

Decision

IN THE MATTER OF
PIONEERS, INC., ET AL.ORDER, ETC., IN REGARD TO THE ALLEGED VIOLATION OF THE
FEDERAL TRADE COMMISSION ACT*Docket 6190. Complaint, Mar. 11, 1954—Decision, May 16, 1956*

Order dismissing, on the ground that the allegations were unsustained by the greater weight of the evidence, complaint charging a manufