered, the manual was reviewed, and the kit was assembled (Bennett, Tr. 3210-11, 3215-17; Allen, Tr. 3720-21, 3741-42).

214. The Fall 1980 kit (RX 75), which was assembled at each dealership, consisted of the "FREE GAS CAP and important safety warning about your gasoline powered IH tractor" counter card, and quantities of the second NEW FACTS ABOUT FUELS brochure (CX 248), the 1980 Warning Decal (CX 152), and a No Postage Necessary Business Reply Mail Card (entitled "FREE GASOLINE CAP OFFER"), which was to be filled in by owner and dealer for mailing to IH to obtain the black cap (See Allen, Tr. 3708), and which on a detachable portion contained in reduced print a reprint of the IH August 1980 Warning Letter. The brochure, decal, and "FREE GASOLINE CAP OFFER" card fitted in holding racks supported by the counter card, upon assembly. The counter card itself showed a picture of an IH tractor, a cut-out picture of the black cap, and written exhortations to take and read the materials in the racks. (RX 75; Bennett, Tr. 3216).

215. On September 18, 1981, IH sent a parts service marketing letter to all dealers announcing a "TRACTOR TUNE-UP CAMPAIGN" (RX 74A-B). It stressed the importance of proper maintenance because, among other things, "it prevents injuries" (RX 74A). It stated that the tune-up campaign was an integral part of IH's FFPP. It promised that the dealer would "receive promotional materials at no-charge to support a hard-hitting, visible, and successful tune-up campaign." These materials will consist of "Window Banner[,] Counter Easel Card[,] Local Co-op Advertising Materials." (RX 74A; Bennett, Tr. 3218). IH attached to the letter, a list of parts commonly used in a tune-up, including a list of Heat Shields, and Assemblies, and a Gasoline-Powered Tractor Check List (RX 74C-G). The intent was [75] to solicit tune-ups from farm customers who owned gasoline-powered tractors (Allen, Tr. 3703-04).

216. Pursuant to the promise in Finding No. 215, IH distributed a Window Banner (Bennett, Tr. 3236), a "Your tractor works better when it's in tune" counter card, which also stressed "reduce fire hazards" (RX 221), and two ad slicks stressing maintenance (RX 72, pp. 14-15), in which IH paid half the dealer's cost (Allen, Tr. 3705-06; Bennett, Tr. 3230).

217. IH, in response to dealer suggestions, also developed and distributed in two versions a detailed "Gasoline Powered Tractor Check List," one version for dealers and one for farmers (Allen, Tr. 3705; RX 75, pp. 12-13). The farmer received his check list in the same mailing in which he was notified that the black cap was ready to be picked up at his dealership (Allen, Tr. 3705).

218. IH also distributed a wall chart entitled IH TUNE-UP PARTS

to be posted in the dealership (RX 219; Allen, Tr. 3704). Special emphasis was placed on Heat Shields and Assemblies, the black cap, and a Filler Neck Renewal Package (RX 219). Such a wall chart is typically displayed where both the parts man and customer can read it (Bennett, Tr. 3219-20).

219. IH provided ad slicks to all dealers to advertise the cap exchange program in local newspapers (Allen, Tr. 3706; Bennett, Tr. 3220; RX 72, p. 18; RX 79A-B). The advertisement repeated the basic message of the IH 1980 Warning Letter (*E.g.*, RX 79A). IH paid half the total cost of advertisements run by dealers (Bennett, Tr. 3230).

220. On September 23, 1980, IH issued a news release to call attention to the gas cap exchange program and to reiterate fuel handling safety precautions (Colwell, Tr. 3620; RX 189A-B). The news release went to 200 farm broadcasters, 100 farm trade publications, and a small number of television farm correspondents (Colwell, Tr. 3620). The central message of the news release was run as written, and headlined as a safety gas cap exchange program in newspapers and farm trade publications (Colwell, Tr. 3623; RX 81A-T).

221. Beginning in November 1980 IH ran an extensive media campaign, described in detail in Findings No. 224-238, below.

222. IH ran an advertisement repeating the basic message of the IH 1980 Warning Letter, including free cap exchange offer, in the Fall issue of *IH Farm Forum* (Bennett, Tr. 3226; RX 76). *IH Farm Forum*, published by IH, is distributed to all persons on the IH mailing list (Bennett, Tr. 3226; *see* Findings 205 and 206, *supra*). The purpose was to give IH customers another direct exposure to the IH program (Bennett, Tr. 3226). [76]

223. IH made the decision to include the IH August 1980 Warning Letter (CX 375) in all operator manuals for gasoline-powered tractors which were requested of IH, and has since done so (Allen, Tr. 3702; RX 211).

224. Respondent's early plans in 1979 had included provision for media advertising to supplement the direct mailing (CX 121; CX 123; CX 126). This was an important part of respondent's program since a perfect list of all tractor owners was unavailable (Finding No. 204).

225. Sometime after September 9, 1980, the copy and format of IH's media ad were finalized (Southwick, Tr. 4261). The ads were then published in October 1980, November 1980, December 1980 and January 1981 editions of various leading national and regional farm trade magazines (RX 82B-Z-41). Respondent's advertising agency ran a check to make sure the positioning and reproduction of the ads were acceptable. This check revealed that IH's ads had received very good positioning in such publications. (Southwick, Tr. 4264-65).

226. The Fall and Winter ads communicated the nature and conse-

quences of fuel geysering, as well as the steps to be taken to prevent it (fully secure fuel cap, don't remove fuel cap when tractor is hot and running, and keep tractor properly maintained). It also promoted the free gas cap exchange program and included a cut-out coupon to be sent in to IH to obtain the new gas cap. (CX 388A).

227. The advertisement was changed slightly and rerun in the Spring of 1981 (Southwick, Tr. 4268; RX 246H; RX 92A-H). The revision was similarly worded in all important respects and was just as effective in communicating the basic message of a fire hazard and the means for its prevention (*Compare* CX 388B with CX 388A). The main change was the highlighting of a warning to "Use Winter gasoline carefully in the Spring," at the top of the ad (CX 388B).

228. Both the Fall and Spring ads effectively communicated the nature and consequences of "fuel geysering," as well as the cautions concerning it (CX 388A; CX 388B).

229. These ads were also run in respondent's own *Farm Forum* magazine in the Fall of 1980 and the Spring of 1981. This magazine is distributed to the persons on IH's mailing list. (Bennett, Tr. 3226; Colwell, Tr. 3626-27; RX 76).

230. Foote, Cone & Belding Media Supervisor Ruth A. Southwick performed two analyses of the reach and frequency [77] achieved by IH's media campaign (RX 94B; Southwick, Tr. 4270-71). Southwick's first analysis was performed in February 1981 after the initial schedule of ads had run. Her second analysis was performed in May 1981 after the Spring ad had run. (RX 94B; Southwick, Tr. 4270-71).

231. The term "reach" refers to the percentage of the target audience that had an opportunity to be exposed to the advertising message (Southwick, Tr. 4271). Reach is calculated on the basis of circulation data for the publications in which the ad appeared and takes into account duplication of circulation (Southwick, Tr. 4271). The circulation data used by IH's advertising agency is "audited" by an independent board that verifies the number of copies of a given issue actually printed and confirms that the magazines were actually sent out as reported (Southwick, Tr. 4272). In the course of her duties at the agency, Southwick customarily seeks to determine the reach of any given media ad and relies upon reach in making media-planning judgments (Southwick, Tr. 4272).

232. The term "frequency" refers to the average number of times that a member of the target audience has been reached by the advertising message (Southwick, Tr. 4272-73). Like reach, frequency is calculated on the basis of audited circulation data that take into account duplicated or overlapping circulation such as occurs if a given farmer subscribes to more than one magazine in which the ad appeared (Southwick, Tr. 4272-73).

233. The best available data for making reach and frequency determinations is that compiled by Doane Agricultural Service, Inc. (Southwick, Tr. 4274). Doane's data are based upon surveys of Class I through IV farmers (Southwick, Tr. 4274). Neither Doane nor anyone else measures circulation to farmers of income levels lower than Class IV (Southwick, Tr. 4274, 4277). However, the fact that circulation figures are not compiled for Class V-and-under farmers does not mean that farm trade publications do not reach those farmers (Southwick, Tr. 4277-78). Moreover, USDA and Census data indicate that the number of farms in the Class-V-and-under category is decreasing (CX 387K; RX 247K; Southwick, Tr. 4274-75). The number of farmers may be less than the number of farms because one farmer may be operating more than one farm (Southwick, Tr. 4275-76). USDA data also indicate that over 80 percent of the used tractor purchases in 1979 were made by Class I to IV farmers (RX 247C).

234. Southwick's February 1981 analysis of IH's October 1980-January 1981 media campaign was based upon Doane's 1980 Farm Media Measurement Study (RX 94F). Southwick's analysis showed that IH's first ad, which appeared in 5,812,014 magazines, reached 90 percent of the target audience nationwide with an average frequency of 4.46—in other words, 90 percent of the target audience was exposed to the advertising message [78] at least once and the average number of exposures per farmer was approximately 4 1/2 (RX 94B; Southwick, Tr. 4278). In the regions where IH requested "heavied-up" coverage—the Midwest and East,²⁴—the reach was 95.8 percent and 94.5 percent, respectively (RX 94F). The average frequency in these regions was 5.28 and 5.20, respectively (RX 94F).

235. Southwick's May 1981 analysis, performed after IH's Spring 1981 ad had run, was also based upon Doane's 1980 Farm Media Measurement Study (RX 94G). Southwick's analysis showed that the spring campaign increased the nationwide reach by two percent—to 92 percent—and the average nationwide frequency from 4.46 to 6.04 (RX 94B). However, in the "heavied-up" regions of the Midwest and East, the reach was not increased from the 95.8 percent and 94.5 percent levels already achieved by the first ad (RX 94G; Southwick, Tr. 4278-79). The average frequency in those regions was increased, however, from 5.28 and 5.20 to 7.04 and 6.94, respectively (RX 94F-G; Southwick, Tr. 4279).

236. Based upon the two analyses she performed and her training and experience, as well as upon her agency's experience, Southwick concluded that IH's media campaign achieved an "extremely high" reach (Southwick, Tr. 4279). She also concluded that the expenditure

²⁴ IH had requested heavier coverage in these areas because it had reason to believe the greatest concentration of fuel geysering incidents occurred in these areas (CX 220; Colwell, Tr. 3618).

INTERNATIONAL HARVESTER CO.

949

Initial Decision

of more money by IH on additional ads, or on radio or television advertising, would not increase to any significant degree the levels of reach and frequently already achieved (Southwick, Tr. 4279, 4299).

237. In its consideration of possible advertising media for this program, respondent's advertising agency, Foote, Cone & Belding, had considered both radio and television as a means of disseminating IH's safety message (Southwick, Tr. 4253). After analyzing the coverage obtainable by use of television, the advertising agency's media planners decided not to recommend television because the ratings were low for the total number of households and would be even lower if non-farm households were factored out (RX 238A-C; Southwick, Tr. 4255-56). It was their opinion that television was not an appropriate medium given the complexity of IH's message and its purpose to include a response mechanism (Southwick, Tr. 4285). Respondent's own communications experts agreed that print was a better means of [79] reaching farmers than broadcast media such as television (Colwell, Tr. 3619; Dahlman, Tr. 4190-91).

238. In the absence of reliable evidence showing that some other advertisement format, published in some other media, would have been more effective, and in view of my own review of the advertisements which respondent placed in these national and regional farm publications (CX 388A; CX 388B), I must find that respondent's advertising campaign was a well designed program to supplement the direct mailing and other steps taken in IH's Fuel Fire Prevention Program (Findings No. 226-237).

239. In March 1981, IH's regional managers sent a letter to all agricultural equipment dealers in which, among other points, IH urged its dealers: to remind their customers about the volatility of winter-grade fuels and the danger of fire if pressure in the fuel tank is suddenly released, to remind their customers of basic safety precautions concerning cap removal, including tightening the cap securely and never removing it from a hot or running tractor; and to encourage their customers to obtain the black cap. IH again asked dealers to encourage their customers to maintain their equipment (RX 204B-C).

240. IH, in a page in its Spring 1981 Parts & Accessories catalogue, urged farmers to save fuel, increase horsepower, and reduce fire hazards through proper maintenance. IH featured the black cap and urged farmers who had not done so to exchange their old cap for a new one. (RX 220B). The Spring Parts & Accessories catalogue was mailed to all persons on the IH direct mailing list (Bennett, Tr. 3241).

241. IH released public service announcements (20-second, 30-second, and 60-second versions) for television on fuel safety in the Spring of 1981 (RX 106; Bennett, Tr. 3238 and 3241-42). These announce-

FEDERAL TRADE COMMISSION DECISIONS

Initial Decision

104 F.T.C.

ments were distributed to about 100 stations with farm audiences and shown as many as 200 times by a single station (Bennett, Tr. 3242).

242. In the Fall of 1981, IH by letter urged dealers to continue to display in a prominent place the FREE GAS CAP and important safety warning about your gasoline-powered IH tractor" counter card (RX 75) and to make sure that the holders on the counter card were stocked with sufficient supplies of 1980 Warning Decals (CX 152) and NEW FACTS ABOUT FUELS (CX 248). (Colwell, Tr. 3627; Allen, Tr. 3723-24).

243. IH sent a letter to oil companies requesting that they encourage fuel distributors to warn farmers about the increasing volatility of fuel when the suppliers deliver fuel to the farmer (Colwell, Tr. 3627, 3631). [80]

244. In November 1981, IH ran again in IH *Farm Forum* the same advertisement used in the Fall of 1980 (Colwell, Tr. 3626-27).

245. As of December 1, 1981, the "FREE GAS CAP and important safety warning about your gasoline-powered IH tractor" counter cards (RX 75) remained on the counters of 1800 IH dealers throughout the United States (Colwell, Tr. 3632).

246. As of December 31, 1981, IH had received 138 requests for safety information from 114 non-IH organizations, and had distributed 36,136 NEW FACTS ABOUT FUELS (CX 153, CX 248), 46,000 1980 Warning Decals (CX 152), and 5014 tractor maintenance check lists to non-IH organizations such as 4-H clubs, county extension agents, Vo-Ag classes, Future Farmers of America clubs, etc. (RX 271A and C-F). This was exclusive of IH distribution to IH dealers and customers (RX 271C).

G. The Black Gas Cap And The Gas Cap Exchange Program

247. The new black gas cap was a redesign of the (red) triple baffle cap. The base of the cap was changed to eliminate any possibility that an operator could remove the cap with one twist of the wrist. It had an intermediate venting stage, similar to a radiator cap. Thus, at the intermediate point, venting could occur through the bottom of the cap if there was sufficient pressure in the fuel tank, with no danger that the cap would come off in the operator's hand. The holes in the internal baffling were enlarged and a second vent hole was added. This increased the venting capacity of the cap, in order to further reduce pressure in the tank. (Sullivan, Tr. 5125, 5127-28; RX 97F-G). The new black cap does not eliminate pressure build-up in the fuel tank, it merely prevents the operator from completely removing the cap before the pressure is vented (Sullivan, Tr. 5182-84, 5127-28).

248. Beginning in the Fall of 1981, IH began to ship caps to its

dealers, the dealers began exchanging black caps for old caps, and that exchange continues to the present day (Bennett, Tr. 3238).

249. Upon receipt of a request for a cap, IH determined if the request constituted a "Valid Request" or an "Invalid Request" (RX 276A). A "Valid Request" was a request for a cap for a tractor included within the FFPP (Bennett, Tr. 3246; *See* Finding No. 8). An "Invalid Request" was a request [81] for a cap for a tractor not covered by the IH program; for example, diesel tractors, Deere Co. tractors (Bennett, Tr. 3246).

250. Depending on whether the request was valid or invalid, IH sent the farmer one of two letters. If the request was valid, IH advised that the cap would be sent to the farmer's dealer, and that the farmer would then be asked to bring in his old cap and exchange it for a black cap (RX 72, pp. 28-29). If the request was invalid, IH asked the farmer to recheck the tractor information submitted to IH, and if an error was made, to submit a new cap request by completing an enclosed postage-paid card (RX 72, pp. 30-31). In both letters, IH reiterated basic safety warnings and urged proper tractor maintenance (RX 72, pp. 28 and 30; Allen, Tr. 3713-14).

251. IH maintained a running, computerized record of valid requests, caps shipped, and caps exchanged (Allen, Tr. 3715, 3721-22). In each cap shipment IH provided the dealer with a listing of the names and phone numbers of farmers to receive caps from that shipment (Allen, Tr. 3715). Further, the dealer received a card to be filled in by farmer and dealer when the farmer picked up his black cap. The dealer was then to mail the card to IH. The card acknowledged that the exchange had been perfected (Allen, Tr. 3715; RX 72, p. 32). Each month IH sent each dealer a listing of unexchanged caps in that dealer's trade area (Allen, Tr. 3715).

252. After shipping a cap for a particular farmer to a dealer, IH sent the farmer a "PICK UP YOUR NEW GAS CAP NOW" notice. IH also enclosed a brochure containing a gasoline-powered tractor maintenance check list and an exhortation that "your tractor works better when it's in tune," along with explanatory comment. (RX 84A-B; Allen, Tr. 3716).

253. As of February 14, 1982, IH had received 240,957 total requests for caps in the United States and Canada. Of these 215,973 were "Valid Requests" and 24,984 were "Invalid Requests." IH had shipped 213,810 caps. IH dealers in the United States had actually exchanged 169,456 black caps for old caps and IH had shipped 9600 black caps to farmers in Canada, so that a total of 179,056 caps were in farmer hands (RX 276B; Allen, Tr. 3740-41).

254. Some farmers, despite being notified of the availability of the cap at their local dealership, have not visited the dealership

FEDERAL TRADE COMMISSION DECISIONS

Initial Decision

104 F.T.C.

effect a cap exchange. On February 19, 1982, IH initiated a formal procedure whereby dealers are requested to remind farmers by phone call or letter to effect the cap exchange, are authorized to accomplish the cap exchange during field visits, and, if certain conditions are met, will be authorized by IH personnel to mail caps to customers. (RX 278A-D). [82]

255. In addition to caps exchanged, IH dealers and others have sold black caps to farmers (G. Killingbeck, Tr. 5231-32; Heyen, Tr. 5482). IH did not present evidence on the number of caps sold by IH dealers. In this connection, IH cannot know the number of caps sold for installation on IH tractors. The record shows, however, that farmers have purchased black caps, and that purchased caps have been installed on IH gasoline-powered tractors (G. Killingbeck, Tr. 5231-32).

256. The black cap is not essential to respondent's warning program, since if operators adhere to the basic warnings in respondent's Fuel Fire Prevention Program to: properly secure their fuel caps, not remove fuel caps from a hot or running tractor, and keep their tractors properly maintained, then a fuel geysering accident cannot occur (Findings No. 32-33; *Concessions of complaint counsel*, Tr. 2362, 2408, *Transcript of telephone conference* of May 7, 1982).

257. The principal relevance of the gas cap exchange program are two: (1) the fact that an additional safety factor is provided thereby, to supplement the warnings which IH has issued to the operators of its tractors; and (2) the fact that the number of gas caps exchanged provides some measure of the effectiveness of respondent's communication of its warning message.

258. As noted in Finding No. 253, above, there had been 215,973 valid requests received for new black caps by February 14, 1982. When this figure is compared to the number of IH gasoline-powered tractors still in use, they provide some indication of how effective IH's FFPP has been in conveying its warning message to the operators of its tractors.

259. The record contains two estimates of the number of such tractors still in use. Respondent's estimate is 375,000, which it claims to be a high estimate (RF 351, 352). Complaint counsel's expert estimates the number to be 407,694 (Kleyle, Tr. 5423, 5431, 5433). There are valid criticisms for each of these estimates, and neither can be considered precise (CRF 622-24; RF 353). However, both are close enough together to give a "ball-park" estimate which would be useful enough for the purposes of this case—375,000 to 408,000 tractors. The "valid requests" for respondent's new black cap, therefore, represent, at a minimum, over 50 percent of IH's gasoline-powered tractors which are subject to this program and still in use. Considering the fact that there are 1,363,000 of such tractors respondent built, more than 1,085,000

of them were built and sold by 1961 (RX 89H-I), this is certainly a very good record. This is especially so, since it is apparent that all farmers who have read the warning material obviously do not [83] consider the black cap to be essential to their safety and are not so concerned as to order or pick up their free black caps (Finding No. 254; RX 93-15 to 29). This is not surprising in that it is to be expected that many operators would not be likely to remove the gas cap from their tractor if they heard a hissing noise coming from the vent hole, or heard boiling in the tank of their tractor. Some verbatim quotes from the Gas Cap Study made by Chilton Research Services for respondent illustrate this point:

I never had a problem. I think it's a waste of money. And the fault is with the operator. (RX 93-15)

I don't see no problem with the gas cap. (RX 93-16)

I have been an International Harvester owner for thirty years and I haven't had any problems. I think that the owners who experienced problems with the gas cap must have been stupid or something. Common sense would tell you that you don't remove a gas cap from a hot tractor tank. I don't care if it's a Deere or International Harvester or a Model T Ford. (RX 93-19)

... I don't really consider that a hazard if handled with reasonable care. (RX 93-20)

H. *The Effectiveness of IH's Fuel Fire Prevention Program*

260. The combination of materials and methods of communication included in respondent's Fuel Fire Prevention Program of 1980 constitutes an effective program in terms of content and communication. The basic message is contained in the August 1980 letter, which even complaint counsel concede is adequate for this purpose (Finding No. 200). My review of the media advertisements and the communications to leaders in the agricultural community and through the dealer network reveals that this same basic message is repeated simply and clearly—properly secure your fuel cap—do not remove it when the tractor is running or hot—keep your tractor properly maintained—failure to do these things constitutes a fire hazard and endangers your life (RX 71B; RX 72; RX 75; RX 218; [84] CX 248; CX 375; CX 388A, B; Findings No. 186-197, 201-203, 209-212, 215-222, 226-228, 239-242, 244). Dr. Lirtzman, an expert called by respondent was of the opinion that the FFPP constituted an "extraordinarily effective" program (Lirtzman, Tr. 4723). He stated further, "I don't know of any set of circumstances in which such a program in terms of its detail, extensiveness, I might even say forthrightness, has occurred or been attempted even as a consequence of mandated regulation in the United States . . . I think personally, as an expert in this field, it is a

remarkable job." (Lirtzman, Tr. 4723-24). Another expert called by respondent, a farm safety specialist, testified that respondent's FFPP was "very adequate." He added that "I have never seen anything that was as thorough and as complete a program. . . ." (Swanson, Tr. 4810).

261. Therefore, I find respondent's Fuel Fire Prevention Program to be as effective as one could expect in view of the advanced age of the majority of the tractors involved. I find no suggestions from complaint counsel, or their experts, in this record which could reasonably be expected to yield better results. It is obvious that it is unreasonable to expect 100 percent effectiveness of a notice program designed to reach owners and operators of tractors which may be as old as 43 years, and the majority of which are over 21 years old, and many of which may have changed hands numerous times. The over-all concept of respondent's Fuel Fire Prevention Program, considering all of its facets, is well-conceived and designed to obtain maximum coverage (Findings No. 167-253). This fact, combined with complaint counsel's concession that the August 1980 warning letter is adequate, insofar as its wording is concerned, gives ample proof that respondent's program was an appropriate reaction to the "fuel geysering" hazard.

I. The Killingbeck Incident

262. It is necessary to give special attention to a fuel fire which occurred on a tractor operated by Gary Killingbeck on May 22, 1981. This is so because the incident occurred after the Fuel Fire Prevention Program was virtually completed and the tractor involved was equipped with the new black cap. (Killingbeck, Tr. 5229, 5233-36).

263. The uncontested facts of record concerning this incident are: Mr. Killingbeck experienced a fire on his tractor on May 22, 1981; his tractor was equipped with the new black cap; and the cap stayed on the fuel tank during the fire (CF, pp. 130-136; RRF, pp. 87-98).

264. Mr. Killingbeck testified that the fire came out from around the gasoline cap, shooting flames higher than his head (Killingbeck, Tr. 5250). Prior to this he had heard a whistling [85] sound and felt pressure coming out of the vent holes in the fuel cap (Killingbeck, Tr. 5248). He then heard a small pop and then there was an explosion (Killingbeck, Tr. 5248). Mr. Killingbeck did not know where on the tractor the pop had occurred. As far as he knew there could have been a collection of vapors underneath the hood sheet where the pop occurred. He did know, however, that the black fuel cap stayed on the filler neck throughout the fire and that no liquid gasoline shot out of the filler neck. (Killingbeck, Tr. 5299). This was a vapor fire (Killingbeck, Tr. 5299).

265. The experts testified in conflicting manner concerning the nature and causes of the Killingbeck fire. Dr. Creighton testified for

complaint counsel that the fire was caused by pressure in the tank which caused vapors to be expelled from the tank (Creighton, Tr. 2395, 2404). Additional vapors and possibly liquid fuel were expelled after the fuel cap went into tang relief, either before or after the explosion (Creighton, Tr. 2404-05). IH engineers who inspected the tractor shortly after the fire, testified that the fire was generated by a leak in the fuel tank at the sending unit, which was located under the hood sheet near the hole where the filler neck emerges (RX 223B-G; Nelson, Tr. 4335-36, 4338-41, 4505; Hillstrom, Tr. 3536-39).²⁵ IH's engineers also attributed the fire, in part, to poor maintenance of the tractor and modifications which had been made to the tractor (RX 224; CX 391; Nelson, Tr. 4311-19, 4325-26, 4347-50, 4351-63, 4495-97; Hillstrom, Tr. 3526-27, 3537).

266. The burden was on complaint counsel to prove that this incident was a "fuel geysering" accident encompassed by the charges of the Complaint. They have failed to do so. The opinion of Dr. Creighton, at best, would merely be of equal weight to that of respondent's experts. I find no evidence which clearly refutes respondent's theory as to how this accident occurred. Moreover, Dr. Creighton's opinion includes the gushing of liquid fuel from the filler neck, but the only eyewitness, Mr. Killingbeck, states that he did not see this occur (Killingbeck, Tr. 5299). Further, Dr. Creighton did not have as good an opportunity as respondent's engineers to inspect the Killingbeck tractor, since it had already been disassembled when he inspected it (Creighton, Tr. 2382-83) and Dr. Creighton has less experience in farm tractors than respondent's engineers. In fact, he has never conducted a test on any kind of farm tractor (Creighton, Tr. 2183). [86]

267. The fact that there was obviously pressure build-up in the fuel tank of the Killingbeck tractor (either before or after the fire began) and that this was somehow related to the fire, bears no relevancy to the charges of the Complaint in the absence of proof that this was a fuel geysering incident. The Complaint charges respondent with failure to warn operators of its tractors of the safety hazard which has been termed "fuel geysering." It does not charge respondent with failure to manufacture a tractor which does not experience pressure build-up in the tank. The required warning was given prior to this fire, and Mr. Killingbeck was exposed to it, but he did not take the time to read it, or inquire about it (Killingbeck, Tr. 5232, 5234, 5282-85; Hillstrom, Tr. 3569-70). Moreover, there is no evidence that the warning would have had any effect in this instance, even if it had been read and heeded.

²⁵ The fuel sending unit is a device which transmits electrical impulses to the fuel gauge on the tractor's instrument panel (Hillstrom, Tr. 3533).

J. The Chilton Study

268. In the Fall of 1980, respondent decided to conduct a survey of the awareness levels generated by the various communications made in the Fuel Fire Prevention Program (Colwell, Tr. 3624; Dahlman, Tr. 4195). The assignment to perform such study was given to George S. Dahlman, the present Manager of Research and Planning for IH's Equipment Group (Dahlman, Tr. 4194). Mr. Dahlman's career has been spent in agricultural communications and market research, both with IH and in previous employment with an agricultural publication and research firm (Dahlman, Tr. 4183-88). Dahlman selected Chilton Research Services, a subsidiary of the American Broadcasting Company to conduct the survey. He worked with Chilton on designing the questionnaire and selecting a sample audience. (Dahlman, Tr. 4197-4205; CX 393A-D; CX 394A-E; CX 395A-E). A sample audience of 400 owners of IH gasoline-powered tractors was selected; a sample distribution was also selected on the basis of IH's earliest sales records, which indicated that the preponderance of the tractors had originally been sold in the Midwest and Northeast (CX 394A; CX 393A-C; Dahlman Tr. 4201-03).

269. Chilton conducted the interviews in the latter half of February 1981 (Dahlman, Tr. 4206-07; CX 393E). This was between one and five months after IH's ads had appeared in farm trade publications and about seven months after the IH August 1980 warning letter had been sent (Dahlman, Tr. 4206; RX 73H-I).

270. The results of the Chilton study have been cited by both sides. Complaint counsel assert that it illustrates the ineffectiveness of IH's warning efforts (CF 391-407). [87] Respondent cites it to show the effectiveness of its Fuel Fire Prevention Program (RF 537-546). In actuality it does little to prove either point.

271. The Chilton study sought to measure awareness from the point of view of recall (Popper, Tr. 2799).²⁶ Even complaint counsel's communications expert, Mr. Popper, stated that recall is a rather poor indicator of awareness—even "day-after" recall (Popper, Tr. 2799-2800). Here the recall was not "day-after," but from one to seven months after (Dahlman, Tr. 4206; RX 73H-I; CX 375). In other words a viewer or reader of an advertisement might be well aware of a message transmitted by a communication, but might have a very poor recollection of the particular communication itself (Popper, Tr. 2799-2800).

272. Viewed in this light, the Chilton survey might be slightly tilted in favor of respondent's position. On both an "aided" and "unaided"

²⁶ "Recall" is that which a person who views or reads a communication can later retrieve from memory concerning the communication (Popper, Tr. 2799).

recall basis, Mr. Dahlman was able to conclude that 68 percent of the owners of IH gasoline-powered tractors were aware of the hazard warning and free gas cap offer, and 64 percent were aware that IH was the sponsor of the warning and gas cap program (RX 93A; Dahlman, Tr.4208).²⁷ Complaint counsel deprecate such conclusion, arguing that unaided awareness, which was much lower, is a better test of the effectiveness of these communications (CF 395-401). However, in view of the admitted unreliability of "recall" as a measure of awareness, I find that "recall" measured on both an "unaided" and "aided" basis is a more reasonable indicia of the effectiveness of the communications in question (Finding No. 271).

273. Complaint counsel also point to a "key words" portion of the survey and to verbatim responses given by participants, as evidence of the ineffectiveness of respondent's hazard communications (CF 402-407). However, the results of the survey indicate that the recipients of the August 1980 warning letter were less aware of the potential safety problem and fire hazard than those who had read the later, media advertisements (CX 392P). Since it is conceded that the message of the August 1980 warning letter is adequate, it is obvious that such results [88] only prove Dr. Popper's opinion that recall, especially over a period of time, is a very poor measure of awareness (Findings No. 200, 271).

274. The verbatim responses to the Chilton study reveal a broad gamut of reactions to the questionnaire, from a complete lack of recollection, to a feeling that the whole safety campaign is stupid, since there is no danger to an operator if reasonable care is taken (CX 392; RX 93-13-43; Finding No. 259). This latter reaction indicates that an operator who already knew better than to only partially secure his fuel cap, or remove the fuel cap from a hot or running tractor, especially when there is hissing from the cap or boiling in the tank, was not likely to take the hazard warning too seriously (Finding No. 259).

275. Accordingly, I find that the Chilton study is poor evidence of the effectiveness of respondent's FFPP, but that it does give some indication that respondent's hazard warnings and free gas cap offer were effectively communicated (Findings No. 271-274).

VIII. THE VIOLATION

276. Having found that at least by 1963 and thereafter, respondent knew or should have known that: (1) Its gasoline-powered tractors with the fuel tank located in front of the operator were subject to fuel heating, vaporization and build-up of pressure within the fuel tank

²⁷ "Unaided" awareness measures a subject's recollection without being prompted or given information about the subject of the survey (Popper, Tr. 2774).

during their normal operation (Findings No. 10-34, 38-134); (2) A quick release of the pressure under such circumstances, as when the fuel cap is removed or dislodged can result in fuel vapors and liquid fuel shooting or geysering out of the filler neck of the fuel tank spraying the operator and/or the tractor with gasoline which can and has been ignited (Findings No. 19-34, 38-134); (3) Many of the operators and potential operators of such tractors were unaware of this hazard and were removing the fuel cap from hot or running tractors, or were improperly securing the fuel cap so that it might loosen and fly off during the tractor's operation (Findings No. 34-36, 50-53, 55-58, 60-62, 71, 76, 81, 88-90, 92, 94, 104, 117, 121-122, 124, 129, 131, 133, 134); (4) As a result of fuel geysering some operators of such IH tractors were severely burned and one or more operators have been killed (Findings No. 27-28, 54, 58-62, 90, 92, 94, 104, 106, 115, 117, 118, 121, 123, 124, 126, 128-130, 132-134); (5) Fuel geysering is a definite safety hazard (Findings No. 27-28, 38-134; *See especially*, Findings No. 98, 100 and 138); and (6) Fuel geysering accidents were likely to continue unless the operators and potential operators of such tractors were notified of the existence of the hazard and the steps they could take to prevent it (Findings No. 35-134). [89]

277. Having further found that: (1) Respondent having such knowledge should have taken action sufficient to apprise the operators and potential operators of such tractors that the safety hazard of fuel geysering existed and the steps they could take to prevent it (Findings No. 38-134, 138, 149-151, 153-156, 163, 167-171); (2) Respondent failed to take such action in 1963 and subsequent years, until 1980 (Findings No. 146-198); (3) Further fuel geysering incidents occurred within the period 1963-1980 which might have been avoided had adequate warning been given (Findings No. 31, 98, 100, 104, 115, 117, 118, 121, 123-129, 133, 134, 138; CX 220); (4) Had the operators and potential operators of such tractors been apprised of this hazard and the steps they could take to prevent it, it might have affected their decisions to purchase new or used IH equipment, or their manner of care and use of such equipment (Findings No. 36 and 37); and (5) Respondent manufactures and distributes, and at all relevant times manufactured and distributed agricultural equipment and accessories and parts therefor, including the tractors in issue and/or the accessories and parts therefor, in commerce, and is, and has been, in substantial competition in commerce with other corporations, firms and individuals engaged in the manufacture, sale and distribution of such products (Findings No. 3-7).

278. It is, therefore, found that such acts and practices, in failing to adequately disclose material facts have had the capacity and tendency to mislead members of the public, particularly those who may

consider purchasing or operating an IH gasoline-powered farm tractor having the fuel tank in front of the operator and that such acts and practices are to the prejudice and injury of the public and constitute unfair or deceptive acts or practices or unfair methods of competition in or affecting commerce, in violation of Section 5 of the Federal Trade Commission Act, as amended.

IX. THE EXPERT TESTIMONY

279. In general, I have had to rely very little on expert opinion in making the above findings. Most of the basic facts involved in this matter have been well documented in the files of respondent. The testimony of operators involved in fuel geysering incidents is also clear and unambiguous and, for the greater part, uncontraverted on the record. My citations to the record in the above findings, although not meant to be exhaustive, are a good indication of the extent to which I have had to rely on expert opinion.

280. Dr. Donald Creighton was qualified on the record as an expert in mechanical engineering. He is currently a professor [90] in the Mechanical and Aerospace Engineering Department at the University of Missouri (Creighton, Tr. 2188; CX 385A). He is a registered professional engineer (CX 385G). He is qualified by his training and experience in the areas of thermodynamics, heat transfer, machine design, fracture mechanics, and other areas of mechanical engineering to testify as to the phenomena involved in "fuel geysering" on respondent's tractors (Creighton, Tr. 2133-40, 2142, 2147-48, 2153-56, 2161-62, 2170-72, 2180, 2213-14, 2219-20, 2243-44, 2262, 2430-31, 2243-44). However, he has never actually conducted a test on any farm tractor (Creighton, Tr. 2183).

281. Wayne Worthington, deceased, did not appear and testify in these proceedings. Complaint counsel were permitted to put in evidence a portion of his deposition testimony from private litigation—*Kraus v. International Harvester*, C.A. 79-0609-CV-W-3 (D.C. W.D. Mo. W.D. 1979). Mr. Worthington was apparently a recognized expert in his field (tractor engineering), since he had received several awards (CX 306A, pp. 26-27; McCormick, Tr. 1567) and was even engaged as an expert by respondent in 1963, to assist it in the *Buatte* litigation (CX 52). However, I did not have the opportunity to witness Mr. Worthington's demeanor, nor have him cross-examined as to many facts in this record. Further, the cross-examination in the deposition record was quite sketchy and limited in great part to issues of the *Kraus* case (CX 306A-B). Under the circumstances, I have generally not relied upon his testimony to resolve questions dependent upon expertise. I have, however, relied upon communications from him to

respondent, during the period he was associated with IH, as putting respondent on notice of his opinion and theories (CX 52).

282. Various IH engineers appeared and testified in this proceeding—R. N. Coleman, Erwin Link, Ronald Zitko, John Den Besten, William Schubert, F. A. Waechter, J. F. Ziskal, Robert Reed, George Rezek, James Bennett, William R. Borghoff, Thomas E. Nelson, Herbert D. Sullivan, and Thomas Hillstrom. All were qualified by education and experience to testify as to technical matters involved herein (Coleman, Tr. 945, 950, 954, 1305-17; RX 32; RX 159; Link, Tr. 1966-69; Zitko, Tr. 1934-35, 1940-41; Den Besten, Tr. 1784-87; CX 313; Schubert, Tr. 1873-75, 1911; Waechter, Tr. 1712-15, 2991; Ziskal, CX 379, pp. 5-11; RX 267H; Reed, Tr. 3017-18; Rezek, Tr. 3063-64, 3103-04, 3117; Bennett, Tr. 3125-27, 3134, 3140-44, 3280; Borghoff, Tr. 3991, 3993, 4003, 4005-06, 4093-94; Nelson, Tr. 4301, 4303-04, 4400-01; Sullivan, Tr. 5105, 5107-08, 5113-15, 5117-18, 5184-85; Hillstrom, Tr. 3435-38). In considering their opinions, however, I have been cognizant of the fact that they are, or were, loyal employees of respondent. [91]

283. Dr. Edward Popper was received as an expert in marketing communications (Popper, Tr. 2649-50, 2590-92). However, I find that he is not knowledgeable about the special characteristics of the agricultural community, nor has he had any education or experience in the field of hazard communications or hazard labeling (Popper, Tr. 2612-21). He had no training or experience which would qualify him to advise me as to the effect of specific hazard warnings on members of the agricultural community (Popper, Tr. 2616-27, 2639-41). In view of the specialized nature of this community, these are serious defects in his qualifications. Operators of farm tractors have generally been familiar with tractors and their operation since a very early age. They generally do their own maintenance work and are far more familiar with their tractors than, for example, the owner of an automobile is about his car (Heyen, Tr. 5493; Buatte, Tr. 152, 155, 157, 160; Great-house, Tr. 184-85, 189-90, 195, 202-05; Cameron, Tr. 357-58, 380-81; Shawback, Tr. 569-70, 603-04; Wohletz, Tr. 627, 650-52; Didion, Tr. 667, 670-71, 684-85; Holtz, Tr. 711, 725-27; Guynn, Tr. 873-74, 919-22; D. Jolicoeur, Tr. 754-56, 785-86; S. Jolicoeur, Tr. 812-13; Clowes, Tr. 1826, 1828, 1867-69; Nichols, Tr. 2086-88, 2091; Killingbeck, Tr. 5266-67). [Complaint counsel are quick to point out this fact in connection with their contention that tractor owners and operators don't read their operator's manuals thoroughly (CF 315, 316)]. In order to effectively critique hazard communications directed to such a specialized group, it is desirable that a proposed expert have some awareness of the group's knowledge and sophistication in the areas of information to be communicated, or, at least, that he have some

special knowledge in the area of hazard communications or hazard warning.

284. Respondent, on the other hand, presented two experts in this area. One who was qualified as an expert in hazard warnings and their communication, and the other who was a farm safety expert. I found the testimony of these experts to be helpful, but not necessarily conclusive, in judging the impact of a hazard warning upon the tractor operator, once it was communicated, and in judging the relative comprehensiveness of respondent's Fuel Fire Prevention Program. I did not find their advice helpful, or needed, on the question of whether or not a particular warning or message had been adequately disseminated to the operators of IH tractors, since there was factual evidence in the record upon which I could make such findings—*e.g.*, whether the 1958 Service Slant actually gave notice to operators of the hazard of fuel geysering and the steps necessary to prevent it.

285. Dr. Lirtzman, the expert on hazard warnings, has had considerable experience over the years, both practical and academic, in the field of hazard communications and warnings (RX 252A-E). Since about 1960 he has concentrated in the field [92] of product labeling and hazard communications (Lirtzman, Tr. 4588-89). For the past five or six years his major area of specialization has been mass communication and promulgation of safety warnings, hazard warnings, and labels pertaining to consumer and industrial goods (RX 252A; Lirtzman, Tr. 4596). I found his expertise to be of some help in judging the effectiveness of respondent's 1976 and 1980 warning decals and the wording of the media advertisements of IH's Fuel Fire Prevention Campaign, as well as the comprehensiveness of the FFPP as a coordinated mass communication effort.

286. Randall C. Swanson was the farm safety specialist called by respondent. He had extensive practical experience and an educational background in this field (RX 255; Swanson, Tr. 4749, 4751-59, 4764, 4766, 4774, 4779, 4782-83, 4795-97, 4799-4802). I found his testimony particularly helpful in judging the effect of inclusion of agricultural leaders in respondent's warning attempts and in judging the comprehensiveness of IH's Fuel Fire Prevention Program in light of the special nature of the farm community.

287. Dr. Robert Kleyle was called as an expert in statistics by complaint counsel. He was well qualified by training and experience in that field (Kleyle, Tr. 5430-31). He testified as to the number of IH gasoline-powered tractors still in service and in connection with certain evidence respondent had introduced concerning "recall" rates and "recall" effectiveness. I have discounted his opinion of the number of tractors still in operation, since certain of his base data was from a source which characterized it as "subjective" and "unverified"

(Kleye, Tr. 5447). As for his criticisms of certain "recall" data relied upon by respondent, I have not relied upon such "recall" data in making my findings, so such testimony is not relevant to my decision.

288. Loren D. Lange and Morris Abrams were called by respondent to testify as to the effectiveness of IH's fuel cap exchange program in relation to "recall" programs conducted under the auspices of the United States Consumer Product Safety Commission and the National Highway Traffic Safety Administration. Both had some experience which allowed them to testify as to the "recall" programs conducted through those agencies (Lange, Tr. 4924-25, 4929-30, 4938-40, 4944, 4955; Abrams, Tr. 5571-72, 5574; RX 277D). In general, I did not find significant parallels between the "recall" programs of which these witnesses were familiar or testified and the fuel cap exchange program of respondent. In general, the product age involved and the nature of the campaigns were substantially different than those in the present case (RX 95; RX 111; RX 112; RX 113; RX 117; RX 118; RX 119; RX 120; RX 121; RX 124; RX 142; RX 144; RX 145). It would be impossible to determine from the [93] exhibits introduced dealing with such "recall" programs and the testimony of these two witnesses, just what an appropriate response to IH's fuel cap exchange programs should be (*See e.g.*, Lange, Tr. 4939, 4942; Abrams, Tr. 5587-88). On the other hand, the testimony of these witnesses do substantiate the rather obvious fact that the older a product is, the more difficult it is to obtain a high response rate in a recall program (RX 277-O-P, Q; Abrams, Tr. 5595; Lange, Tr. 4947-48). Mr. Abrams' testimony also reveals that there is an available listing of current automobile owners, whereas there is no such available listing of current owners of farm tractors (RX 277-O; RX 32, p. A-237). This obviously makes a "recall" program more difficult to accomplish in the farm tractor industry than in the automobile industry.

289. Richard Hurn is an engineer who was called by respondent to testify as to the trends in gasoline volatility and the effect of gasoline volatility on the phenomenon of fuel geysering (Hurn, Tr. 3892-93). His education and experience qualify him to testify in these areas (Hurn, Tr. 3871-90).

X. OTHER CONTENTIONS OF COMPLAINT COUNSEL

290. Complaint counsel make several contentions that I reject which warrant special attention in these findings.

A. *That Respondent's Tractors With Fuel Tanks In Front Of The Operator Are Defective.*

291. Although not stated explicitly in their proposed findings, a number of the findings which they propose imply that the design of

respondent's gasoline-powered tractors which have the fuel tank in front of the operator is defective (CF 234-259, 481-86, 583, 590) and that the failure to take action to correct such defect is one indicator that a broad order is necessary in this matter (CF 590). The corrections they suggest are either the relocation of the tank to a position behind the operator, or better insulation (CF 590).

292. Complaint counsel themselves have pointed out that tests of respondent's engineers indicated that heat shields and insulation could not completely alleviate the problems of heating of the fuel and pressure in the fuel tank on these tractors (CF 88, 199). [94]

293. Relocation of the fuel tank, which was accomplished on the World Wheel tractors (Finding No. 110), also was not without possible drawbacks. As noted in Finding No. 102, there were both pros and cons to the argument for relocation. The record shows that highway accidents involving tractors is a far more frequent occurrence than tractor fires (RX 32, pp. 6, 16, 17, 86-88, x-xii). It is possible that a rear-mounted tank might prove quite hazardous in a rear-end collision.

294. Most importantly, this case was not a "defect" case. The Complaint does not charge respondent with failure to warn of a defective product, but rather failure to warn of the existence of a fire hazard (Complaint ¶ 8). Therefore, the question of the proper location for a farm tractor fuel tank has not been litigated. Complaint counsel have seized upon certain recommendations of IH engineers to indicate that respondent has been callous in its concern for the safety of its customers. I cannot find this to be the case on the basis of this argument, without a complete litigation of the design problem. The charges of the Complaint neither justified, nor allowed such an inquiry on this record.

295. Moreover, it has been found, based in good part on complaint counsel's concessions, that a properly secured fuel cap cannot come off unless the operator removes it (Finding No. 32). Therefore, as has also been found, if the operator obeys the warnings given in respondent's Fuel Fire Prevention Program a fuel geysering accident cannot occur, no matter where the fuel tank is located (Findings No. 32, 260-261). For all these reasons, complaint counsel's arguments with regard to fuel tank location and other design modifications must be rejected.

*B. That Respondent Waged A Media Campaign Which
Diluted The Message Of The FFPP*

296. Complaint counsel also contend that any hazard warning contained in IH's Fuel Fire Prevention Program was diluted by other communications which respondent disseminated during the same period of time (CF 440 *et seq.*). This argument is based on several

statements which IH issued through various channels which generally denied that there was any design defect in IH tractors or that they were made unsafe, if the tractors were properly maintained and the operators followed certain safety rules. Some of them specifically cautioned operators not to remove the fuel cap when the tractor was running or hot and to always properly secure the cap (CX 143C-D; CX 147A-B; CX 156; CX 211A-D). These communications were not part of the Fuel Fire Prevention Program (Bennett, Tr. 3263; Colwell, Tr. 3670). They [95] were used to counteract news stories and other reports which respondent felt misconstrued and misrepresented the facts concerning fuel geysering incidents and to dispel the notion that IH gasoline-powered tractors suffered from a design defect (Colwell, Tr. 3595, 3598-99, 3602, 3611).

297. One of these communications, "Farmer's Safety Is Our No. 1 Concern," received far greater distribution than any of the others involved in this contention of complaint counsel. Approximately 35,000 copies of this pamphlet were distributed. Fifteen thousand were sent to IH employees and retirees in the Chicago area; 11,000 were sent to IH manufacturing plants, mainly in the Midwest; and 9,000 were sent to the six IH sales regions in the United States (Colwell, Tr. 3603). Copies were also sent to the WGN television farm broadcaster in Chicago, whose program is sponsored by IH, to the editor of *Implementation and Tractor Magazine* who had recently written on the *Stambaugh* case, and to the editor of *Prairie Farmer*, a farm trade magazine owned by ABC (Colwell, Tr. 3611-12). There was no dissemination of this pamphlet after July 1980 (Colwell, Tr. 3610).

298. One of the sections in this pamphlet, entitled "What About Changes In Fuels?" contained a caution to operators to: tighten the fuel cap securely; never take the cap off or refuel when the engine is running or hot; and don't smoke while handling gasoline (CX 156F).

299. Respondent is certainly entitled to counteract stories in the press, on television, or elsewhere, which might unfairly depict its products as defective, or unsafe. In fact, to prohibit it from doing so would present Constitutional questions under the First Amendment. Complaint counsel have not pointed to any misrepresentation of fact in these communications, but urge in effect, that the message that IH tractors are safe diluted and counteracted the hazard warning in respondent's Fuel Fire Prevention Program (Findings No. 440-447). I find no reliable evidence to support this contention, since I have discounted Dr. Popper's testimony in this regard, as noted in Finding No. 283, above.

300. I find that CX 143C-D, CX 147A-B, CX 156 and CX 211A-D, were not primarily directed to owners and operators of IH tractors and have not been shown to have received significant distribution

among such owners and operators. I also find that they do not contain the message that fuel geysering is not a problem, nor do they contradict or deny the hazard warnings of the Fuel Fire Prevention Program. Therefore, they do not diminish the effectiveness of that Program. [96]

*C. That The August 1980 Letter Was Only Written
Under Pressure Of The Commission Investigation*

301. As noted in Footnote 22, above, complaint counsel claim that the August 1980 warning letter sent to operators by respondent (CX 375) was not a voluntary undertaking of respondent, but was only done under pressure of the Commission's investigation. The burden of proof on such a contention is upon complaint counsel. They have failed to carry that burden.

302. Complaint counsel's arguments are based on several points: (1) That Bennett's original plans for a direct mailing to operators envisioned a "fold-out mailer . . . a three-fold 8 1/2 x 5 1/2 brochure in red colors including a message on gasoline safety, a general safety message, a tractor maintenance check list, and a return postcard" (CRB p. 27; citing CX 203P); (2) In the Spring of 1980 IH followed through with this suggestion, only the brochure, "New Facts About Fuels," was sent to dealers, instead of direct to customers (CRB p. 27; citing CX 203V which stated: "Under no circumstances should we delay getting this brochure into customer hands beyond this Spring regardless of whether or not the cap is ready by then"); (3) IH first learned of the Commission's interest on July 1, 1980 (CRB p. 27); (4) The first draft of the 1980 warning letter was prepared on Sunday, August 3, 1980 (CRB pp. 27-28); (5) By this time IH had received a letter officially informing it of the Commission's interest in the matter, that letter being dated July 18, 1980 (CRB p. 28); and (6) At a meeting on August 6, 1980, complaint counsel presented respondent's counsel with a draft of a proposed warning letter and, only after having reviewed the proposed letter of Commission counsel, IH's counsel then produced its proposed draft of the IH warning letter (CRB p. 28). On the basis of these circumstances, complaint counsel urge that it would be contrary to the evidence to find that the August 1980 warning letter was voluntary (CRB p. 28).

303. Complaint counsel's recitation of the history of this letter omits certain record evidence. As early as the Spring of 1979, IH's plans for its Fuel Fire Prevention Program included a number of components, including a direct mailing to operators and a supplemental media advertising campaign, both of which would be related to the distribution of the new fuel cap (Finding No. 175; CX 121; CX 123; CX 125). As complaint counsel note, Mr. Bennett became concerned in the Fall

of 1979, when it was apparent that the cap would not be ready for distribution by the next Spring, that the safety message would be unduly delayed. He then recommended that IH "proceed with a campaign to provide information and instruction regarding gasoline [97] volatility and safety precaution to the agricultural community" (CX 141). His communications gave no indication that the gas cap exchange program would not still entail direct contact with operators and a supplemental media advertising program (Findings No. 182, 183). Complaint counsel then jump to the conclusion that the brochure distributed in the Spring of 1980 was to replace the direct mailing to operators, since it took the same general format as the mailing originally planned in the Spring of 1979 (CX 123; CX 153; CRB p. 27). However, this omits consideration of the fact that the fuel cap still had to be distributed and that the direct mailing and media advertising were a key part of that exchange program (Findings No. 174, 175, 199, 205). There is no testimony or other evidence to support complaint counsel's contention that these portions of respondent's gas cap exchange program had been abandoned, except for the fact they were not effected in the Spring of 1980.

304. Moreover, the notice of the Commission's interest in the "fuel geysering" problem on July 1, 1980, was quite informal and did not spell out the extent of the Commission's interest. It came through a chance encounter at a county courthouse in Illinois, when a Commission attorney told one of IH's outside counsel that the Commission was looking on a preliminary basis into the tractor fire issue. (IH's Supplemental Finding 623; Complaint Counsel's Supplemental Finding 641). On July 9, 1980, there was an additional telephone discussion between IH's outside counsel and Mr. Drost of the Commission's staff which confirmed the fact that the Commission was making a preliminary investigation into this problem (Complaint Counsel's Supplemental Finding 642). Formal notice of the Commission's investigation and the extent of its interest therein was not mailed until July 18, 1980 (Complaint Counsel's Supplemental Finding 643).

305. However, on July 10, 1980, before the mailing of such formal notice, Mr. Bennett had prepared outlines of the elements of the gas cap exchange program, which included a direct mailing to customers and media advertising (RX 65A-I). In this regard, it must be noted that Mr. Bennett had been notified by memo of May 30, 1980, after the Spring safety campaign, that the first production models of the new fuel cap would be available on July 14, 1980 (RX 61).

306. Another step in this process was also accomplished prior to formal notification by the Commission that an investigation was under way. The media advertising program was well-developed by

INTERNATIONAL HARVESTER CO.

949

Initial Decision

July 15, 1980 (CX 390C-L). It also made mention of the mailing to customers (CX 390L).

307. A draft of IH's warning letter was prepared on August 3, 1980 and revised on August 4, 1980 (CX 216A, F, Z2-50). A meeting was held between Commission counsel and IH counsel on August 6, 1980, at which complaint counsel suggested a proposed [98] letter to customers and respondent revealed its plans to send its own warning letter (IH's Supplemental Finding No. 626; Complaint Counsel's Supplemental Finding 649). Complaint counsel made suggestions for certain language changes in IH's version of the warning letter, which were included in respondent's final letter. Respondent urges that such changes were "minor" and complaint counsel have not contested this claim (IH's Supplemental Finding No. 627; Complaint Counsel's Response, p. 4).

308. When all of these facts are considered together, it is no longer apparent that the August 1980 warning letter was a reaction to the Commission investigation. Although it is admitted that Commission counsel had a "minor" effect on the final wording thereof, there is a logical pattern from the inception of respondent's FFPP in the Spring of 1979 through to August 1980, which would explain the derivation of the August 1980 letter on a purely voluntary basis. Although complaint counsel have been able to point to a similarity between the timing thereof and the Commission's notice of investigation, they have produced no concrete evidence that the August letter was the result of their investigation. Even as to the wording of the letter, they can only claim to have had a "minor" effect. Since complaint counsel have the burden of proving their contention that the letter was involuntary, and they have failed to carry that burden, I must find that the August 1980 warning letter and the subsequent media campaign were voluntary acts of respondent.

XI. DISCUSSION

I have found that at least by 1963 and thereafter, respondent knew or should have known that its gasoline-powered tractors with the fuel tank located in front of the operator were subject to fuel heating, vaporization and build-up of pressure within the fuel tank to such a degree that, under certain circumstances, when the fuel cap is removed or dislodged while the tractor is running or still hot, liquid fuel and fuel vapors might shoot or geyser out of the filler neck, spraying the operator and/or the tractor with gasoline which can and has been ignited (Finding No. 276). I have also found that respondent knew or should have known by that time that many of the operators and potential operators of those tractors were unaware of this hazard and were, as a result, removing the fuel cap from hot or running

FEDERAL TRADE COMMISSION DECISIONS

Initial Decision

104 F.T.C.

tractors, or improperly securing the cap so that it might loosen and fly off, thus exposing themselves to the hazard of fuel geysering, and that some of such operators had been seriously injured, and even killed, as a result (Finding No. 276). [99]

The fact that many operators were unaware of this hazard must be considered excusable ignorance. Despite respondent's long experience with fuel geysering and its causes, even some of its own engineers were still unaware of this hazard in the late 1970's. One of respondent's engineers stated in February 1979 that "he couldn't conceive of a fuel geysering" (CX 299F); this was based on 40 years experience of operating and being around tractors (Sullivan, Tr. 5143-44). Another, Mr. Borghoff, testified herein that he didn't believe geysering could occur even under abnormal conditions (Borghoff, Tr. 4130). Two other IH engineers, Mr. Drummond and Mr. Gaul, testifying in the *Stambaugh* litigation in 1979, indicated that they didn't think fuel geysering could occur unless extraordinary circumstances existed (CX 285E; CX 286D-G). If these IH engineers could not imagine a fuel geyser, how could operators with far less expertise be expected to know of this danger?

Mr. Drummond admitted that he didn't think farmers expected the gas to "bubble up" when they removed the fuel cap (CX 285E). Mr. Gaul admittedly knew that farmers were taking the fuel cap off of hot tractors (CX 286G). This same knowledge, on the part of IH, was repeatedly evidenced in its internal documents (CX 19A; CX 27B; CX 28A-B; CX 28F; CX 40; CX 41; CX 44A; CX 46D; CX 49A-B; CX 52; CX 53; CX 62; CX 89; CX 90; CX 91A-B; CX 101A-B, E, F; CX 110; CX 111; CX 119A-B; CX 138A-B; CX 291H). In fact, it knew that its own testing personnel sometimes removed the fuel cap from a hot or running tractor (Findings No. 37, 53).

Under the circumstances, respondent certainly was aware of the fact that there was a "hidden" safety hazard involved in the operation of any of the tractors here in issue. It knew that the temperature of the gasoline and the vapor pressure in the fuel tanks of these tractors were frequently building up to the point where a serious hazard existed, if the fuel cap were removed or dislodged (Findings No. 20, 29-31, 44, 38-134; *See especially*, Findings No. 51, 96, 98, 100). It also knew that many operators, indeed some of its own engineers, were not aware of this hidden hazard (Finding No. 36) and were removing the fuel cap from hot or running tractors (Findings No. 34, 53, 276).

Commission precedent is quite clear on the duty to disclose such a hidden hazard. The Commission has held that the failure to make such disclosure is both deceptive and unfair. *Firestone Tire & Rubber Co.*, 81 F.T.C. 398, 456 (1972); *Stuppell Enterprises*, 67 F.T.C. 173 (1965). *See also*, *Porter & Dietsch v. F.T.C.*, 605 F.2d 294, 308 (7th Cir.

1979), *cert. denied, sub nom., Pay 'n Save v. F.T.C.*, 445 U.S. 950 (1980); *Simeon Management Corp. v. F.T.C.*, 579 F.2d 1137, 1145-46 (9th Cir. 1978). [100]

Even where no explicit safety claim has been made, as in this case, the Commission has found that the failure to disclose such a hidden, or unknown hazard is a deceptive practice. *Stuppell Enterprises*, 67 F.T.C. 173, 187, 188 (1965). In selling its tractors, respondent gives an implied warranty that it is safe to use for its intended use, save any obvious or well-known defects or hazards. *Stuppell*, at 187, 188; *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278, 1282 (1953); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697, 701 (1952).²⁸

In this case it is quite clear that IH's gasoline-powered tractors had a hidden hazard, that respondent knew of such hazard at least by the year 1963 and failed adequately to inform its customers of that hazard until 1980. Thus, at least by 1963 and thereafter, respondent had a continuing duty to make adequate disclosure of the hazard of fuel-geysering to the operators of its tractors and failed to do so. This is a deceptive act or practice in violation of Section 5 of the Federal Trade Commission Act. *Stuppell Enterprises, supra*; *Firestone Tire & Rubber Co., supra*, at 456.

This failure is also an unfair act or practice under Section 5 of the Federal Trade Commission Act. Respondent contends that there can be no unfairness because the operators of its tractors could have avoided injury by observing certain safety rules. (RB p. 4). This argument presupposes that the operators of its tractors have the basic information necessary to avoid such injury. In this case, it is clear that many tractor operators did not have this information (Finding No. 36) and that respondent was aware of this fact (CX 285E; X 286G). IH was also well aware that a definite safety hazard existed if the operators were not aware of the possibility of fuel geysering and the steps which should be taken to prevent it (Findings No. 37-134; CX 48D; CX 55B; CX 57A; CX 58B). Under less urgent circumstances, the Commission has found the failure to disclose safety hazards to be an unfair act or practice. *See, Firestone Tire & Rubber Co., supra*. [101]

Respondent's failure to inform also meets all of the criteria for finding "legal unfairness" referred to in *Horizon Corporation*, 97 F.T.C. 464, 849-50 (1981). That decision cites to the letter from Federal Trade Commissioners to Senators Wendell H. Ford and John C. Danforth (December 17, 1980) as delineating the Commission's views

²⁸ Nor do respondent's operator's manuals in any way abrogate this implied warranty. (RB pp. 7-8). The vast majority of the operator's manuals for the tractors in question did not even contain instructions against removing the fuel cap when the engine is running or hot (Findings No. 148, 150, 151, 259), let alone inform the operator of the existence of the hazard of "fuel geysering." Moreover, respondent well knew that many operators didn't read their operator's manuals fully (Finding No. 153). Obviously, the operator's manuals cannot vitiate the implied warranty against unknown safety hazards, under these circumstances.

of the boundaries of its consumer unfairness jurisdiction (Slip Opinion, p. 62). The criteria enunciated therein were two: the existence of unjustified, substantial consumer injury and the violation of established public policy. Further, the consumer injury had to meet three tests: it must be substantial, it must not be outweighed by any countervailing benefits to consumers or competition, and it must be an injury that consumers themselves could not reasonably have avoided. As to the first two tests for consumer injury, there is no real issue in this case. The physical injuries sustained by some of the operators of these tractors were very substantial and there was no contention by respondent that there were countervailing benefits which outweighed them. The "reasonable avoidance" argument has been disposed of in the discussion above, so IH's failure to disclose the safety hazard in question meets the first of the two criteria.

As for the second criterion, the letter to Senators Ford and Danforth (Exhibit 2 to *Memorandum In Support Of Opposition To Complaint Counsel's Motion To Strike*, January 7, 1981), points out that the "violation of public policy" criterion can be applied two ways: "to test the validity and strength of consumer injury, or less often, it may be cited for a dispositive legislative or judicial determination that such injury is present." (Letter, p. 9). (Emphasis added). The letter also makes it quite clear that the Commission is not throwing out its past case law in enunciating these criteria, but that, rather, these criteria are the result of the evolution of the definition of "unfairness," as a result of such case law. In fact the Commission states therein: "In response to your inquiry we have therefore undertaken a review of the decided cases and rules and have synthesized from them the most important principles of general applicability. Rather than merely reciting the law, we have attempted to provide the Committee with a concrete indication of the manner in which the Commission has enforced, and will continue to enforce, its unfairness mandate." (Letter, p. 2).

When the "violation of public policy" criterion is applied in the manner thus described by the Commission, there can be no question that respondent's failure to inform is contrary to public policy and is an unfair act or practice in violation of the Federal Trade Commission Act. The validity and strength of the consumer injury herein is beyond doubt. If "public policy" [102] is a test of this criterion, then conversely the extent of the consumer injury must be a test of the "public policy" criterion.²⁹ The "violation of public policy" criterion

²⁹ The public policy question in this case is obviously closely related to the question of the avoidability of the consumer injury, since its prime use in finding "unfairness" is to test the validity and strength of such injury (Letter, p. 9). Therefore, the determination of public policy is principally related here to the question of whether the injury can be readily anticipated by the customer or user, so that he reasonably can be expected to avoid it. As noted above, the record evidence establishes here that for many of the operators of the tractors in issue the

in matters of this kind has been firmly established in Commission case law, which the Commissioners expressly retained as precedent in their letter to Senators Ford and Danforth. For example, the *Firestone Tire & Rubber* case, *supra*, stated that such conduct was an unfair act or practice and, thus, a "violation of public policy." In doing so, it cited to earlier cases, such as *Stuppell, supra*; *Novel Mfg. Corp.*, 60 F.T.C. 1748 (1962) and *Fisher & Deritis*, 49 F.T.C. 77 (1952) as requiring affirmative disclosure of safety hazards, even where no affirmative safety claim has been made for a product, and as finding the failure to make such affirmative disclosure to be an unfair or deceptive practice.

Therefore, there is no need to look to the numerous state judicial decisions and other authorities cited by complaint counsel and respondent to determine whether respondent's act or practice is a "violation of public policy." That determination has already been made in *Firestone* and *Stuppell* and other Commission cases, where it has been found that if consumers are uninformed about the risks related to the use of a product, it can lead to personal injury and economic loss, and protection against such loss is in the public interest. "Thus, the Commission has frequently decided that the omission of product safety information is an *unfair* and deceptive practice." *Firestone* case, at 456. (Emphasis added).

One case cited by respondent, *Parsonson v. Construction Equipment Company*, 386 Mich. 61, 191 N.W. 2d 465 (1971), merits some discussion, since respondent has placed heavy reliance thereon (RB pp. 9-10, RRB pp. 5, 7, 17, 20, 29, 31, 32, 77, 92). Such reliance is misplaced. First of all, *Parsonson* [103] is a product defect case, not a hazard warning case, a distinction which even the Michigan courts find significant. See e.g., *Graham v. Joseph T. Ryerson & Sons*, 292 N.W. 2d 704 (1980). Then too, the *Parsonson* case was decided on the basis of the "latent-patent" rule for design defect cases, which has apparently been rejected by Michigan courts in later years. *Casey v. Gifford Wood Company*, 232 N.W. 2d 360, 365 (1975); *Owens v. Allis-Chalmers Corporation*, 268 N.W. 2d 291 (1978).

Respondent quotes a passage from the *Parsonson* decision, which states: "Every adult person having a reasonable measure of intelligence . . . knows better than to open a partly filled gasoline tank when there is some or any nearby source of ignition. Assuredly this is true when the opening is within inches of an already heated and continuously running engine." (*Parsonson*, at 471). Aside from the legal infirmities of the *Parsonson* case as noted above, respondent does not explain some of the facts of this case which clearly distinguish it from

hazard was unknown, was not reasonably to be anticipated and thus could not be expected to be completely avoided.

the present situation. In addition to the fact that the equipment in issue there was a much different device than a farm tractor, the decision in *Parsonson* shows that the asphalt-laying machine in question was a unique, one-of-a-kind device. It had been designed to the particular specifications of a previous owner. (*Parsonson*, at 467). Therefore, there was no history of prior, similar accidents to put the defendant in that case on notice that a latent or hidden hazard existed in the use of the device. Thus, the court did not consider whether a duty to warn could arise, but only whether there was a patent or a latent defect in the design of the machine.

If respondent wishes to rely on Michigan judicial decisions for guidance as to the public policy question in the instant case, it should look to other more recent cases dealing with the question of hazard warnings. In *Graham v. Joseph T. Ryerson and Sons*, *supra*, the Court was dealing with the question of the duty to warn a group of experts (tire repairmen) of a hazard connected with the repair of certain truck tires. It distinguished the *Parsonson* case by noting that the "duty to warn" issue had not been raised therein (as well as questioning whether the "latent-patent" test was still the rule of law) (292 N.W. 2d, at 706). The Court in the *Graham* case held:

If members of the particular trade or profession commonly engage in a dangerous practice, the manufacturer's knowledge of the conduct may give rise to a duty to warn . . . In the instant case there was ample testimony that it was the common practice of diesel mechanics, Graham and others, to inflate tires in order to elevate the vehicle. We must assume that [104] defendant was aware of this practice since it had been informed of about 40 similar blowout incidents. In light of this knowledge in particular . . . we find a question exists as to the duty to warn even tire repairmen of the special danger involved." (at 707).

Moreover, in dealing with the apparent awareness on the part of tire repairmen that there was some danger in their practice, this court stated:

Consciousness of a vague danger, without appreciation of the seriousness of the consequences may require the manufacturer to provide warning. . . . (at 708).

Another Michigan case, *Owens v. Allis-Chalmers Corporation*, *supra*, held that a plaintiff may establish a question of fact as to a manufacturer's breach of duty by showing "that the design choice of the manufacturer carries with it a *latent* risk of injury and the manufacturer has not adequately communicated the nature of that risk to potential users of the product." (268 N.W. 2d, at 295) (Emphasis in original).

Therefore, when a closer look is taken at the facts of the *Parsonson* case and its precedential value in light of other Michigan cases, it can be seen that its citation by respondent does not detract from the Commission precedent which I have cited above.

Accordingly, respondent's act or practice of failing to adequately inform the owners and operators of its tractors of the safety hazard termed herein as "fuel geysering," once such safety hazard became known to it, was to the prejudice and injury of the public and constituted an unfair or deceptive act or practice, or an unfair method of competition in or affecting commerce, in violation of Section 5 of the Federal Trade Commission Act, as amended.

XII. ORDER UNNECESSARY

I have found that respondent has now made adequate disclosure of the safety hazard known as "fuel geysering" which is connected with the operation of its gasoline-powered tractors having the engine in front of the operator. (Findings No. 167-261). I have also found that neither complaint counsel, nor [105] their experts, have suggested any type of further notification which could reasonably be expected to improve on that notice already given in 1980 (Finding No. 261). Therefore, there does not appear to be a need for an order in this case.

In so finding, I am cognizant of the fact that complaint counsel have suggested order provisions which would cover all agricultural equipment and which would require record keeping and the preparation of customer and operator lists which would be useful in connection with the disclosure of any later discovered safety hazards with regard to IH's farm equipment. However, the facts of this case make the application of an order to agricultural equipment other than the tractors in issue too broad, and the record keeping and customer list requirements are unnecessary, if not too onerous, under present circumstances.

First, it must be remembered that respondent has not produced and distributed gasoline-powered tractors of any type since 1978 and does not appear likely to do so again in the future (Finding No. 116). In fact, it has not produced a great volume of the tractors in issue since the late 1960's (Findings No. 107, 116). The hazard involved in this case is rather unique and does not pertain to any of the other farm equipment produced by respondent. Therefore, an *all farm equipment* order herein appears to be primarily punitive in nature.

This is especially so when it is noted that there are a great number of hazards involved in the use of farm equipment, including tractors. The evidence shows that most of these hazards are better known and more prevalent than fuel geysering. A Department of Transportation study in evidence lists a number of these hazards and indicates

their prevalence (RX 32, pp. 6-7, 11, 14-15, 17). Fuel geysering is not even listed, as such, among those hazards, but is only included among the three percent remaining, unspecified types of farm tractor accidents. It appears from this study that most of these hazards are more obvious and better known than "fuel geysering." However, this fact would not make an *all farm equipment* order more reasonable, even when the savings clause suggested by complaint counsel is included.

At the end of Part II (A) of their proposed order, complaint counsel have inserted a paragraph stating:

Respondent need not disclose information concerning a safety hazard if the information which is set forth in Paragraphs I.B.1 through I.B.3 of this Order (the safety hazard notice) is [106] immediately apparent to the operator of the equipment.

Far from lessening the burden on respondent of complying with their proposed order, this clause merely opens up a broad controversy as to what safety hazard on farm equipment is "immediately apparent to the operator." It is also hard to imagine any savings clause which would be more efficient in eliminating unnecessary compliance expense for respondent, save an actual listing of each and every type of hazard to which the order need not apply. The record does not supply sufficient evidence to formulate such a list and this Commission does not have the expertise to provide such a list in the absence of an evidentiary record.

To impose upon respondent the burden of issuing hazard warnings about every possible farm equipment hazard would be onerous and extremely punitive. The record shows that IH's Fuel Fire Prevention Program cost it about \$2.8 million (Finding No. 181). To require such an expenditure (which complaint counsel still urge to be inadequate) in the cases of tractor upsets, falls from tractor, crushed (other than runover), runovers, motor vehicle collisions and power take-off accidents (getting articles of clothing caught in the driveshaft), not to mention numerous other hazards, would possibly put this financially troubled company out of business.³⁰

The operation of farm tractors and other related farming equipment is a hazardous occupation (RX 32). To require the identification of all present and future hazards and the issuance of warnings concerning them, without the existence of an evidentiary record (such as in the present case) that identifies a particular hazard as a "hidden" one which the operator cannot reasonably be expected to know about and avoid, would therefore be punitive, not preventive. It imposes the risk of untold unnecessary expense and threatens the very existence

³⁰ The listed hazards account for 97% of all farm tractor accidents according to the Department of Transportation study (RX 32, p. 17).

of respondent as a going concern. It will certainly not assist the operators of IH's gasoline-powered tractors, if the Commission pushes this company into bankruptcy, thus eliminating it as a source of parts and service, as well as possible consumer redress.

Nor can the record keeping and customer listing provisions of complaint counsel's proposed order be justified. As of 1972, [107] respondent set up a system of central record keeping for farm accidents which should prove adequate for any future needs. (Finding No. 158). Obviously, the possibility of private damage suits and its past experience are sufficient reason for IH to keep apprised of such accidents. There appears to be no good reason to require it to search out accident reports in state agency files and newspaper morgues.

The preparation of lists of operators would also be unnecessarily punitive. Used tractor sales are not easy to track down and the preparation of such lists might be a very expensive undertaking. (Findings No. 154, 204-206; Gast, Tr. 3754-55; Purdy, Tr. 3807-08, 3812). It would also require work and expenditures by independent dealers who are not a party to this proceeding and who could not be encompassed within a Commission Order. Again, it does not make sense to impose onerous burdens on this respondent, now that adequate notice has already been given and the tractors in issue are no longer being produced.

To summarize, I am mindful that the continuing existence of IH in manufacturing and distributing parts for these tractors and being available to settle consumer claims is far more effective relief than an order which runs respondent out of business. The only hazard at issue herein was that of "fuel geysering" on certain gasoline-powered tractors. The circumstances of this case do not appear to call for any further action than respondent has already taken and is continuing to take (Findings No. 223, 239, 242, 244-245, 248, 254, 260-261).

Accordingly, I find that although a violation has been found, no order is necessary.

XIII. CONCLUSIONS

1. The Federal Trade Commission has jurisdiction of the subject matter of this proceeding and over respondent.
2. The Complaint herein states a cause of action and the proceeding is in the public interest.
3. The aforesaid acts and practices of respondent as found in the foregoing Findings Of Fact were and are to the prejudice and injury of the public and constituted, and now constitute, unfair and deceptive acts and practices and unfair methods of competition in or affecting commerce in violation of Section 5 of the Federal Trade Commission Act, as amended. [108]

4. Since respondent has now issued an adequate warning of the existence of the hazard of "fuel geysering" and the steps which should be taken to prevent it, no order is required.

OPINION OF THE COMMISSION

By DOUGLAS, *Commissioner*:

This matter presents the issue of when and under what circumstances a manufacturer has a duty to notify customers about hidden hazards in his product. The complaint is directed against International Harvester, a firm producing a diversified line of farm equipment. It charges that Harvester's gasoline-powered tractors were subject to a phenomenon known as fuel geysering—the forceful ejection of hot fuel through a loosened gas cap. The complaint further charges that fuel geysering could result in serious fires, sometimes involving the tractor operator; that Harvester was aware of this fact for many years; that the firm did not adequately notify its customers of the danger; and that the operators therefore took inadequate measures to protect themselves.

The Administrative Law Judge found that this pattern of omissions was deceptive, I.D. 100,¹ an unfair consumer practice, [2] I.D. 100-04, an unfair method of competition, I.D. 104. The ALJ also found, however, that Harvester had begun to issue adequate warnings in 1980, and therefore concluded that a Commission order to do so would not be necessary. Both parties have appealed from this decision. Harvester has appealed the finding of liability, and complaint counsel has sought review of the decision not to issue an order.

We affirm in part and reverse in part. While failure to disclose certain material facts may cause consumer injury and lead to liability under Section 5, it is important to distinguish between the circumstances under which such omissions are *deceptive*—in that they are

¹ In the remainder of this opinion the following abbreviations will be used:

- I.D.F. - Initial Decision Finding of Fact No.
- I.D. - Initial Decision Page No.
- Tr. - Transcript of Testimony Page No.
- CX - Complaint Counsel's Exhibit No.
- RX - Respondent's Exhibit No.
- CPF - Complaint Counsel's Proposed Finding of Fact No.
- RPF - Respondent's Proposed Finding of Fact No.
- CR - Complaint Counsel's Reply to Respondent's Proposed Findings of Fact
- RR - Respondent's Reply to Complaint Counsel's Proposed Findings of Fact
- CAB - Complaint Counsel's Appeal Brief Page No.
- RAB - Respondent's Cross-Appeal Brief Page No.
- CaB - Complaint Counsel's Answering Brief Page No.
- RaB - Respondent's Answering Brief Page No.
- CRB - Complaint Counsel's Reply Brief Page No.

likely to cause injury to consumers by affirmatively misleading their informed choice—and the circumstances under which they amount to an *unfair practice*—one which causes substantial, unavoidable injury to consumers that is not outweighed by any countervailing benefits. We do not find that the facts describe a practice which causes injury by deception, and so we reverse that conclusion of the initial decision.² We do find that the facts describe a situation which is an unfair practice, however, and therefore affirm that part of the initial decision. We also agree that under the circumstances of the case a specific corrective order will be unnecessary. [3]

Our discussion of these issues will be divided into five principal sections. The first section summarizes the basic facts of the case. The second section outlines the general legal principles by which omissions and mandatory disclosures are judged. The third section applies this law to the specific circumstances of the case, with separate discussions of deception and unfairness standards. The fourth section considers some of the collateral legal issues raised by the appeals, such as mootness and undue delegation. Finally, the fifth section examines the question of relief.

I. THE FACTS

The facts in this matter are not seriously in dispute. The evidence shows that Harvester tractors were subject to fuel geysering under certain conditions, and that the company knew of this for seventeen years before directly notifying its customers. The evidence also shows that such accidents were relatively rare and could be avoided entirely by following certain safety rules.

These facts are clearly and thoroughly reviewed in the decision of the Administrative Law Judge. They are agreed to, in [4] at least their principal contours, by all the litigants.³ On the basis of this history and our own review of the record we adopt the ALJ's findings of fact as our own, except where specific differences may appear in the course of our opinion. The principal issues in this case then revolve around the legal construction that should be placed on these events.

A brief synopsis of the facts will nonetheless be helpful as an introduction to the remaining sections of the opinion. "Fuel geysering" is a phenomenon in which hot liquid fuel is forcibly ejected upward through the filler cap on a tractor gas tank. I.D.F. 19. It can occur because gasoline is a volatile fuel with a boiling point that begins at about 95–97° Fahrenheit.⁴ This temperature is easily reached in ordi-

² As we discuss below, most Section 5 cases charging omissions of material fact are properly characterized as involving deception. Those cases are not called into question by today's decision.

³ See RAB 3; cf. CAB 1-2 (taking issue primarily with the Administrative Law Judge's legal conclusions).

⁴ Gasoline is actually a blend of different hydrocarbons that vaporize at various temperatures. The first to vaporize have a "dominant influence" on fuel volatility. I.D.F. 12.

nary use, since a Harvester fuel tank is located immediately above and behind the engine, where it is subject to both direct engine heat and the current of hot air from the radiator.⁵ I.D.F. 9-10. Fuel at this temperature can begin to boil. If the fuel vaporizes more rapidly than it can be vented, pressure will begin to build up in the tank. I.D.F. 13. This vapor pressure can suppress further [5] boiling, and energy will then continue to build up in the tank in the form of still higher temperatures in the liquid mass of fuel. I.D.F. 19. If the pressure is suddenly released, as through the sudden removal of the fuel cap, the accumulated heat energy can cause a quantity of gasoline to suddenly boil, sending both fuel and vapors up through the filler neck. I.D.F. 19.

A fuel geyser can reach to a height well above the tractor and its operator. In one test that Harvester conducted the geyser shot twenty feet high and the tank lost seven gallons of fuel. I.D.F. 23. A farmer who experienced fuel geysering described it in these terms: "It was frothy-looking—it appeared to be a frothy-looking orangeish white mass, and it just went up like that." Cameron, Tr. 402.

The gasoline sent up from the tank may fall back on the operator, soaking him with raw flammable fuel. This hot fuel can itself cause severe burns. But the great hazard of fuel geysering is, of course, fire. I.D.F. 24. Potential sources of ignition are numerous. Heat from the exhaust manifold, sparks from the generator, or flame from the muffler can all touch off the liquid gasoline. I.D.F. 25. Fire does not occur in all cases, but it is always a danger, and it can be nearly instantaneous when it does come about. One witness testified:

Well, the minute I got sprayed with gas, I reached for the switch to shut the motor off. By that time, it had ignited. I was one ball of fire. (Shawback, Tr. 583; *see* I.D.F. 26.) [6]

Serious injury and death have resulted from such fires. The record contains evidence of more than 90 fuel geysering incidents involving Harvester tractors. I.D.F. 29; CX 220A-K. Testimony at trial identified twelve incidents in which there were significant burn injuries. I.D.F. 27. In one of these cases—that of Charles Kraus—the victim died. *Id.* Harvester acknowledges that two additional deaths have occurred in other fuel fires that may have involved geysering.⁶ Imperfect data collection over the years makes it probable that there have

⁵ This is not a defects case, however, and the complaint does not charge that this design was faulty. Other tank locations presumably have drawbacks of their own, such as increased vulnerability in collisions. The charge is instead that the inherent drawbacks of this particular design were not adequately disclosed.

⁶ *Supplemental Memorandum in opposition to Complaint Counsel's Motions for Leave to Submit Additional Evidence on the Issue of Public Interest*, July 21, 1981, pp. 9-11; I.D.F. 27. In these additional cases the origin of the fires was difficult to determine, and they may have been due to causes other than geysering.

been additional incidents of fuel geysering beyond those that are shown on the record. I.D.F. 29.

These dangers and injuries could have been avoided, however, if the tractor operators had observed a few relatively simple precautions. The most basic precaution was to keep the fuel cap securely fastened, and not to remove it while the tractor engine was running or hot. Some witnesses at these hearings did testify that their fuel caps simply "blew off" while their tractors were running, without their having touched them. The ALJ found otherwise, however, concluding that a properly secured fuel cap cannot be dislodged by internal pressure, and that such cases must have been due to operator removal, improper closure, or poor maintenance that prevented proper cap seating. I.D.F. 32-33. We agree with the ALJ's assessment of the evidence. As a result, [7] operators could remain safe simply by leaving their caps secured.⁷ For many years the operating manuals had warned tractor owners to do just that.

There are, on the other hand, a number of factors which incline operators toward opening the caps. Some of the older models of Harvester tractors had no fuel gauge, so it was common to open the cap to check on fuel level. I.D.F. 34. More importantly, the symptoms of excessive tank pressure tend to resemble the symptoms of fuel exhaustion. These include "vapor lock" caused by fuel vaporizing in the fuel line or carburetor, which can cause the engine to sputter or stop; surging of the engine as pressure forces extra fuel into the carburetor; and stalling of the engine due to flooding when this extra fuel flow becomes excessive. I.D.F. 18. Any of these symptoms might lead the operator of even a modern, gas-gauge-equipped tractor to stop and visually check his fuel level. In doing so he is encouraged by the sense that this action entails little risk. The operator knows enough to ensure that open flame does not come near the gas tank, and being unaware of the potential for a fuel geyser he took no particular steps to avoid it. I.D.F. 35-37.

By 1955 Harvester was aware of the pattern of accidents that had begun to develop. In that year reports of fuel geysering incidents began to come to the firm's attention; its engineers came to realize that gasoline in tractor tanks was heated to the [8] boiling point; and the firm began to conduct systematic tests to identify the factors that caused geysering.⁸ In 1957 the firm received its first report of a personal injury resulting from a fuel geysering. I.D.F. 54. By 1963 it began to become involved in private damage suits for fuel geysering

⁷ Poor general maintenance may also have been a factor in some geysering incidents, I.D.F. 17, but geysering could occur on even a well-maintained or new tractor. See Nichols Tr. 2090-93; Sullivan Tr. 5190.

⁸ Geysering was a very infrequent occurrence, considering the numbers of tractors in service. Whether it would occur was determined by a number of factors, including engine heat, agitation of fuel in the tank, ambient air temperature, and wind direction and velocity. I.D.F. 50.

injuries. In preparation for these trials Harvester carried out further testing, engineering reviews, and studies of the files of reported geysering incidents. I.D.F. 91-94. For this reason the ALJ concluded that by 1963 Harvester was on notice of the risks of fuel geysering, and under an obligation to inform its tractor operators of this fact and of the steps they could take to prevent it. I.D.F. 276.

Harvester in fact took a number of steps of gradually increasing efficacy over the next twenty years. As early as 1958 it had mailed a "Service Slant"—an internal memorandum for its [9] dealers—that described the problem.⁹ This warning went only to the Harvester dealers, who generally do not pass such bulletins on to their customers.¹⁰ Nothing in the record suggests that this particular warning ever actually reached the tractor operators.¹¹ In 1963 Harvester revised its operator's manuals to include a warning against removal of the gas cap from a hot or running tractor. This warning was incomplete in a number of respects, however. It was included only in the manuals for new tractors, leaving the manuals for the more numerous older models unrevised, and it did not specifically mention fuel geysering as a possible consequence of cap removal, thus leading readers to attach less significance to the warning than they would otherwise have done. I.D.F. 151. In 1976 Harvester produced a new fuel tank decal which repeated the warning against removing the cap from a hot tractor, and added an injunction to [10] tighten the cap securely.¹² This was perhaps the most effective warning yet, but it had a very limited distribution. Only 980 gasoline-powered tractors were produced after 1975—because the industry was switching to diesel fuel—and the decals reached the older tractors only on an irregular basis. I.D.F. 164. Moreover, this decal again failed to spell out the exact nature of the hazard at a level of detail that would effectively motivate compliance.

In 1979 Harvester began work on the warning program that all parties agree was finally effective. This was the Fuel Fire Prevention Program. It was an initiative of the Product Integrity Group, an

⁹ The Service Slant contained the following warning:

The hiss of escaping vapor from filler cap vents is an indication of pressure buildup in the tractor fuel tank; removal of the filler cap should not be attempted until the pressure has dropped and the tractor cooled down. A quick release of pressure from the tractor fuel tank by the operator's removal of filler cap will result in a temporary effervescence of fuel, this in the presence of a hot engine or other means of ignition can be a fire hazard.

Service Slant #24-58, May 1958; CX35; RX22 See I.D.F. 144. Although the word "effervescence" may not be the best description of fuel geysering, this warning might still have been adequate if it had been properly distributed.

¹⁰ I.D.F. 142.

¹¹ I.D.F. 154.

¹² I.D.F. 164-65. The text of the decal read as follows:

AVOID FIRES. TIGHTEN cap securely. Do not open when engine is RUNNING or HOT.

In the same year a parallel change was made in the operator's manual, calling greater attention to the old 1963 warning through more prominent symbols and more conspicuous type, and adding the caution about tightening the cap. Still, however, these warnings did not reach the operators of older tractors, and did not describe the specific risks of fuel geysering.

organization within the company that had responsibility for studying safety problems. The centerpiece of the program was a direct mailing made to some 630,000 Harvester customers in August, 1980. This mailing explicitly warned about the existence of fuel geysering: "[The] sudden eruption of gasoline exposes the operator to, and may cover him with, liquid fuel and vapors and is a clear fire hazard if a source of ignition is present. . . ." CX 375; I.D.F. 201-02. Coupled with this warning was an announcement that Harvester was [11] providing, free of charge, a new gas cap that would prevent geysering. I.D.F. 203. The ALJ found that the 1980 warning was complete and was effectively distributed to the people in need of the information. He therefore concluded that Harvester's duties to its customers was discharged as of that date. I.D.F. 261.

II. APPLICABLE LEGAL STANDARDS

The above facts are, as we have said, not seriously in dispute. The principal issues in this case instead revolve around the proper legal construction that should be placed on the facts. In this section of the opinion we will review, in general terms, the legal standards applicable to the case. In the following section we will bring the facts and the law together in an analysis of the ultimate issues of liability.

The basic law of this case is Section 5 of the FTC Act. That section states that "unfair or deceptive acts or practices . . . are declared unlawful."¹³ The Administrative Law Judge found violations of both parts of the statute. He concluded that Harvester's failure to warn about the hazards of fuel geysering was a form of deception, a failure to dispel an incorrect belief among consumers that the tractors would be fit for their ordinary [12] use.¹⁴ He also found that the failure to warn was unfair, since it subjected consumers to a risk of harm that they could not reasonably have avoided, but that Harvester could have prevented at relatively small cost.¹⁵ We will discuss these two charges in sequence.

Deception

The first charge considered in this case was deception. "Deception" is specifically prohibited by the FTC Act, and the Commission has had particular experience over the years in applying this concept. In most deception cases injury comes about when consumers are led to purchase a product that they would not otherwise have selected. In such cases the Commission's deception jurisdiction acts to safeguard the

¹³ 15 U.S.C. 45(a)(1).

¹⁴ I.D. 99-100, 107.

¹⁵ I.D. 100-04, 107. The ALJ also found that the practices constituted an unfair method of competition. Because of our resolution of other issues in this case we do not need to address that question.

exercise of consumer sovereignty.¹⁶ Consumers may also incur injury through choices relating to their post-purchase conduct, however, such as decisions on the care and use of the product. [13] These decisions may likewise be protected by the Commission's deception jurisdiction.¹⁷

Our approach to deception cases was described in a policy statement that the Commission issued in 1983.¹⁸ That document explains how the Commission reads its precedents and thus how it will apply that body of law. In brief, a deception case requires a showing of three elements: (1) there must be a representation, practice, or omission likely to mislead consumers; (2) the consumers must be interpreting the message reasonably under the circumstances; and (3) the misleading effects must be "material," that is, likely to affect consumers' conduct or decision with regard to a product. Our deception analysis thus focuses on risk of consumer harm, and actual injury need not be shown.¹⁹

Deception is a particularly troublesome form of conduct. It is harmful to consumers, undermines the rational functioning of the marketplace, and, unlike some other practices we are called upon to review, never offers increased efficiency or other countervailing benefits that must be considered. In view of [14] deception's unalloyed negative qualities, the three elements of the deception analysis represent streamlined procedures adopted by the Commission to deal most effectively with such practices.

The first element in the analysis states that there must be a representation, practice, or omission that is likely to mislead the consumer. The essence of deception is its misleading effects, and we therefore require some evidence that this undesirable consequence is indeed likely to come about. However, as one instance of streamlining, we do not go beyond likelihood to require evidence on the incidence of actual false belief.²⁰

The second element states that consumers must be interpreting the advertisement reasonably under the circumstances.²¹ A company

¹⁶ The touchstone here is free consumer choice. We do not look for evidence that the product selected is actually inferior to its alternatives.

¹⁷ The underlying theory is that the care-and-use requirement of a product, if known by consumers, will affect their initial purchase decisions.

¹⁸ Letter from Federal Trade Commission to Congressman Dingell (Oct. 14, 1983) (hereinafter cited as Deception Statement). This letter is reproduced as an Appendix to our opinion in *Cliffdale Associates, Inc.*, Docket No. 9156 (FTC March 23, 1984) [103 F.T.C. 110].

¹⁹ See Deception Statement, p.16 (if inaccurate or omitted information is material, consumer injury is likely and a corrective FTC action is appropriate).

²⁰ In some circumstances evidence on this point may be necessary, but it is not an element in the generic offense of deception.

²¹ See Deception Statement, p.7. This element focuses only on the interpretation of a claim. We do not inquire further and consider the reasonableness of the consumer's decision to accept or believe in a particular claim. Thus, an express claim for a baldness cure would be interpreted by a reasonable consumer as meaning what it said, and we would not inquire into the consumer's reasonableness in relying on such claims.

cannot be liable for every possible reading of its claims, no matter how far-fetched. We therefore require that the consumer interpretation in any particular case be reasonable. The Commission, however, will not require evidence that a claim has been interpreted in a certain way by [15] some threshold number of consumers. Consumers acting reasonably under the circumstances are those who have acted in a way consistent with the broad range of ordinary or average people.²²

Finally, the third element in a deception case states that the misleading effects must be material. A material effect is one which is likely to influence a consumer's conduct or purchase decision. We therefore require that the seller's conduct be likely to distort the ultimate exercise of consumer choice. The Commission, however, presumes that all express claims are material,²³ and that implied claims are material if they pertain to the central characteristics of the product, such as its safety, cost, or fitness for the purpose sold.²⁴ Our reasoning here is that the seller is in the best position to assess the effects of his ads, and if he finds it beneficial to make such claims it must be because they are likely to have an influence on consumers. We therefore conclude that claims on these particular topics are likely to affect consumer choice. If the claims are also false, moreover, we can make the further presumption that prohibiting them will cause a net increase in consumer welfare, without the need for us to engage in our own detailed inquiry into the costs and benefits of various courses. [16]

In short, the deception case addresses an especially harmful form of behavior, and so it embodies a number of expediting and simplifying elements in order to do so most effectively.

Actionable deception theory is not limited to false or misleading statements. Under two general circumstances it can also reach omissions. First, it can be deceptive to tell only half the truth, and to omit the rest. This may occur where a seller fails to disclose qualifying information necessary to prevent one of his affirmative statements from creating a misleading impression.²⁵ The Commission has brought a number of cases on this theory. It has challenged "Geritol" advertising for claiming that the product can reduce tiredness while failing to disclose that in most cases those symptoms are caused by factors other than a lack of the vitamins and iron that the medicine

²² This range applies to any relevant quality, such as intelligence, experience, or credulity. If the representations or sales practices are targeted to a specific audience, then reasonable consumers are representative members of that group.

²³ Deception Statement, p.16.

²⁴ Deception Statement, p.2 n.4, p.17.

²⁵ Cf. *P. Lorillard Co. v. FTC*, 186 F.2d 52, 58 (4th Cir. 1950) ("to tell less than the whole truth is a well known method of deception").

contains;²⁶ it has challenged the advertising of baldness cures for failing to disclose that most baldness results [17] from male heredity and cannot be treated;²⁷ and it has challenged claims that a product can produce weight losses of a certain amount while failing to disclose that losses of this magnitude, rather than being typical, are extremely rare.²⁸

It can also be deceptive for a seller to simply remain silent, if he does so under circumstances that constitute an implied but false representation. Such implied representations may take any of several forms. They may arise from the physical appearance of the product, or from the circumstances of a specific transaction, or they may be based on ordinary consumer expectations as to the irreducible minimum performance standards of a particular class of good.²⁹ The Commission has brought several cases on this theory. It has upheld charges against sellers who failed to disclose that an apparently new product was [18] actually used,³⁰ that a simulated-wood product was actually made of paper,³¹ that a sales contract would be sold to a holder in due course,³² that land sold for investment purposes was poorly suited to that use due to its remote location,³³ and that a book was an abridged rather than a complete edition.³⁴ One generalization that emerges from these cases is that by the very act of offering goods for sale the seller impliedly represents [19] that they are reasonably fit for their intended uses.³⁵ The concept of reasonable fitness includes a further implied representation that the products are free of gross

²⁶ *J.B. Williams Co. v. FTC*, 381 F.2d 884, 890 (6th Cir. 1967).

²⁷ *Ward Laboratories v. FTC*, 276 F.2d 952 (2nd Cir.), cert. denied, 364 U.S. 827 (1960); *Keele Hair & Scalp Specialists*, 55 F.T.C. 1840 (1959), aff'd, 275 F.2d 18 (5th Cir. 1960).

²⁸ *Porter & Dietsch v. FTC*, 605 F.2d 294, 303 (7th Cir. 1979), cert. denied, 445 U.S. 950 (1980). A second half-truth in this case involved the claim that the product contained "no dangerous drugs," since its active ingredients could be hazardous to people with certain preexisting conditions such as diabetes and high blood pressure.

²⁹ For example, consumers presumably assume that any automobile is capable of going at least 55 miles per hour, and they evaluate the product's price on the basis of that assumption. If someone devised a new economy car that had a top speed of only 35 miles per hour, he would have to disclose that fact or else be guilty of a deceptive omission.

³⁰ *Olson Radio Corp.*, 60 F.T.C. 1758 (1962) (television tubes rebuilt containing used parts); cf. *Peacock Buick, Inc.*, 86 F.T.C. 1532, 1557 (1975), aff'd 553 F.2d 97 (4th Cir. 1977) (automobile dealer failed to disclose extent to which cars being sold as "late models" had been previously used for driver education or as rental cars).

³¹ *Haskelite Mfg. Corp.*, 33 F.T.C. 1212, 1216 (1941), aff'd, 127 F.2d 765 (7th Cir. 1942).

³² *All-State Industries of North Carolina, Inc.*, 75 F.T.C. 465, 490 (1969), aff'd 423 F.2d 423 (4th Cir.), cert. denied, 400 U.S. 828 (1970); *Southern States Distributing Co.*, 83 F.T.C. 1126, 1172-73 (1973); *Certified Building Products, Inc.*, 83 F.T.C. 1004 (1973).

³³ *Horizon Corp.*, 97 F.T.C. 464 (1981).

³⁴ *Bantam Books, Inc.*, 55 F.T.C. 779 (1958); *New American Library of World Literature, Inc.*, 49 F.T.C. 760, 766 (1953) ("in the absence of a clear and conspicuous disclosure of the fact of abridgement or change of title, the offering of an abridged book or of an old book under a new title unquestionably [may] deceive").

³⁵ This point was made in the Deception Statement:

In determining whether an omission is deceptive the Commission will examine the overall impression created by a practice, claim, or representation. For example, the practice of offering a product for sale creates an implied representation that it is fit for the purposes for which it is sold.

Deception Statement, p.2 n.4. This point is also similar to the implied warranty of merchantability in the Uniform Commercial Code. See U.C.C. Section 2-314(2). For a general discussion see III R. Anderson, *The Uniform Commercial Code* Sections 314:29 --30 (1983).

safety hazards,³⁶ although not necessarily of all or relatively improbable dangers.

Not all omissions are unlawfully deceptive under Section 5. Such is the case with what is sometimes characterized as a "pure omission." This is a subject upon which the seller has simply said nothing, in circumstances that do not give any particular meaning to his silence. Like any other form of omission, pure omissions may lead to erroneous consumer beliefs if consumer had a false, pre-existing conception which the seller failed to correct.

The Commission does not treat pure omissions as deceptive, however.³⁷ There are two reasons for this. First, we could not declare pure omissions to be deceptive without expanding that [20] concept virtually beyond limits. Individual consumers may have erroneous preconceptions about issues as diverse as the entire range of human error, and it would be both impractical and very costly to require corrective information on all such points.³⁸ Second, pure omissions do not presumptively or generally reflect a deliberate act on the part of the seller,³⁹ and so we have no [21] basis for concluding, without further analysis, that an order requiring corrective disclosure would necessarily engender positive net benefits for consumers or be in the public interest.

If we were to ignore this last consideration, and were to proceed under a deception theory without a cost-benefit analysis, it would surely lead to perverse outcomes. The number of facts that may be material to consumers—and on which they may have prior misconceptions—is literally infinite. Consumers may wish to know about the life expectancy of clothes, or the sodium content of canned beans, or

³⁶ Cf. *Nuclear Products Co.*, 49 F.T.C. 229 (1952) (product containing toxic materials).

³⁷ As a historical matter, we are aware of few if any cases involving pure omissions as we are using that term. See notes 38 & 53, *infra*.

³⁸ This holding is consistent with the position that we took in the Cigarette Rule. There we stated that it could be deceptive to fail to disclose the health hazards of smoking. This decision was based, however, not so much on theories of omission as on the perceived presence of half-truths and implied misrepresentations in cigarette advertising, which pictorially depicted smoking as pleasant and healthful without also giving information on its associated health risks. See Statement of Basis and Purpose, Unfair or Deceptive Advertising and Labeling of Cigarettes in Relation to the Health Hazards of Smoking, 29 FR 8324, 8356 (1964). The Cigarette Rule thus does not stand as a precedent for a challenge to pure omissions. While in the Statement of Basis and Purpose for that rule we referred to formal proceedings that the Commission has brought "in the area of 'pure' failure to disclose," see *id.* at 8352, it is clear from the context that this reference to "pure" omissions was intended only to identify a general class of cases in which no express affirmative representation had been made. The term did not refer to pure omissions as we have defined that term in text. Rather, the Commission meant something more nearly akin to implied misrepresentations:

The nature, appearance, or intended use of a product may create an impression in the mind of the consumer—for example, that it is made in the U.S.A., or that it is silk, or that it is safe—and if the impression is false, and if the seller does not take adequate steps to correct it, he is responsible for an unlawful deception.

Id. We therefore conclude that the Cigarette Rule did not reflect a policy of prosecuting pure omissions as we have used that term.

³⁹ Although deception law permits such presumptions, it does not, of course, require any showing of actual intent on the part of the seller. See *Chrysler Corp. v. FTC*, 561 F.2d 357, 363 & n.5 (D.C. Cir. 1977); *Feil v. FTC*, 285 F.2d 879, 896 (9th Cir. 1960).

the canner's policy on trade with Chile. Since the seller will have no way of knowing in advance which disclosure is important to any particular consumer, he will have to make complete disclosures to all. A television ad would be completely buried under such disclaimers, and even a full-page newspaper ad would hardly be sufficient for the purpose. For example, there are literally dozens of ways in which one can be injured while riding a tractor, not all of them obvious before the fact, and under a simple deception analysis these would [22] presumably all require affirmative disclosure. The resulting costs and burden on advertising communication would very possibly represent a net harm for consumers.⁴⁰

Although pure omissions are not appropriately characterized as deceptive or reached through deception analysis, however, they may nonetheless cause significant consumer injury. In that event they might still be reached as unfair. It is to that part of our jurisdiction that we now turn.

Unfairness

The Commission's unfairness jurisdiction provides a more general basis for action against acts or practices which cause significant consumer injury. This part of our jurisdiction is broader than that involving deception, and the standards for its exercise are correspondingly more stringent. It requires the complete analysis of a practice which may be harmful to consumers. To put the point another way, unfairness is the set of general principles of which deception is a particularly well-established and streamlined subset. [23]

Over the past four years the Commission has devoted considerable attention to clarifying these general principles. In 1980 we prepared a formal policy statement describing our jurisdiction over unfair practices.⁴¹ The statement took as its point of departure the familiar language of the *Sperry & Hutchinson* case.⁴² It declared that most

⁴⁰ Nor could we avoid this result by simply trusting in the Commission's discretion not to bring cases that would be unreasonably burdensome. There are three drawbacks to that approach. First, it gives no guidance to future Commissions. Second, it gives no comfort to the seller who is endeavoring to comply with the law, since he cannot tell how the Commission will exercise its discretion and so he must still make disclosures to meet any eventuality. And third, the discretion standard, when properly applied, is not really a different test from the one we have adopted. In exercising sound discretion the Commission *must* be weighing the costs and benefits of a proposed action. This is true virtually by definition. In such a case, therefore, there is no reason not to acknowledge what we are doing and to formally adopt a cost-benefit standard.

⁴¹ The statement was included as part of a letter from the Federal Trade Commission to Senators Ford and Danforth (Dec. 17, 1980) (hereinafter cited as "Unfairness Statement"). A copy of the statement is attached as an Appendix to this opinion.

⁴² *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233 (1972). There the Supreme Court recited in a footnote, with apparent approval, the three criteria of unfairness that the Commission traditionally applied:

(1) whether the policy, without necessarily having been previously considered unlawful, offends public policy as it has been established by statutes, the common law, or otherwise—whether, in other words, it is within at least the penumbra of some common-law, statutory, or other established concept of unfairness; (2) whether it is immoral, unethical, oppressive, or unscrupulous; (3) whether it causes substantial injury to consumers (or competitors or other businessmen).

(Footnote cont'd)

unfairness cases would be brought under the consumer injury theory identified in that decision.⁴³ It also systematized the essential elements of that theory. An actionable consumer injury must be: (1) substantial; [24] (2) not outweighed by any offsetting consumer or competitive benefits that the practice produces; and (3) one which consumers could not reasonably have avoided.⁴⁴

The first element to this analysis is that the injury must be substantial. Unlike deception, which focuses on "likely" injury, unfairness cases usually involve actual and completed harms. While in most cases the harm involved is monetary, the policy statement expressly noted the "unwarranted health and safety risks may also support a finding of unfairness."⁴⁵

The second element is that the conduct must be harmful in its net effects. This is simply a recognition of the fact that most conduct creates a mixture of both beneficial and adverse consequences. In analyzing an omission this part of the unfairness analysis requires us to balance against the risks of injury the costs of notification and the costs of determining what the prevailing consumer misconceptions actually are. This inquiry must be made in a level of detail that deception analysis does not contemplate. [25]

Finally, the third element is that the injury be one that consumers could not reasonably have avoided through the exercise of consumer choice.⁴⁶ This restriction is necessary in order to keep the FTC Act focused on the economic issues that are its proper concern. The Commission does not ordinarily seek to mandate specific conduct or specific social outcomes, but rather seeks to ensure simply that markets operate freely, so that consumers can make their own decisions.⁴⁷

To accomplish these goals the Commission may require that consumers be given the information that is critical to an informed

405 U.S. at 244-45 n.5, quoting the Commission's position in the Cigarette Rule, Unfair or Deceptive Advertising and Labeling of Cigarettes in Relation to the Health Hazards of Smoking, Statement of Basis and Purpose, 29 FR 8324, 8355 (1964).

⁴³ The other two *S&H* theories were of lesser importance. The Unfairness Statement declared that the public policy theory would henceforth be used primarily to cross-check and confirm a finding of consumer injury. The theory of immoral or unscrupulous conduct was abandoned altogether, so that henceforth it would not serve as an independent basis of liability.

⁴⁴ Unfairness Statement, pp.5-7.

⁴⁵ Unfairness Statement, p.6, citing to *Philip Morris, Inc.*, 82 F.T.C. 16 (1973) (respondent had distributed free-sample razor blades in such a way that they could come into the hands of small children) (consent decree). As the reference to "risks" in this quotation makes clear, unfairness cases may also be brought on the basis of likely rather than actual injury, although this is not the usual practice.

⁴⁶ As with deception, most unfairness cases are brought to protect the exercise of consumer choice in the initial purchase decision, but such cases can also protect choices with respect to the post-purchase care and use of a product.

⁴⁷ Some commentators have interpreted our policy statement as involving essentially a general balancing of interests, with all the imprecision of that course, rather than a definable economic rule. In fact, however, the principal focus of our unfairness policy is on the maintenance of consumer choice or consumer sovereignty, an economic concept that permits relatively specific identification of conduct harmful to that objective. See Averitt, *The Meaning of "Unfair Acts or Practices in Section 5 of the Federal Trade Commission Act,"* 70 Geo. L.J. 225 (1981).

choice.⁴⁸ There is also a need for principled limits on this concept, of course, since virtually any piece of information may be useful to some consumers. While this balance must ultimately be struck in the context of the individual case, the Commission has decided on certain general principles. In most [26] cases it is appropriate to limit mandatory disclosure to those core aspects of a transaction that virtually all consumers would consider essential to an informed decision.⁴⁹ These are the same basic characteristics discussed above in connection with common-law merchantability: (1) information bearing on fitness for intended use, and (2) information bearing on significant hidden safety hazards.

These characteristics are applied here in a slightly different way, however. In an assessment of deceptive omissions we are applying a relatively streamlined set of principles and so we must be careful not to go too far and infer warranties too freely about relatively improbable safety hazards. We therefore take a relatively cautious view of the information that must be disclosed under that theory. In an assessment of unfairness, on the other hand, we conduct a full cost-benefit analysis, in which we weigh the consumer benefits of disclosure against their likely costs, and so there is less risk of an overbroad result. We can therefore take a more inclusive view of the information that must be disclosed under this approach. [27]

In short, an omission may be found unfair even though it is not deceptive. To do so, however, requires a more thorough analysis than is used in deception cases.

III. ANALYSIS OF THE CASE

In this section we will apply our general legal theory to the specific facts of the case. Since the analytical elements of deception and unfairness differ in so many particulars, we will again consider those two approaches separately.

Deception

As discussed above, the omission of information about a product may be deceptive under certain circumstances. In the present case the

⁴⁸ Ordinarily information disclosure is handled by market forces, of course. Sometimes, however, a market failure occurs, as when the balance between the risk of tort losses and the risk of lost sales produces significant disincentives to disclosure, or when the costs of non-disclosure become hard to quantify, as in certain safety issues. Corrective FTC action would then be appropriate.

⁴⁹ There are many precedents for the principle that mandatory disclosures should be limited, even though some wider range of information may still be material. Information about credit terms is presumably material to most consumers, for example. Credit information is nonetheless not required to be disclosed as a general matter, but only if certain "triggering" claims have first been made. See generally Truth in Lending Act, 15 U.S.C. 1601 *et seq.* See also Proprietary Vocational and Home Study Schools, 16 C.F.R. 438 (school's placement rate must be disclosed but only if employment or earnings claims are made), rule set aside on other grounds, *Katherine Gibbs School (Inc.) v. FTC*, 612 F.2d 658 (2nd Cir. 1979).

seller's silence is said to have led to an implied warranty that the tractor was fit for its intended use, when it in fact was not.

We believe that this charge cannot be sustained, however. The implied warranty of fitness is not violated by all undisclosed safety problems. The critical issue is the degree of risk involved.⁵⁰ Where the risk of mishap is very small it cannot be said that the product is unfit for normal use. Such a [28] case could therefore not satisfy the first element of the deception test, which requires the showing of a misleading representation. It would therefore not be appropriately analyzed under the law against deception.

Harvester manufactured approximately 1.3 million gasoline-powered tractors in the period after 1939. Of this number, twelve are known to have been involved in geysering accidents involving bodily injury. This is an accident rate of less than .001 percent, over a period of more than 40 years. Since the state of maintenance was shown to have some effect on a tractor's susceptibility to fuel geysering, moreover, the rate for tractors in a good state of repair is likely to have been even less than this. Reflecting the low accident rate, one government study of tractor accidents did not even list fuel geysering as one of the tabulated kinds of mishaps, but simply lumped it into the residual category of "all other causes."⁵¹

This relatively low level of danger does not mean that the use of Harvester tractors is inherently unreasonable or imprudent. This case therefore does not involve a breach of the implied warranty of fitness, and so does not involve the element of deception.⁵² [29]

We do not mean to imply by this that the accident rate for Harvester tractors was inconsequential, or that persons who are injured in relatively rare kinds of mishaps do not deserve legal protection. Quite the contrary, such persons may well be entitled to a remedy under other portions of the FTC Act. We merely hold here that such close cases should not be pursued without undertaking a cost-benefit anal-

⁵⁰ To put this point another way, a seller impliedly warrants only that a product is *reasonably* safe, not that it is free of all hazards. We recognize that there is no such thing as a totally safe product, and especially not when dealing with relatively complex machinery.

⁵¹ See DOT Report, RX 32; I.D. 105. Also reflecting the improbability of a fuel geyser, Harvester's own engineers and testers, who might be expected to be most sensitive to such dangers, *themselves* commonly removed the gas caps during the course of tests. I.D. 99; I.D.F. 151.

⁵² The dissenting opinion takes issue with our use of accident rates in this analysis, claiming that such an approach implies a tacit requirement that the staff show actual injury rather than merely risk of harm, and further suggesting that the approach amounts to an *ex post* review of events rather than being, as it should be, a before-the-fact assessment of the risks to which consumers may be subjected. These objections misinterpret the role of statistical evidence in cases such as this. The ultimate question at issue is, indeed, risk. What is the risk of consumer harm? If we have no actual experience with a particular problem we will endeavor to assess this risk from the most probative indirect evidence that is available. Where we have a statistically significant body of experience to draw upon, however, as we surely do here with 40 years' experience and hundreds of thousands of tractors, then the empirical incidence of harm, in the form of accident rates, is the best available measure of risk. To suggest, as the dissent does, that there is also some other kind of risk which is separate from this statistical risk, amounts really to no more than a conversational use of the term in the sense of "at risk." In this sense everyone is "at risk" at every moment, with respect to every danger which may possibly occur. When divorced from any measure of the probability of occurrence, however, such a concept cannot lead to useable rules of liability.

ysis, and that they therefore do not qualify for the streamlined legal procedures of a deception action.⁵³ [30]

Unfairness

This brings us to unfairness as an alternative approach. The unfairness theory, it will be recalled, is the Commission's general law of consumer protection, for which deception is one specific but particularly important application. Unfairness calls for a somewhat more detailed analysis of a challenged practice. This focuses on three criteria: (1) whether the practice creates a serious consumer injury; (2) whether this injury exceeds any offsetting consumer benefits; and (3) whether the injury was one that consumers could not reasonably have avoided. We find that all three criteria are satisfied in the present case.

There clearly has been serious consumer injury. At least one person has been killed and eleven others burned. I.D.F. 27. Many of the burn injuries have been major ones, moreover, resulting in mobility limitations, lasting psychological harm, and severe disfigurement. I.D.F. 28 & n.2. These injuries are of a kind that satisfies the first unfairness test. It is true that they involve physical rather than economic injury, but the Unfairness Statement reaches such matters.⁵⁴ It is also true that they involve only limited numbers of people, but the [31] Statement provides that conduct causing a very severe harm to a small number will be covered as well.⁵⁵ A number of previous Commission cases have in fact been brought to correct injuries less numerous and less severe than those involved here.⁵⁶

The second criterion states the consumer injury must not be outweighed by any countervailing benefits to consumers or to competition that the practice also brings about. This inquiry is particularly important in the case of pure omissions. Since the range of such

⁵³ There are, it is true, a number of prior Commission decisions that have found deception on the basis of facts generally similar to those involved here. In *Stupell Enterprises* the respondent was found guilty of deception for failing to disclose that a toy could break in a way that could cause serious eye injury. *Stupell Enterprises, Inc.*, 67 F.T.C. 173, 187 (1965). In *Seymour Dress and Academy Knitted Fabrics* the Commission found it deceptive for a manufacturer to fail to disclose that clothes made from a brushed rayon fabric were highly flammable. *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278, 1282 (1953) (decision of hearing examiner, which became decision of the Commission); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697, 701 (1952) (same). All three matters involved the non-disclosure of a safety risk that was quite improbable but also quite serious if it did come about. These are cases from the 1950's and early 1960's, however. They date from a time when unfairness law was very poorly developed, and when, for the most part, a case had to be described in terms of deception if it was to be brought within the FTC Act at all. Without in any way questioning the substantive outcome of those cases, therefore, we suggest that if they were brought today they would be brought under an unfairness theory.

⁵⁴ Unfairness Statement, p.6.

⁵⁵ *Id.*, p.5 n.12 ("An injury may be sufficiently substantial, however, if it does a small harm to a large number of people, or if it raises a significant risk of concrete harm").

⁵⁶ In *Stupell* there was evidently evidence of only three eye injuries from use of the toy. *Stupell Enterprises, Inc.*, F.T.C. 173, 185 (1965). See also *Uncle Ben's, Inc.*, 89 F.T.C. 131, 136 (1977) (consent decree) (FTC banned television showing child cooking food without adult supervision because this might lead children to imitate this potentially harmful activity); *Philip Morris, Inc.*, 82 F.T.C. 16 (1973) (consent decree) (respondent had distributed free-sample or blades in a way that might reach small children).

omissions is potentially infinite, the range of cost-benefit ratios from actions to force disclosure is infinite as well, raising the possibility that a particular action may be ill-advised. We believe that this criterion is also satisfied in the present case, however. The consuming public has realized no benefit from Harvester's non-disclosure that is at all sufficient to offset the human injuries involved.⁵⁷ [32]

The principal tradeoff to be considered in this analysis is that involving compliance costs. More information may generally be helpful to consumers, but all such information can be produced only by incurring costs that are ultimately born as higher prices by those same consumers.⁵⁸ One must determine the level of preexisting customer knowledge, ascertain the actual facts on a particular issue, and communicate those facts effectively to the affected customers. Such activities are not always cheap. Harvester's Fuel Fire Prevention Program, for example, which finally led to an effective warning, involved both media advertisements and a direct mailing to 630,000 tractor operators, and cost the company approximately \$2.8 million. I.D.F. 205, 224, 181. The costs of monitoring and experimentation undertaken in previous years undoubtedly raise the final figure even higher than this. The Commission should not impose costs of such magnitude without first comparing them with the benefits to be expected.

Here, however, we have no doubt that such a calculation favors disclosure. Harvester's expenses were not large in relation to the injuries that could have been avoided. Nor do we mean to rule out the possibility that some other, less expensive form of notification—such as a clearly worded warning in the [33] operating manual—would also have been sufficient.⁵⁹ We therefore conclude that the costs and benefits in this case satisfy the second unfairness criterion.

Finally, the third unfairness criterion states that the injury must be one that consumers could not reasonably have avoided. Here tractor operators could in fact have avoided their injuries by following a few relatively simple safety rules. If they had refrained from removing the cap from a hot or running tractor—something that both the owner's manuals and common knowledge suggested was a dangerous practice⁶⁰—fuel geysering would have been completely precluded.

⁵⁷ Whenever an omission results in serious bodily injury it is, of course, especially likely that a cost-benefit analysis will favor disclosure.

⁵⁸ Other, non-monetary costs may also be incurred. For example, if the Commission requires disclosure of one fact a seller may be less inclined to volunteer other facts, resulting in a net diminution of information.

⁵⁹ In making these calculations we do not strive for an unrealistic degree of precision, valuing an injury or a life at precisely *x* many dollars. We assess the matter in a more general way, giving consumers the benefit of the doubt in close issues. This course follows from the Commission's long tradition of giving especial care to issues involving physical safety. See, e.g., *Firestone Tire & Rubber Co.*, 81 F.T.C. 398, 451, 456 (1972). What is important, however, is that we retain an overall sense of the relationship between costs and benefits. We would not want to impose compliance costs of millions of dollars in order to prevent a bruised elbow.

⁶⁰ We assume for purposes of this discussion that the warnings in the owner's manuals actually reached the affected operators. As discussed above, however, this was not necessarily the case.

Harvester therefore argues that one necessary element of unfairness is not present.

Upon full consideration, however, we believe that this element is satisfied as well. The issue here is whether the safety rules for these tractors were adequately disclosed. Whether some consequence is "reasonably avoidable" depends, not just on whether people know the physical steps to take in order to prevent it, but also on whether they understand the necessity [34] of actually taking those steps. We do not believe that this need was fully appreciated here. Farmers may have known that loosening the fuel cap was generally a poor practice, but they did not know from the limited disclosures made, nor could they be expected to know from prior experience, the full consequences that might follow from it. This is therefore not a situation in which the farmers themselves are primarily responsible for their own accidents.

The record contains much testimony suggesting that the victims of the phenomenon did not realize that a fuel geyser was possible. One farmer stated that he had removed gas caps "many, many" times in order to check on fuel level, without having had gas spew out of the filler neck.⁶¹ Another states that: "Not in my wildest imagination had I thought that could happen."⁶² Still another explained that he regularly loosened the cap to relieve pressure-related hissing noises:

It [the hissing] happened a few times a day, two or three or four times a day. It just kind of—it is something you didn't feel like you wanted to keep driving. That noise kind of hissing at you. So you just leaned ahead and loosened the gas cap a little bit. The air would come out and that would be all there would be to it. There would be a puff of air and it would quit.⁶³ [35]

In short, loosening the fuel cap was something that farmers did on many occasions, without consciousness of any particular risk, beyond the presumably obvious requirement of having to keep open flame away from the filler neck, which they felt quite able to do.

Since fuel geysering was a risk that they were not aware of, they could not reasonably have avoided it. This is so even though they had been informed of measures to prevent it. Such information was not the same thing as an effective warning:

[I]mplicit in the duty to warn is the duty to warn with a degree of intensity that would cause a reasonable man to exercise for his own safety the caution commensurate with the potential danger.⁶⁴

Such a warning was not provided in this case. We therefore find that

⁶¹ Greathouse, Tr. 206-07, referring to his experience on older John Deere tractors.

⁶² Cameron, Tr. 410.

⁶³ Clowes, Tr. 1836. On a later occasion Clowes was involved in a fuel geysering incident.

⁶⁴ *Tampa Drug Co. v. Wait*, 103 So.2d 603, 609 (Fla. 1958).

the three elements of unfair conduct are present, and that Harvester's non-disclosures violated Section 5 of the FTC Act.

IV. JURISDICTIONAL AND PROCEDURAL ISSUES

In addition to the principal substantive questions in this case, Harvester has raised on appeal a number of collateral procedural issues. These go to the Commission's jurisdiction or to the appropriateness of an enforcement action under the present circumstances. More specifically, Harvester has suggested that: (1) this proceeding is moot; (2) the FTC Act, as construed [36] by the Commission, constitutes an excessive delegation of legislative power; and (3) the firm in any case has not been engaged in interstate commerce with respect to the challenged conduct. We will review these three contentions in sequence.

Harvester first suggests that this proceeding is moot. In support of this contention they point out that the firm made a fully adequate disclosure of the safety problems in 1980, and has converted from gasoline to diesel power, thus ensuring that the previous problems of non-disclosure cannot recur.⁶⁵ These arguments are insufficient to establish mootness, however. At most they show that the specific facts alleged here—non-disclosure of fuel geysering in gasoline-powered tractors—are unlikely to arise again. They do not show that Harvester may not return to the general course of conduct with which it is charged, namely, failing to disclose known safety hazards. In this case the complaint counsel is seeking a broad order against non-disclosure of hazards on any and all types of Harvester farm equipment. The developments that Harvester points to have therefore not given complaint counsel everything that he might win through litigation, and the case is therefore not moot.⁶⁶ [37]

Harvester next suggests that Section 5 of the FTC Act is an excessive delegation of congressional authority. Harvester is particularly troubled by the use of this authority to impose continuing duties of disclosure on a manufacturer with respect to relatively old products, and, more generally, by the asserted lack of clear standards under this statute. Imposing a duty with respect to old products is not particularly troublesome, however, since an obligation should ordinarily extend as long as the risk of harm exists; and since geysering was also a hazard for new tractors; and since in any event much of the delay in bringing an action was due to Harvester's own previous non-disclosure. Nor is a statute which permits such results necessarily an example of excessive delegation. Section 5 has withstood repeated attack

⁶⁵ RAB, pp. 8-12.

⁶⁶ See *Rubbermaid, Inc.*, 87 F.T.C. 676, 707 (1976). The Commission previously considered the mootness issue in our Order Affirming the Public Interest in Continuing this Litigation (October, 1981), and concluded that the case was not moot. We hereby reaffirm that determination.

on delegation grounds,⁶⁷ and many courts have noted, without disapproval, that Congress deliberately drafted the statute in general terms in order to let the Commission deal with new practices as they emerged.⁶⁸ Even if there were to have been delegation problems, moreover, which we believe not to be the case, the Commission has since clarified the key provisions of [38] its statute with enough specificity to alleviate the issue. We have defined both unfairness and deception in separate policy statements, and have, through a number of opinions, including this one, drawn principled lines of demarcation between these concepts.⁶⁹

Third, Harvester suggests that it is not in fact engaged in interstate commerce in any of the activities with which it is now charged. Harvester points out that it manufactured no gasoline-powered farm tractors since 1978, and very few since 1976, so that it was not engaged in substantial trade in these items for four years prior to issuance of the complaint. RAB 12-14. As the ALJ found, however, the firm does conduct some continuing business that involves gasoline tractors. It still supplies owner's manuals, spare parts, and accessories for its older gasoline models. I.D.F. 4. Harvester was also, of course, until two years before the complaint, in the business of manufacturing such tractors. *Id.* These facts are sufficient to satisfy the interstate-commerce requirement. It is well established that the [39] antitrust laws do not contain a statute of limitations, so that corrective action may be taken whenever it comes to appear that it would be beneficial, as is the case here when we may be able to prevent future injury to Harvester operators.⁷⁰ We are confirmed in this conclusion by the fact that the FTC Act was amended in 1975 to reach conduct "in or affecting" interstate commerce,⁷¹ indicating a desire to extend the Commission's jurisdiction in this respect to the full limits of the Commerce Clause.

⁶⁷ See, e.g., *National Harness Mfrs.' Ass'n. v. FTC*, 268 F. 705 (6th Cir. 1920); *Sears, Roebuck & Co. v. FTC*, 258 F. 307, 312 (7th Cir. 1919); *T.C. Hurst & Son v. FTC*, 268 F. 874 (E.D. Va. 1920).

⁶⁸ See, e.g., *Atlantic Refining Co. v. FTC*, 381 U.S. 357, 367 (1965); *FTC v. Standard Educ. Society*, 86 F.2d 692, 696 (2d Cir. 1936) (L. Hand, J.), *rev'd in part on other grounds*, 302 U.S. 112 (1937). As a matter of policy we believe that a greater degree of precision and predictability in the statute would be desirable. We therefore favor the use of guidelines or legislative clarification. This does not undermine the present constitutionality of the FTC Act, however.

⁶⁹ One underlying problem with the dissent is that it wishes to have conduct litigated simultaneously under the standards of both unfairness and deception. This, it seems to us, is unsound jurisprudence. Some overlap among the Commission's laws is no doubt inescapable, but this should be viewed as a necessary evil and minimized to the extent practical. Our objective should be to have clean, well-differentiated and well-understood legal principles, which can be readily understood and readily litigated. To the extent that we blur our unfairness and deception standards together we will only tend to confuse them both. Moreover, and contrary to the implication in the dissent, proceeding in this case under a single theory will not have the effect of leaving consumers unprotected. All necessary consumer remedies can be provided equally well under an unfairness theory as under a deception theory.

⁷⁰ See *United States v. E.I. duPont de Nemours & Co.*, 366 U.S. 316 (1961) (stock acquisition was challenged more than thirty years after the fact). See also *Simeon Management Corp.*, 87 F.T.C. 1184, 1222 (1976) (Initial Decision).

⁷¹ Pub. L. 93-637, Section 201(a) (1975).

V. REMEDY

Finally, we have the issue of remedy. Having found that Harvester was engaged in unfair practices, we must now determine what corrective measures the public interest will require. This inquiry can be framed as a series of three questions. Should we issue a general order requiring disclosure of safety hazards in all of Harvester's agricultural equipment? Should we issue an order focused more narrowly on the facts of this particular case [40] and requiring disclosure of just the fuel geysering hazard? Or should we conclude that Harvester has already taken adequate corrective measures and therefore enter no order at all?

As a threshold matter we reject the option of an order covering all safety hazards on agricultural equipment. There would be formidable difficulties in defining "safety hazard" in a way precise enough to mean something other than a listing of all possible causes of accident. Moreover, we believe that all-products orders are most appropriate as a vehicle for "fencing in" violators when there is a particularly great risk of a recurrence of the illegal conduct.⁷² Harvester's conduct does not lead us to such fears. Since 1972 the firm has been collecting information about farm accidents in order to identify emerging problems. I.D.F. 158. The law judge found that this system "should prove adequate for any future needs." I.D. 107. Harvester's response to information revealing the fuel-geysering problem, although not at first fully adequate, does suggest that the company will be basically responsible in its treatment of such matters. Harvester issued periodic warnings for twenty years, culminating in the Fuel Fire Prevention Program in 1980, which was an adequate disclosure. Significantly, the ALJ found, and we agree, that Harvester had committed itself to this program before learning of the Commission's interest in the issue. I.D.F. 308. We therefore believe that an all-products order against Harvester would not be justified. [41]

The obvious alternative is an order directed against the particular conduct discovered in this case. Here that would be an order requiring disclosure of the risks of fuel geysering. Such an approach is our ordinary and presumptive response to a finding of improper conduct. It is a response that we make even when the respondent has ceased engaging in the conduct in question, for we wish to ensure that he does not return to that conduct at such future time.⁷³

Under the particular circumstances of this case, however, we will select a third option. That is to issue no order at all. Our reasons for doing so are twofold. First, Harvester's voluntary notification pro-

⁷² Cf. *United States v. W.T. Grant Co.*, 345 U.S. 629, 633 (1953).

⁷³ See, e.g., *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697, 701 (1952) (decision of hearing examiner, which became decision of Commission) (order against the practice even though it had already been discontinued).

gram has already provided all the relief that could be expected from a Commission order. Second, the changing technology of the tractor industry has obviated any concern that Harvester might return to its earlier violation. The industry has moved massively from gasoline to diesel power, thus eliminating concerns over issues relating to gasoline safety. Harvester has not made a gasoline tractor since 1978, and, as the ALJ found, "does not appear likely to do so again in the future." I.D. 105, *citing* I.D.F. 116. We therefore conclude that no order is necessary in the present case.⁷⁴ [42]

VI. CONCLUSION

This case is in most respects a routine dispute over the proper contours of consumer information disclosure. We have resolved that dispute by holding that disclosure was necessary here.

En route to that holding we also had to identify the proper legal framework to use when assessing pure omissions. We have decided that such omissions should be judged as cases of possible unfairness rather than of possible deception. Since pure omissions do not most probably reflect deliberate acts on the part of the sellers, we cannot be confident, without a cost-benefit analysis, that a Commission action would do more good than harm. Yet a cost-benefit analysis is required only under an unfairness and not under a deception approach. We will therefore treat these matters in unfairness terms in order to ensure that such an analysis is made. In so deciding we hope to have added something further to the clarity and rigor of our statute, so that decisions on the merits may henceforth be made and predicted with greater precision.

APPENDIX

FEDERAL TRADE COMMISSION
WASHINGTON, D. C. 20580

December 17, 1980

The Honorable Wendell H. Ford
Chairman, Consumer Subcommittee
Committee on Commerce, Science, and Transportation
Room 130 Russell Office Building
Washington, D.C. 20510

The Honorable John C. Danforth
Ranking Minority Member, Consumer Subcommittee
Committee on Commerce, Science, and Transportation

⁷⁴ A similar conclusion was recently reached by the Second Circuit. *See Borg-Warner Corp. v. FTC*, Docket No. 1-4207 (2d Cir., Oct. 3, 1984) (reversing Commission order in director-interlock case on grounds that, due to probability of recurrence, no order was warranted).

INTERNATIONAL HARVESTER CO.

949

Opinion

Room 130 Russell Office Building
Washington, D.C. 20510

Dear Senators Ford and Danforth:

This is in response to your letter of June 13, 1980, concerning one aspect of this agency's jurisdiction over "unfair or deceptive acts or practices." You informed us that the Subcommittee was planning to hold oversight hearings on the concept of "unfairness" as it has been applied to consumer transactions. You further informed us that the views of other interested parties were solicited and compiled in a Committee Print earlier this year.¹ Your letter specifically requested the Commission's views on cases under Section 5 "not involving the content of advertising," and its views as to "whether the Commission's authority should be limited to regulating 'false or deceptive' commercial advertising." Our response addresses these and other questions related to the concept of consumer unfairness.

We are pleased to have this opportunity to discuss the future work of the agency. The subject that you have selected appears to be particularly timely. We recognize that the concept of consumer unfairness is one whose precise meaning is not immediately obvious, and also recognize that this uncertainty has been honestly troublesome for some businesses and some members of the legal profession. This result is understandable in [2] light of the general nature of the statutory standard. At the same time, though, we believe we can respond to legitimate concerns of business and the Bar by attempting to delineate in this letter a concrete framework for future application of the Commission's unfairness authority. We are aided in this process by the cumulative decisions of this agency and the federal courts, which, in our opinion, have brought added clarity to the law. Although the administrative and judicial evolution of the consumer unfairness concept has still left some necessary flexibility in the statute, it is possible to provide a reasonable working sense of the conduct that is covered.

In response to your inquiry we have therefore undertaken a review of the decided cases and rules and have synthesized from them the most important principles of general applicability. Rather than merely reciting the law, we have attempted to provide the Committee with a concrete indication of the manner in which the Commission has enforced, and will continue to enforce, its unfairness mandate. In so doing we intend to address the concerns that have been raised about the meaning of consumer unfairness, and thereby attempt to provide a greater sense of certainty about what the Commission would regard as an unfair act or practice under Section 5.

This letter thus delineates the Commission's views of the boundaries of its consumer unfairness jurisdiction and is subscribed to by each Commissioner. In addition, we are enclosing a companion Commission statement that discusses the ways in which this body of law differs from, and supplements, the prohibition against consumer deception, and then considers and evaluates some specific criticisms that have been made of our enforcement of the law.² Since you have indicated a particular interest in the possible application of First Amendment principles to commercial advertising, the [3] companion statement will include discussions relevant to that question. The companion statement is designed to respond to the key questions raised about the unfairness doctrine. However, individual Commissioners may not necessarily endorse particular arguments or particular examples of the Commission's exercise of its unfairness authority contained in the companion statement.

¹ Unfairness: Views on Unfair Acts and Practices in Violation of the Federal Trade Commission Act (1980) (hereinafter referred to as "Committee Print").

² Neither this letter nor the companion statement addresses ongoing proceedings, but the Commission is prepared to discuss those matters separately at an appropriate time.

FEDERAL TRADE COMMISSION DECISIONS

Opinion

104 F.T.C.

Commission Statement of Policy on the Scope of the Consumer Unfairness Jurisdiction

Section 5 of the FTC Act prohibits, in part, "unfair . . . acts or practices in or affecting commerce."³ This is commonly referred to as the Commission's consumer unfairness jurisdiction. The Commission's jurisdiction over "unfair methods of competition" is not discussed in this letter.⁴ Although we cannot give an exhaustive treatment of the law of consumer unfairness in this short statement, some relatively concrete conclusions can nonetheless be drawn.

The present understanding of the unfairness standard is the result of an evolutionary process. The statute was deliberately framed in general terms since Congress recognized the impossibility of drafting a complete list of unfair trade [4] practices that would not quickly become outdated or leave loopholes for easy evasion.⁵ The task of identifying unfair trade practices was therefore assigned to the Commission, subject to judicial review,⁶ in the expectation that the underlying criteria would evolve and develop over time. As the Supreme Court observed as early as 1931, the ban on unfairness "belongs to that class of phrases which do not admit of precise definition, but the meaning and application of which must be arrived at by what this court elsewhere has called 'the gradual process of judicial inclusion and exclusion.'"⁷

By 1964 enough cases had been decided to enable the Commission to identify three factors that it considered when applying the prohibition against consumer unfairness. These were: (1) whether the practice injures consumers; (2) whether it violates established public policy; (3) whether it is unethical or unscrupulous.⁸ These factors [5] were later quoted with apparent approval by the Supreme Court in the 1972 case of *Sperry & Hutchinson*.⁹ Since then the Commission has continued to refine the standard of unfairness in its cases and rules, and it has now reached a more detailed sense of both

³ The operative sentence of Section 5 reads in full as follows: "Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are declared unlawful." 15 U.S.C. 45(a)(1).

⁴ In fulfilling its competition or antitrust mission the Commission looks to the purposes, policies, and spirit of the other antitrust laws and the FTC Act to determine whether a practice affecting competition or competitors is unfair. See, e.g., *FTC v. Brown Shoe Co.*, 384 U.S. 316 (1966). In making this determination the Commission is guided by the extensive legislative histories of those statutes and a considerable body of antitrust case law. The agency's jurisdiction over "deceptive acts or practices" is likewise not discussed in this letter.

⁵ See H.R. Conf. Rep. No. 1142, 63d Cong., 2d Sess., at 19 (1914) (If Congress "were to adopt the method of definition, it would undertake an endless task"). In 1914 the statute was phrased only in terms of "unfair methods of competition," and the reference to "unfair acts or practices" was not added until the Wheeler-Lee Amendment in 1938. The initial language was still understood as reaching most of the conduct now characterized as consumer unfairness, however, and so the original legislative history remains relevant to the construction of that part of the statute.

⁶ The Supreme Court has stated on many occasions that the definition of "unfairness" is ultimately one for judicial determination. See, e.g., *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 249 (1972); *FTC v. R.F. Keppel & Bro.*, 291 U.S. 304, 314 (1934).

⁷ *FTC v. Raladam Co.*, 283 U.S. 643, 648 (1931). See also *FTC v. R.F. Keppel & Bro.*, 291 U.S. 304, 310 (1934) ("Neither the language nor the history of the Act suggests that Congress intended to confine the forbidden methods to fixed and unyielding categories").

⁸ The Commission's actual statement of the criteria was as follows:

(1) whether the practice, without necessarily having been previously considered unlawful, offends public policy as it has been established by statutes, the common law, or otherwise—whether, in other words, it is within at least the penumbra of some common-law, statutory, or other established concept of unfairness; (2) whether it is immoral, unethical, oppressive, or unscrupulous; (3) whether it causes substantial injury to consumers (or competitors or other businessmen).

ement of Basis and Purpose, Unfair or Deceptive Advertising and Labeling of Cigarettes in Relation to the Lethal Hazards of Smoking, 29 Fed. Reg. 8324, 8355 (1964).

FTC v. Sperry & Hutchinson Co., 405 U.S. 223, 244-45 n.5 (1972). The Circuit Courts have concluded that this action reflected the Supreme Court's own views. See *Spiegel, Inc. v. FTC*, 540 F.2d 287, 293 n.8 (7th Cir. 1976); *Ver v. FTC*, 503 F.2d 321, 323 (9th Cir. 1974). The application of these factors to antitrust matters is beyond scope of this letter.

the definition and the limits of these criteria.¹⁰

Consumer injury

Unjustified consumer injury is the primary focus of the FTC Act, and the most important of the three *S&H* criteria. By itself it can be sufficient to warrant a finding of unfairness. The Commission's ability to rely on an independent criterion of consumer injury is consistent with the intent of the statute, which was to "[make] the consumer who may be injured by an unfair trade practice of equal concern before the law with the merchant injured by the unfair methods of a dishonest competitor."¹¹

The independent nature of the consumer injury criterion does not mean that every consumer injury is legally "unfair," however. To justify a finding of unfairness the injury must satisfy three tests. It must be substantial; it must not be outweighed by any countervailing benefits to consumers or competition that the practice produces; and it must be an injury that consumers themselves could not reasonably have avoided.

First of all, the injury must be substantial. The Commission is not concerned with trivial or merely speculative harms.¹² In most cases a substantial injury involves monetary harm, as when sellers coerce consumers into purchasing unwanted goods or [6] services¹³ or when consumers buy defective goods or services on credit but are unable to assert against the creditor claims or defenses arising from the transaction.¹⁴ Unwarranted health and safety risks may also support a finding of unfairness.¹⁵ Emotional impact and other more subjective types of harm, on the other hand, will not ordinarily make a practice unfair. Thus, for example, the Commission will not seek to ban an advertisement merely because it offends the tastes or social beliefs of some viewers, as has been suggested in some of the comments.¹⁶

Second, the injury must not be outweighed by any offsetting consumer or competitive benefits that the sales practice also produces. Most business practices entail a mixture of economic and other costs and benefits for purchasers. A seller's failure to present complex technical data on his product may lessen a consumer's ability to choose, for example, but may also reduce the initial price he must pay for the article. The Commission is aware of these tradeoffs and will not find that a practice unfairly injures consumers unless it is injurious in its net effects.¹⁷ The Commission [7] also takes account of the various costs that a remedy would entail. These include not only the costs to the parties directly before the agency, but also the burdens on society in general in the form of increased paperwork, increased regulatory burdens on the flow of informa-

¹⁰ These standards for unfairness are generally applicable to both advertising and non-advertising cases.

¹¹ 83 Cong. Rec. 3255 (1938) (remarks of Senator Wheeler).

¹² An injury may be sufficiently substantial, however, if it does a small harm to a large number of people, or if it raises a significant risk of concrete harm.

¹³ See, e.g., *Holland Furnace Co. v. FTC*, 295 F.2d 302 (7th Cir. 1961) (seller's servicemen dismantled home furnaces and then refused to reassemble them until the consumers had agreed to buy services or replacement parts).

¹⁴ Statement of Basis and Purpose, Preservation of Consumers' Claims and Defenses, 40 Fed. Reg. 53506, 53522-23 (1975).

¹⁵ For an example see *Philip Morris, Inc.*, 82 F.T.C. 16 (1973) (respondent had distributed free-sample razor blades in such a way that they could come into the hands of small children) (consent agreement). Of course, if matters involving health and safety are within the primary jurisdiction of some other agency, Commission action might not be appropriate.

¹⁶ See, e.g., comments of Association of National Advertisers, Committee Print at 120. In an extreme case, however, where tangible injury could be clearly demonstrated, emotional effects might possibly be considered as the basis for a finding of unfairness. Cf. 15 U.S.C. 1692 *et seq.* (Fair Debt Collection Practices Act) (banning, e.g. harassing late-night telephone calls).

¹⁷ See *Pfizer, Inc.*, 81 F.T.C. 23, 62-63 n.13 (1972); Statement of Basis and Purpose, Disclosure Requirements and Prohibitions Concerning Franchising and Business Opportunity Ventures, 43 Fed. Reg. 59614, 59636 n.95 (1978). When making this determination the Commission may refer to existing public policies for help in ascertaining the existence of consumer injury and the relative weights that should be assigned to various costs and benefits. The role of public policy in unfairness determinations will be discussed more generally below.

tion, reduced incentives to innovation and capital formation, and similar matters.¹⁸

Finally, the injury must be one which consumers could not reasonably have avoided.¹⁹ Normally we expect the marketplace to be self-correcting, and we rely on consumer choice—the ability of individual consumers to make their own private purchasing decisions without regulatory intervention—to govern the market. We anticipate that consumers will survey the available alternatives, choose those that are most desirable, and avoid those that are inadequate or unsatisfactory. However, it has long been recognized that certain types of sales techniques may prevent consumers from effectively making their own decisions, and that corrective action may then become necessary. Most of the Commission's unfairness matters are brought under these circumstances. They are brought, not to second-guess the wisdom of particular consumer decisions, but rather to halt some form of seller behavior that unreasonably creates or takes advantage of an obstacle to the free exercise of consumer decisionmaking.²⁰ [8]

Sellers may adopt a number of practices that unjustifiably hinder such free market decisions. Some may withhold or fail to generate critical price or performance data, for example, leaving buyers with insufficient information for informed comparisons.²¹ Some may engage in overt coercion, as by dismantling a home appliance for "inspection" and refusing to reassemble it until a service contract is signed.²² And some may exercise undue influence over highly susceptible classes of purchasers, as by promoting fraudulent "cures" to seriously ill cancer patients.²³ Each of these practices undermines an essential precondition to a free and informed consumer transaction, and, in turn, to a well-functioning market. Each of them is therefore properly banned as an unfair practice under the FTC Act.²⁴ [9]

Violation of public policy

The second *S&H* standard asks whether the conduct violates public policy as it has been established by statute, common law, industry practice, or otherwise. This criterion may be applied in two different ways. It may be used to test the validity and strength

¹⁸ For example, when the Commission promulgated the Holder Rule it anticipated an overall lowering of economic costs to society because the rule gave creditors the incentive to police sellers, thus increasing the likelihood that those selling defective goods or services would either improve their practices or leave the marketplace when they could not obtain financing. These benefits, in the Commission's judgment, outweighed any costs to creditors and sellers occasioned by the rule. See Statement of Basis and Purpose, Preservation of Consumers' Claims and Defenses, 40 Fed. Reg. 53506, 53522-23 (1975).

¹⁹ In some senses any injury can be avoided—for example, by hiring independent experts to test all products in advance, or by private legal actions for damages—but these courses may be too expensive to be practicable for individual consumers to pursue.

²⁰ This emphasis on informed consumer choice has commonly been adopted in other statutes as well. See, e.g., Declaration of Policy, Fair Packaging and Labeling Act, 15 U.S.C. 1451 ("Informed consumers are essential to the fair and efficient functioning of a free market economy").

²¹ See, e.g., Statement of Basis and Purpose, Labeling and Advertising of Home Insulation, 44 Fed. Reg. 50218, 50222-23 (1979); Statement of Basis and Purpose, Posting of Minimum Octane Numbers on Gasoline Dispensing Pumps, 36 Fed. Reg. 23871, 23882 (1971). See also *Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 425 U.S. 748 (1976).

²² See *Holland Furnace Co. v. FTC*, 295 F.2d 302 (7th Cir. 1961); cf. *Arthur Murray Studio, Inc. v. FTC*, 458 F.2d 822 (5th Cir. 1972) (emotional high-pressure sales tactics, using teams of salesmen who refused to let the customer leave the room until a contract was signed). See also Statement of Basis and Purpose, Cooling-Off Period for Door-to-Door Sales, 37 Fed. Reg. 22934, 22937-38 (1972).

²³ See, e.g., *Travel King, Inc.*, 86 F.T.C. 715, 774 (1975). The practices in this case primarily involved deception, but the Commission noted the special susceptibilities of such patients as one reason for banning the ads entirely rather than relying on the remedy of fuller disclosure. The Commission recognizes that "undue influence" in advertising and promotion is difficult to define, and therefore exercises its authority here only with respect to substantial coercive-like practices and significant consumer injury.

²⁴ These few examples are not exhaustive, but the general direction they illustrate is clear. As the Commission stated in promulgating its Eyeglasses Rule, the inquiry should begin, at least, by asking "whether the acts or practices at issue inhibit the functioning of the competitive market and whether consumers are harmed thereby." Statement of Basis and Purpose, Advertising of Ophthalmic Goods and Services, 43 Fed. Reg. 23992, 24001 (1978).

of the evidence of consumer injury, or, less often, it may be cited for a dispositive legislative or judicial determination that such injury is present.

Although public policy was listed by the *S&H* Court as a separate consideration, it is used most frequently by the Commission as a means of providing additional evidence on the degree of consumer injury caused by specific practices. To be sure, most Commission actions are brought to redress relatively clear-cut injuries, and those determinations are based, in large part, on objective economic analysis. As we have indicated before, the Commission believes that considerable attention should be devoted to the analysis of whether substantial net harm has occurred, not only because that is part of the unfairness test, but also because the focus on injury is the best way to ensure that the Commission acts responsibly and uses its resources wisely. Nonetheless, the Commission wishes to emphasize the importance of examining outside statutory policies and established judicial principles for assistance in helping the agency ascertain whether a particular form of conduct does in fact tend to harm consumers. Thus the agency has referred to First Amendment decisions upholding consumers' rights to receive information, for example, to confirm that restrictions on advertising tend unfairly to hinder the informed exercise of consumer choice.²⁵ [10]

Conversely, statutes or other sources of public policy may affirmatively allow for a practice that the Commission tentatively views as unfair. The existence of such policies will then give the agency reason to reconsider its assessment of whether the practice is actually injurious in its net effects.²⁶ In other situations there may be no clearly established public policies, or the policies may even be in conflict. While that does not necessarily preclude the Commission from taking action if there is strong evidence of net consumer injury, it does underscore the desirability of carefully examining public policies in all instances.²⁷ In any event, whenever objective evidence of consumer injury is difficult to obtain, the need to identify and assess all relevant public policies assumes increased importance.

Sometimes public policy will independently support a Commission action. This occurs when the policy is so clear that it will entirely determine the question of consumer injury, so there is little need for separate analysis by the Commission. In these cases the legislature or court, in announcing the policy, has already determined that such injury does exist and thus it need not be expressly proved in each instance. An example [11] of this approach arose in a case involving a mail-order firm.²⁸ There the Commission was persuaded by an analogy to the due-process clause that it was unfair for the firm to bring collection suits in a forum that was unreasonably difficult for the defendants to reach. In a similar case the Commission applied the statutory policies of the Uniform Commercial Code to require that various automobile manufacturers and their

²⁵ See Statement of Basis and Purpose, Advertising of Ophthalmic Goods and Services, 43 Fed. Reg. 23992, 24001 (1978), citing *Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council*, 425 U.S. 748 (1976).

²⁶ Cf. Statement of Basis and Purpose, Advertising of Ophthalmic Goods and Services, *supra*; see also n.17 *supra*.

²⁷ The analysis of external public policies is extremely valuable but not always definitive. The legislative history of Section 5 recognizes that new forms of unfair business practices may arise which, at the time of the Commission's involvement, have not yet been generally proscribed. See page 4, *supra*. Thus a review of public policies established independently of Commission action may not be conclusive in determining whether the challenged practices should be prohibited or otherwise restricted. At the same time, however, we emphasize the importance of examining public policies, since a thorough analysis can serve as an important check on the overall reasonableness of the Commission's actions.

²⁸ *Spiegel, Inc. v. FTC*, 540 F.2d 287 (7th Cir. 1976). In this case the Commission did inquire into the extent of the resulting consumer injury, but under the rationale involved it presumably need not have done so. See also *FTC v. R.F. Keppel & Bro.*, 291 U.S. 304 (1934) (firm had gained a marketing advantage by selling goods through a lottery technique that violated state gambling policies); cf. *Simeon Management Corp.*, 87 F.T.C. 1184, 1231 (1976), *aff'd*, 579 F.2d 1137 (9th Cir. 1978) (firm advertised weight-loss program that used a drug which could not itself be advertised under FDA regulations) (alternative ground). Since these public-policy cases are based on legislative determinations, rather than on a judgment within the Commission's area of special economic expertise, it is appropriate that they can reach a relatively wider range of consumer injuries than just those associated with impaired consumer choice.

distributors refund to their customers any surplus money that was realized after they repossessed and resold their customer's cars.²⁹ The Commission acts on such a basis only where the public policy is suitable for administrative enforcement by this agency, however. Thus it turned down a petition for a rule to require fuller disclosure of aerosol propellants, reasoning that the subject of fluorocarbon safety was currently under study by other scientific and legislative bodies with more appropriate expertise or jurisdiction over the subject.³⁰ [12]

To the extent that the Commission relies heavily on public policy to support a finding of unfairness, the policy should be clear and well-established. In other words, the policy should be declared or embodied in formal sources such as statutes, judicial decisions, or the Constitution as interpreted by the courts, rather than being ascertained from the general sense of the national values. The policy should likewise be one that is widely shared, and not the isolated decision of a single state or a single court. If these two tests are not met the policy cannot be considered as an "established" public policy for purposes of the *S&H* criterion. The Commission would then act only on the basis of convincing independent evidence that the practice was distorting the operation of the market and thereby causing unjustified consumer injury.

Unethical or unscrupulous conduct

Finally, the third *S&H* standard asks whether the conduct was immoral, unethical, oppressive, or unscrupulous. This test was presumably included in order to be sure of reaching all the purposes of the underlying statute, which forbids "unfair" acts or practices. It would therefore allow the Commission to reach conduct that violates generally recognized standards of business ethics. The test has proven, however, to be largely duplicative. Conduct that is truly unethical or unscrupulous will almost always injure consumers or violate public policy as well. The Commission has therefore never relied on the third element of *S&H* as an independent basis for a finding of unfairness, and it will act in the future only on the basis of the first two. [13]

We hope this letter has given you the information that you require. Please do not hesitate to call if we can be of any further assistance. With best regards,

/s/ Michael Pertschuk
Chairman

/s/ Paul Rand Dixon
Commissioner

/s/ David A. Clanton
Commissioner

/s/ Robert Pitofsky
Commissioner

/s/ Patricia P. Bailey
Commissioner

²⁹ A surplus occurs when a repossessed car is resold for more than the amount owed by the debtor plus the expenses of repossession and resale. The law of 49 states requires that creditors refund surpluses when they occur, but if creditors systematically refuse to honor this obligation, consumers have no practical way to discover that they have been deprived of money to which they are entitled. See *Ford Motor Co.*, 94 F.T.C. 564, 618 (1979) *appeal pending*, Nos. 79-7649 and 79-7654 (9th Cir.); *Ford Motor Co.*, 93 F.T.C. 402 (1979) (consent decree); *General Motors Corp.*, D. 9074 (Feb., 1980) (consent decree). By these latter two consent agreements the Commission, because of its unfairness jurisdiction, has been able to secure more than \$2 million for consumers allegedly deprived of surpluses to which they were entitled.

³⁰ See Letter from John F. Dugan, Acting Secretary, to Action on Smoking and Health (January 13, 1977). See also Letter from Charles A. Tobin, Secretary, to Prof. Page and Mr. Young (September 17, 1973) (denying petition to exercise § 6(b) subpoena powers to obtain consumer complaint information from *Academy of Nutrition and Dietetics*).

COMMISSIONER PATRICIA P. BAILEY CONCURRING IN PART AND
DISSENTING IN PART

International Harvester manufactured and sold gasoline-powered tractors from 1939 to 1978. By at least 1963, the company had become aware that those tractors were subject to the phenomenon of fuel geysering. That highly dangerous phenomenon is described in the Commission's opinion. Because of this hidden safety hazard, some tractor owners or operators have been badly injured or killed. The question presented here is whether, given Harvester's growing knowledge of the problem, its failure to warn owners and potential buyers constituted an unfair and deceptive practice under Section 5 of the FTC Act.

The Commission has determined that International Harvester had a duty to warn operators of its gasoline-powered tractors of possible fuel geysering and that it failed to do so. I agree. I also concur in the Commission's finding that the company's conduct constitutes an unfair act or practice under Section 5 of the FTC Act, according to the standards set forth in the FTC's 1980 policy statement on unfairness.¹ In addition, while the matter is not free from doubt, I agree, on balance, that the Commission need not issue an order in this matter. [2]

I dissent because the Commission has concluded that Harvester's conduct, while unfair, was not deceptive. In order to reach that conclusion, the Commission has adopted an entirely novel and nearly incomprehensible theory of the law of deception. This is not a complicated case. It is a straightforward example of a manufacturer's duty to warn customers of a latent safety hazard in its product. But the Commission today decides that that failure was not deceptive because it involved a "pure omission" of material fact, which according to this opinion, is *not* a deceptive act or practice.

"Pure omissions" of material fact are characterized in this opinion as seller omissions which involve neither half-truths nor implied misrepresentations, but, rather, stem solely from the seller's failure to correct preexisting erroneous assumptions held by consumers. In such circumstances, according to the opinion, the Commission will look only to its unfairness authority to assess the legality of a particular respondent's conduct. For reasons which I discuss below, I cannot accept this rejection of a well-established and vital component of the FTC's jurisdiction over deceptive acts and practices.

¹ Letter from Federal Trade Commission to Senators Ford and Danforth (Dec. 17, 1980) (hereinafter cited as "Unfairness Statement").

By at least 1963 and thereafter, as the ALJ found, Harvester was aware that its gasoline-powered tractors were subject to geysering; that many tractor operators were unaware of this hidden hazard; and that some operators had been seriously injured, and even killed, as a result.² Looking to prior FTC [3] case law, the ALJ concluded that "[e]ven where no explicit safety claim has been made, as in this case, the Commission has found that the failure to disclose such a hidden, or unknown, hazard is a deceptive practice."³ He also determined, in accord with Commission precedent, that "[i]n selling its tractors, respondent gives an implied warranty that it is safe to use for its intended use, save any obvious or well-known defects or hazards."⁴ Applying these basic deception principles to Harvester's conduct, the ALJ held that the company had a continuing duty from at least 1963 until 1980 to disclose adequately to purchasers and operators that fuel geysering constituted a safety hazard, and that the failure to discharge this duty was a deceptive practice in violation of Section 5.⁵

By this opinion, the Commission reverses the ALJ's conclusion that Harvester's conduct constitutes a deceptive practice under Section 5. In order to reach this conclusion, the Commission rejects the ALJ's finding that Harvester's sale of its gasoline-powered tractors without an adequate warning constituted an implied, but false, representation that the product is safe [4] for its intended use. The Commission resolves this threshold obstacle by asserting that no implied warranty of fitness for normal use attaches where the statistical risk of incident from an undisclosed hazard is too remote to find that the use of a product is inherently unwise.⁶ Because the rate of actual injury from fuel geysering in Harvester tractors was small in relation to the number of tractors sold, the Commission concludes that the respondent made no misrepresentation of safety concerning what it believes was a relatively improbable phenomenon and, therefore, that the first element of the Commission's deception standard, the existence of a representation which is likely to mislead, is not present.⁷

Having found no implied misrepresentation of safety, the Commis-

² I.D. at 98.

³ I.D. at 100, citing *Stupell Enterprises, Inc.*, 67 F.T.C. 173, 187, 188 (1965).

⁴ I.D. at 100, citing *Stupell Enterprises, Inc.*, 67 F.T.C. 173, 187, 188 (1965); *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278, 1282 (1953); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697, 701 (1952).

⁵ I.D. at 100, citing *Stupell Enterprises, Inc.*, 67 F.T.C. 173, 187, 188 (1965); *Firestone Tire & Rubber Co.*, 81 F.T.C. 398, 456 (1972), *aff'd*, 481 F.2d 246 (6th Cir.), *cert. denied*, 414 U.S. 1112 (1973). The ALJ also determined that Harvester's conduct constituted an unfair practice under Section 5. I.D. at 100.

⁶ Slip op. at 27-28.

⁷ *Id.* The current Commission majority's views on deception are set forth in a letter from the FTC to Congressman Dingell (Oct. 14, 1983) (hereinafter cited as "Deception Statement"), which is reproduced as an appendix to the Commission's opinion in *Cliffdale Associates, Inc.*, Docket No. 9156 (FTC, March 23, 1984) [103 F.T.C. 110]. I dissented from the issuance of the Deception Statement, and subsequently forwarded a separate analysis to Congressman Dingell (February 28, 1984) (hereinafter cited as "Deception Analysis"), stating the longstanding Commission formulation for finding deception. My views on the law of deception are also contained in a separate opinion in *Cliffdale Associates, Inc.*, *supra*.

sion concludes that Harvester is guilty of complete silence only. The Commission further concludes that the seller's mere failure to dispel incorrect operator notions about the possible but unlikely consequences of removing or failing to secure the gas cap does not, without more, lead to an assessment of liability under a deception theory. Rather, according to this [5] opinion, if Harvester is to be found liable at all for its silence, then it must be because the injury which ensued outweighed the costs to the company of providing an adequate warning, since only an unfairness theory affords the proper formula for determining whether the benefits to the public of mandating disclosure under such circumstances are greater than the costs of providing it.⁸

I believe the Commission's conclusions are wrong, both as to the existence of an implied representation of safety in this case and as to the broader determination that certain "pure omissions," such as Harvester's, are not deceptive practices. The failure to disclose material facts, whether in the context of a truthful representation that, without more, has the capacity to mislead, an implied misrepresentation, or a completely omitted fact, has long been acknowledged by the Commission and the courts to be an integral part of the law of deception.⁹ Specifically, deception may occur when important information is omitted from the sales presentation or from other aspects of a commercial [6] transaction.¹⁰ While in order to be material a misleading omission must generally pertain to a consumer's purchasing decision,¹¹ it may also concern the use or care of a product.¹²

Significantly, because deception will be found only if consumers could actually be misled by a seller's silence, it is axiomatic that not every material fact about a product must be revealed. Rather, in order to be considered deceptive, the undisclosed facts must be both material and necessary to correct a reasonable false expectation held by a substantial body of consumers, whether that incorrect belief is created by the seller's representations or results from consumers' own [7]

⁸ Slip op. at 20-22.

⁹ See generally Deception Analysis, *supra* note 7, at 28-30, 57-61. This principle is codified in Section 15 of the Federal Trade Commission Act, which expressly provides that in determining whether an advertisement for a food, drug, device or cosmetic is misleading in a material respect, the Commission shall take into account "the extent to which the advertisement fails to reveal facts material in light of such representations or material with respect to consequences which may result from the use of the commodity..." 15 U.S.C. 55 (1982) (emphasis added).

¹⁰ *Porter & Dietsch, Inc. v. FTC*, 605 F.2d 294, 303-04 (7th Cir. 1979), *cert. denied*, 445 U.S. 950 (1980); *Simeon Management Corp. v. FTC*, 579 F.2d 1137, 1144-45 (9th Cir. 1978); *J.B. Williams Co. v. FTC*, 381 F.2d 884, 889 (6th Cir. 1967).

¹¹ *FTC v. Colgate-Palmolive Co.*, 380 U.S. 374, 387 (1965); *American Home Products Corp.*, 98 F.T.C. 136, 368 (1981), *aff'd as modified*, 695 F.2d 681 (3d Cir. 1982).

¹² Care Labeling of Textile Wearing Apparel Rule, 16 C.F.R. 423 (1983) (requiring the disclosure of proper instructions for the laundering and cleaning of clothing).

Also, in the last several years the Commission has alleged in numerous settled cases that information pertaining to the use or care of a product is material to consumers. *E.g.*, *American Motors Corp.*, 100 F.T.C. 229 (1982) (safe use of Jeeps in on-pavement driving); *Chrysler Corp.*, 99 F.T.C. 347 (1982) (use and care information pertaining to the replacement of oil filters in vehicles).

expectations in the circumstances of the transaction.¹³ Thus, the Commission must first find that consumers have beliefs that are contrary to an undisclosed material fact.¹⁴

In accordance with these principles, the Commission has found in the past that the nondisclosure of safety risks is deceptive because such warnings are necessary to controvert the consumer's justifiably held assumption of product safety.¹⁵ In addition to what may be generally termed "hazardous commodities" cases, several other categories of FTC matters have at times [8] acquired a "pure omissions" label. These include the failure to disclose the true properties of a product where the appearance of the product, absent disclosure, would mislead the public¹⁶ and silence concerning the foreign origin of a product.¹⁷

In a number of matters involving seller omissions, the Commission has found that the deception actually derives from or is promoted by implied representations or other actions by the seller.¹⁸ Thus, the Commission has determined that the sale of a product carries with it the implication that the product is safe for the use for which it is sold.¹⁹ As is true under a pure [9] omission analysis, in such instances it is deceptive to market the product absent adequate disclosure of latent safety hazards.²⁰

In my judgment, the facts of this matter place it squarely within the ambit of prior Commission decisions involving the deceptive nondis-

¹³ The Commission has stated that "[t]he principle crystallized in [the caselaw] is that Section 5 forbids sellers to exploit the normal expectations of consumers in order to deceive just as it forbids sellers to create false expectations by affirmative acts." *Statement of Basis and Purpose for the Cigarette Rule*, 29 FR 8324, 8352 (July 2, 1964).

Also, in promulgating the Home Insulation Rule the Commission asserted, "[i]t is an established principle of Section 5 that when a consumer's normal expectations concerning a product are at odds with actual information about the product, this disparity must be corrected through disclosure." *Statement of Basis and Purpose for the Labeling and Advertising of Home Insulation Rule*, 44 FR 50218, 50223 (Aug. 27, 1979).

¹⁴ See *FTC v. Simeon Management Corp.*, 532 F.2d 708, 716 (9th Cir. 1976). In this case, the Commission's request for a preliminary injunction was denied because the courts were unpersuaded that consumers would assume that the drug used in a weight reduction program had been approved for that use by FDA. Ultimately, the Commission's finding that consumers would make such an assumption was upheld. *Simeon Management Corp. v. FTC*, 579 F.2d 1137 (9th Cir. 1978). See also, *Leonard F. Porter, Inc.*, 88 F.T.C. 546 (1976) (Commission declined to find deception in company's failure to disclose origin of products in the absence of evidence showing consumers would assume products were made by Alaskan natives).

¹⁵ See *Stupell Enterprises, Inc.*, 67 F.T.C. 173 (1965); *Fisher & Deritis*, 49 F.T.C. 77 (1972); *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278 (1953); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697 (1952).

¹⁶ E.g., *Haskelite Mfg. Corp.*, 33 F.T.C. 1212 (1941), *aff'd*, 127 F.2d 765 (7th Cir. 1942).

¹⁷ E.g., *Manco Strap Co., Inc.*, 60 F.T.C. 495 (1962).

¹⁸ For instance, in some cases it has been determined that the normal appearance of a product impliedly represents that it is new or that it is made from a certain material. See, e.g., *Peacock Buick, Inc.*, 86 F.T.C. 1532, 1557-58 (1975), *aff'd*, 553 F.2d 97 (4th Cir. 1977) (opinion unpublished); *Haskelite Mfg. Corp.*, 33 F.T.C. 1212 (1941), *aff'd*, 127 F.2d 765 (7th Cir. 1942).

¹⁹ See, e.g., *Stupell Enterprises, Inc.*, 67 F.T.C. 173, 194 (1965) (offering a product for sale may impliedly represent that it will perform its intended function and do so without posing an unusual risk of harm).

From my review of Commission caselaw, it appears that most if not all of the hazardous commodities cases brought by the FTC under what has been called a "pure omission" theory were also found to involve an implied representation of safety. See *Fisher & Deritis*, 49 F.T.C. 77 (1952); *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278 (1953); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697 (1952).

²⁰ *Stupell Enterprises, Inc.*, 67 F.T.C. 173 (1965).

closure of safety hazards, whether the case is analyzed from an implied representation or pure omission perspective. The evidence demonstrates that geysering is caused by excessive heat and pressure build-up in the fuel tanks of Harvester's gasoline-powered tractors, accompanied by the sudden release of pressure through the removal or loosening of the fuel cap. I.D.F. 19-22. The ALJ found that there was a reasonable likelihood of the gas cap being removed or dislodged in the normal employment of the tractor (I.D.F. 34), but that tractor operators were not aware that such circumstances could lead to a geysering incident I.D.F. 36.

At the same time, this record reveals beyond doubt that at least as early as 1963, the company was on notice from numerous reported field incidents, as well as from its own in-house tests, that the design of its tractors was a contributing factor to pressure build-up which could lead, under a combination of normal circumstances, to accidents resulting in serious injury or death. I.D.F. 276. This awareness is evidenced by numerous company documents placed on the record in this matter, including a 1964 written report from the company's own engineers that [10] characterized the vaporization of fuel and accompanying rises in fuel tank pressure in Harvester's gasoline-powered tractors as "... constituting a definite safety hazard." I.D.F. 98-100.

On the basis of this and other information, the ALJ found that Harvester knew or should have known that geysering accidents would continue in the absence of an effective warning. I.D.F. 276. Yet from 1963 through 1976, Harvester made no changes in its basic fuel warning instructions, and in fact did not provide an appropriately instructive warning to existing tractor owners until the summer of 1980. I.D.F. 164-166, 277. At the same time, the ALJ determined that information concerning geysering and the steps which should be taken to avoid it might well have affected the purchasing decisions of tractor owners, as well as their methods of maintaining and using Harvester gasoline-powered tractors.²¹

Commission law holds that a manufacturer impliedly warrants the safety of its product in normal use and that the manufacturer must disclose specific safety hazards which are not obvious to the users of its products.²² Given Harvester's own in-plant characterization of fuel geysering as a safety hazard, as well as other information in this record documenting the company's [11] burgeoning awareness over the course of many years of the risks and possibly injurious results of geysering, I do not see how it is possible to conclude, as the Commis-

²¹ I.D.F. 37. While there is express evidence of materiality in this case, safety-related information has been found by the Commission to be presumptively material to consumers. See *Firestone Tire & Rubber Co.*, 81 F.T.C. 398 (1972), *aff'd*, 481 F.2d 246 (6th Cir.), *cert. denied*, 414 U.S. 1112 (1973).

²² See *Stupell Enterprises, Inc.*, 67 F.T.C. 173 (1965); *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278 (1953); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697 (1952); *Fisher & Deritis*, 49 F.T.C. 77 (1952).

sion does here, that Harvester's overall implied representation of product safety did not encompass this particular safety hazard.

Putting aside for the moment Harvester's implied representation of safety, I believe that these same facts define a basis for finding that the company's silence about geysering in the face of reasonable consumer beliefs about the safety of its product was a deceptive practice under Section 5. Since consumers' normal expectations are that, in the absence of a warning to the contrary, products can be used safely, they are likely to be deceived if a product is dangerous and the warning is omitted.²³

Here, the ALJ properly concluded that farmers and farm experts alike reasonably believed that removing or improperly fastening the fuel cap on a gasoline-powered tractor was not an especially dangerous practice, even though it was unadvised, and that Harvester was aware of this common procedure. I.D.F. 36, 52. (Indeed, some of Harvester's own employees removed gas caps during tests at company facilities while tractors were still hot or running. I.D.F. 34.) In view of the cumulative knowledge Harvester possessed concerning the circumstances which could lead to geysering and the substantial risk of injury if it occurred, [12] as well as the almost complete lack of information available to tractor operators about this possibility, I believe it is patent that Harvester's unwillingness or delay in disclosing this potential hazard had the tendency to deceive numerous tractor operators in a highly material respect. Such conduct is, by definition, deceptive under Section 5.²⁴

My strong disagreement in the instant matter does not end with the Commission's rejection of FTC precedent to find that there was no element of deceit in Harvester's conduct. Rather, I find it necessary to address several aspects of the Commission's underlying reasoning and policy assumptions as well.

First, I am frankly dismayed by the Commission's reliance on the statistical probability of physical harm to find that Harvester's general implied representation of safety did not extend to fuel geysering. There is simply no basis in Commission law for requiring that the rate of injury from a latent hazard reach some threshold level before the Commission will infer a misrepresentation of an implied warranty of safety from a seller's silence.²⁵ To the contrary, an implied representation [13] of safety, like any representation the Commission might

²³ See *Cigarette Statement*, *supra* note 13, 29 FR at 8352; see also *Stupell Enterprises, Inc.*, 67 F.T.C. 173 (1965).

²⁴ See *Stupell Enterprises, Inc.*, 67 F.T.C. 173 (1965); *Fisher & Deritis*, 49 F.T.C. 77 (1952); *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278 (1953); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697 (1952).

²⁵ Commission law holds, of course, that materiality does not require a demonstration of actual injury to consumers in deception cases. (*E.g.*, *Simeon Management Corp.*, 87 F.T.C. 1184, 1229 (1976), *aff'd*, 579 F.2d 1137 (9th Cir. 1978).) I am concerned, however, that the Commission's reliance on a finding of injury here in order to infer the existence of a misrepresentation of safety by the seller may create a *de facto* injury requirement for certain categories of deception cases, such as those involving hazardous products.

consider, conveys a message that can be ascertained when it is made; the message does not change its meaning under varying circumstances nor depend for its interpretation on *ex post facto* analyses of later developments. The Commission's suggestion that an implied representation of safety, made at the time a product is sold, is somehow limited after the fact when the product proves to be unsafe (but not so unsafe as to kill more than a few people) cannot be sustained legally or logically.

If the Commission does not contend—as it cannot possibly—that *no* representation of safety from fuel geysering was made, then the opinion must mean that the representation was made but, because of the low incidence of injury, was not likely to mislead. Rather than focusing on a product's actual accident rate to determine whether an implied representation of safety is misleading, however, I believe the Commission should instead determine whether the existence of factors giving rise to a particular type of incident can reasonably be expected to occur, thereby placing substantial numbers of consumers at risk. The frequency of accidents merely helps to substantiate the presence of a substantial risk, the existence of which may already be known or foreseeable to the seller.

Here, the ALJ concluded that there was the potential for heat and pressure build-up in *all* Harvester tractors of a particular type. I.D.F. 8, 22. As I have noted, he also found that it was reasonably likely that tractor operators would remove or fail adequately to secure the gas cap during the normal [14] operation of their vehicles. I.D.F. 34.²⁶ The combination of these factors introduced a substantial risk of an accident which could lead to injury or death, the existence of which was further confirmed by numerous reports to Harvester of geysering incidents. Thus, while the *rate* of actual physical injury from geysering may have been only .001 percent, the *risk* of a fuel geysering incident, and the accompanying possibility of harm, was present each and every time the operator used his Harvester machinery in the field. It is the foreseeability of this substantial risk of injury, coupled here with Harvester's actual notice of the problem—and not some arbitrary number of injuries or deaths—which gives rise to a duty to warn consumers about the hazards of fuel geysering and leads to a finding of deception in the absence of such a disclosure.²⁷ [15]

²⁶ The Commission readily admits that the potential for geysering was an inherent drawback of Harvester tractors (slip op. at 4), that the loosening of the gas cap was likely to occur pursuant to the normal use of its tractors (slip op. at 34), and that serious injury and death have resulted from fires started in connection with fuel geysering (slip op. at 6). Yet, for reasons which I do not fully comprehend, the Commission is ultimately able to conclude that the risk of geysering was not sufficiently foreseeable to be included in Harvester's implied representation of safety.

²⁷ See generally *Billiar v. Minnesota Mining & Manufacturing Co.*, 623 F.2d 240, 246 (2d Cir. 1980) (court found that if injury is reasonably foreseeable, "the seller cannot rely on its history of good fortune" to exempt itself from a duty to disclose.)

The inappropriateness of examining the rate rather than the risk of harm in determining whether the nondisclosure of health or safety information is deceptive is brought into even sharper relief by varying the facts slightly

(footnote cont'd)

Second, I cannot accept the Commission's conclusory finding that only a cost-benefit analysis can prevent a conceptually open-ended category of "pure omissions" from requiring the correction of literally all product-related misconceptions consumers may have.²⁸ While the FTC's deception authority clearly encompasses deception by silence, the Commission has actually exercised its powers judiciously against such conduct. In large measure, this reflects the Commission's understanding that sellers are held legally accountable for correcting a disparity between normal consumer expectations that the sellers may have had little direct role in creating and truthful information about a product. In recognition of this additional responsibility, the Commission has held, for example, that silence can be deceptive only where erroneous consumer [16] expectations about a product are normal and reasonable²⁹ and where danger is not readily observable to the user of a product.³⁰

There is an even more fundamental safeguard against unwarranted results, however, and that is the deception standard itself, evolved by the Commission and the courts over a fifty year period to analyze potentially misleading conduct. Contrary to the Commission's implication that there is a virtual "per se" standard for deceptive conduct, a finding of deception actually requires specific and well-developed findings by the Commission, based on the facts of each case, as to each of the three principal components of deception. Thus, the Commission must determine in all cases that there is (1) a representation or omission capable of misleading (2) a substantial number of [17] consumers (3) as to a material product purchasing or use decision before liability may be found.³¹ Most "omissions" of product or use information could not be ruled deceptive under this standard.

in the instant case. Assume, for example, that Harvester continued its policy of silence until one hundred and thirty farmers—ten times as many as this record shows—had been severely disfigured or killed. Would a .01 percent incidence of harm bring geysering within Harvester's implied representation of safety, such that the failure to disclose this hazard would be misleading, or would such conduct continue to be characterized as unfair only by the Commission? While tractor operators who continued to use the product would be justifiably alarmed to learn of a company's continued silence in the face of so many injuries and deaths, the fact remains that the overall rate of actual harm is still quite low, so that the Commission's analysis suggests such conduct might not be found to be deceptive. Such an anomalous result can best be avoided by focusing on traditional factors, such as the foreseeability to the seller that an accident will occur, to find an implied warranty of safety.

²⁸ It is particularly strained reasoning to suggest, as the Commission does here, that considering pure omissions to be deceptive could lead to television and print advertisements overflowing with required disclosures. Pure omissions have been challenged by the Commission for decades now without producing such dire results. Furthermore, there are numerous other vehicles for disclosing product information besides advertising, such as product warning stickers or instruction manuals.

²⁹ See *Cigarette Statement*, *supra* note 13, 29 FR at 8352. Contrary to the Commission's assertion that the *Cigarette Statement* does not provide a basis for considering pure omissions to be deceptive, the statement specifically addresses pure omissions in its discussion of deceptive nondisclosures, citing to a number of cases which are generally characterized as examples of complete nondisclosures. *Id.* at 8352, 8356.

³⁰ *Stupell Enterprises, Inc.*, 67 F.T.C. 173, 188 (1965).

³¹ See Deception Analysis at 17–18. While the deception standard has been interpreted through the years to permit a shorthand variant to be applied in some instances, such as where materiality may be inferred, this is certainly not always the case. As I have already noted, for example, evidence of consumer perceptions concerning

Additionally, where pure omissions have been found to be deceptive, the Commission has generally found an implied representation by the seller as well.³² As a result of the care and caution with which the Commission approaches deception cases generally, and deception by omission matters in particular, the Commission has applied the doctrine of deception by nondisclosure to only a few narrow categories of particularly significant omissions, such as those involving safety matters where the potential for injury from a misleading omission would be greatest.³³

Finally, I fail to see the relevance of the Commission's conclusion that the nature of pure omissions is such that they do not presumptively reflect deliberate conduct on the part of the [18] seller. This conclusion is in the first place simply wrong, since the act of selling a product is itself a deliberate act that can create expectations on the part of consumers.

More importantly, this judgment incorrectly highlights the *form* conduct takes rather than the *result*. As set forth by the Commission in the *Cigarette Statement*, whether the offending conduct includes express or implied representations or nondisclosure of material information, "[t]he test is simple and pragmatic: Is it likely that, unless such disclosure is made, a substantial body of consumers will be misled to their detriment?"³⁴ Thus, the Commission has found on numerous occasions that deception is actionable in whatever form it appears, including complete silence under certain circumstances.³⁵

Moreover, because the Commission has traditionally focused on the effects of conduct in order to afford the most protection possible for the public, it is not necessary to examine whether a seller engaging in a potentially misleading practice intends to [19] deceive or acts in bad faith. In fact, the Commission may prohibit conduct that is capable of misleading consumers even when it is unintentional or carried out in good faith.³⁶

In view of the Commission's ultimate finding of liability under an

³² See, e.g., *Peacock Buick, Inc.*, 86 F.T.C. 1532 (1975), *aff'd*, 553 F.2d 97 (4th Cir. 1977) (opinion unpublished).

³³ E.g., *Fisher & Deritis*, 49 F.T.C. 77 (1952); *Stupell Enterprises, Inc.*, 67 F.T.C. 173 (1965).

³⁴ *Cigarette Statement*, *supra* note 13, 29 FR at 8352.

³⁵ See *Stupell Enterprises, Inc.*, 67 F.T.C. 173 (1965); *Seymour Dress & Blouse Co.*, 49 F.T.C. 1278 (1953); *Academy Knitted Fabrics Corp.*, 49 F.T.C. 697 (1952).

Such a finding is also consonant with developments in the common law, including a growing willingness on the part of courts to permit an action in deceit for tacit nondisclosures, particularly in cases involving latent safety hazards where one party has special knowledge, or means of knowledge, which would be important to but is not known by another party. See Prosser, *Handbook of the Law of Torts*, Section 106 at 697-98 (4th Ed. 1971).

³⁶ *Chrysler Corp. v. FTC*, 561 F.2d 357, 363 & n.5 (D.C. Cir. 1977); *Feil v. FTC*, 285 F.2d 879, 896 (9th Cir. 1960); *Travel King, Inc.*, 88 F.T.C. 715, 773 (1975). Although intent to deceive is neither required by nor necessarily presumed by the Commission in deception cases, given the record evidence here of Harvester's longstanding awareness of the risks attendant to fuel geysering, I find it somewhat disingenuous for the Commission to suggest that seller silence *cannot* presumptively reflect the deliberate withholding of information. It can, but it simply isn't necessary to find or presume that intent exists in order to charge a seller with deception.

unfairness theory in this case, I would like to believe that, at worst, this matter reflects injudicious but benign legal engineering by the Commission. Unfortunately, although I can only speculate as to the precedential value of this opinion, it appears that one practical effect may be to limit the types of hazardous commodities cases which may be brought under a deception theory in the future.³⁷ Indeed, the Commission specifically notes that a number of prior cases holding both that implied representations of safety were breached and that nondisclosures by sellers are deceptive would probably be brought [20] exclusively under an unfairness theory today.³⁸ Though unfairness does provide an alternative ground for action, the Commission's apparent abandonment of applicable deception theory is nevertheless troubling for several reasons.

In addition to ignoring FTC precedent, the Commission's findings in this case are directly contrary to established Commission policy. In applying its deception analysis the Commission has traditionally required *higher* standards of candor and honesty in the area of what may be broadly termed "dangerous products."³⁹ Thus, whether a practice is found to be deceptive may in part actually depend upon whether the normal use of the product involves danger to health or safety, with the standard for honesty and full and fair disclosure highest where the degree of risk involves not only health or safety but possibly life itself.⁴⁰

The reasons for this policy are apparent. While the effects of economic loss to consumers as a result of a seller's silence may be serious, they can never be of such consequence as potential injury to their persons. The Commission's novel [21] conclusion that, despite what a seller should or may know about hidden product hazards, the FTC will employ some form of *ex post* statistical analysis to determine whether a seller's silence is misleading, followed by a cost-benefit examination to determine whether the seller's conduct is unfair, cannot be reconciled with these established policies.

Potentially more troubling, however, is that, while the Commission would continue to analyze "pure omissions" under an unfairness theory, such a policy offers far fewer guarantees that a seller's silence would be corrected in advance of rather than after injury has oc-

³⁷ It is uncertain from the Commission's opinion whether other traditional categories of actionable "pure omissions," such as those involving the foreign origin of a product, would find a safe harbor under an implied representation theory or would also be required to undergo a rigorous cost-benefit analysis to be found illegal under Section 5.

³⁸ Slip op. at 28-29.

³⁹ See *Cigarette Statement*, *supra* note 13, 29 FR at 8353. Sellers are, of course, in a far better position than are purchasers to be aware of latent hazards connected with the normal use of their products, as well as to assess the potential effects of their failure to disclose the existence of product hazards, regardless of the source of consumer misperceptions about such dangers. See also *Firestone Tire & Rubber Co. v. FTC*, 81 F.T.C. 398 (1972), *aff'd*, 481 F.2d 246 (6th Cir.), *cert. denied*, 414 U.S. 1112 (1973).

⁴⁰ *Cigarette Statement*, *supra* note 13, 29 FR at 8354.

curred, or if it would be redressed at all. In relying on unfairness to find liability here, the Commission correctly states that "unfairness cases usually involve actual and completed harms."⁴¹ While the Unfairness Statement clarifies that unwarranted health and safety risks are also covered,⁴² the clear focus of the Statement generally, as well as of the deception and unfairness inquiries conducted by the Commission in this case, is on substantial, completed injury.

Deception analysis, of course, requires only that a representation or omission have a tendency or capacity to deceive. Actual harm, physical or economic, need not have [22] occurred to find a practice deceptive.⁴³ Thus, while an after-the-fact unfairness approach may be necessary to address conduct which is clearly not deceptive,⁴⁴ I believe that the substantial public interest in stopping seller misconduct in its incipency—well before it exposes consumers to serious risks or leads to actual physical harm—militates in favor of continued Commission reliance on *both* deception and unfairness bases for liability wherever possible. The Unfairness Statement clearly contemplates the need to employ both forms of analysis wherever necessary to protect the public interest.⁴⁵

Contrary to the Commission's conclusory statements in this opinion, the FTC's cautious and consistent approach to pure omissions has provided substantial guidance both to the Commission in terms of following its own precedent and to sellers who seek to comply with the law by looking to such precedent. Changing the law at this juncture will only inject immediate [23] confusion as to the status of the law of deception generally in cases of seller silence, without affording any additional longterm certainty.⁴⁶

In light of the foregoing discussion, I must disassociate myself fully from the Commission's ill-advised departure from traditional analysis of a potentially deceptive form of behavior. The record in this matter is clear. International Harvester had reason to be aware for literally decades that fuel geysering presented a substantial risk of injury or death, yet the company failed to issue an effective warning to tractor operators until the initiation of its fire prevention program in 1980.

⁴¹ Slip op. at 23.

⁴² Unfairness Statement at 6.

⁴³ As the Third Circuit has stated, "[t]he purpose of the Federal Trade Commission Act is to protect the public, not to punish a wrongdoer . . . and it is in the public interest to stop any deception at its incipency." *Regina Corp. v. FTC*, 322 F.2d 765, 768 (3rd Cir. 1963).

⁴⁴ See, e.g., *Statement of Basis and Purpose, Advertising of Ophthalmic Goods and Services*, 43 FR 23992 (1978).

⁴⁵ See "Companion Statement on the Commission's Consumer Unfairness Jurisdiction" at 5. Cases often cited for the proposition that the Commission may stop undue health and safety risks under an unfairness theory, such as *Philip Morris, Inc.*, 82 F.T.C. 16 (1973), generally involve a finding of deception by the Commission as well.

⁴⁶ I fail to see, for example, how future Commissions or sellers will divine with any greater clarity than is true under a deception analysis what forms of seller silence will be considered "unfair" by the Commission or how the unfairness criteria will be applied to particular facts on the basis of this opinion. The law of deception involves well-settled principles which are seriously jeopardized by the sort of unnecessary judicial tinkering present in this

The withholding of such vital product safety information, particularly where its value to consumers is as clearly foreseeable as the facts would suggest here, is, in accordance with established FTC precedent, *both* a deceptive and unfair practice under Section 5. In my view, the Commission presents no sound legal or policy reasons to justify its detour from the Commission's traditional law of deception.

FINAL ORDER

This matter has been heard by the Commission upon the appeal of counsel supporting the complaint, and of counsel for the respondent, and upon briefs and oral argument in support of and in opposition to these appeals. For the reasons stated in the accompanying opinion the Commission has determined to affirm in part and reverse in part the Initial Decision. Therefore,

It is ordered, That the Initial Decision of the administrative law judge be adopted as the Findings of Fact and Conclusions of Law of the Commission, except as is inconsistent with the accompanying opinion. Other Findings of Fact and Conclusions of Law are contained in the accompanying opinion.

Commissioner Bailey concurred in the result and as to the finding of liability on unfairness grounds and dissented as to the remainder of the Commission's opinion; and Commissioner Azcuenaga did not participate.

IN THE MATTER OF

CHARLES E. WELLER

CONSENT ORDER, ETC., IN REGARD TO ALLEGED VIOLATIONS OF SEC. 5
OF THE FEDERAL TRADE COMMISSION ACT*Dkt. C-3149. Complaint, Dec. 24, 1984—Decision, Dec. 24, 1984*

This Consent Order, among other things, requires Charles E. Weller to cease misrepresenting the value or potential value of oil and gas rights or other investments offered; the degree of risk involved in such investments; or the value or potential for increase in value of any mineral right or other investment offering. The respondent is also required to substantiate any representation or claim concerning the value or potential earnings of any investment; make prescribed disclosures in sales brochures and oral sales presentations advising consumers that oil and gas lease rights are high risk investments; and place \$60,000 into an escrow account to be used for consumer redress.

Appearances

For the Commission: *David J. Federbush and Arthur B. Cornell.*

For the respondent: *Stephen V. Wilson, Hochman, Salkin and DeRoy, Beverly Hills, California.*

COMPLAINT

The Federal Trade Commission ("Commission"), pursuant to the provisions of the Federal Trade Commission Act ("FTC Act"), 15 U.S.C. 41 *et seq.*, as amended, and by virtue of the authority vested in it by said Act, having reason to believe that Charles E. Weller ("respondent") has violated the provisions of said Act, and believing that a proceeding by it in respect thereof would be in the public interest, hereby issues its complaint stating its charges as follows:

RESPONDENT AND RESPONDENT'S BUSINESS

PARAGRAPH 1. Respondent Charles E. Weller was, until April 1983, a Director and President of Alaska Land Leasing, Incorporated ("ALL"), an Alaska corporation with its principal office currently located at 11726 San Vicente Boulevard, Los Angeles, California, and previously located at 28990 Pacific Coast Highway, Malibu, California. He was also, until April 1983, General Counsel and Executive Vice President of Federal Lease Filing Corporation ("FLFC"), a California corporation with its principal office located at 28990 Pacific Coast Highway, Malibu, California. Individually or in concert with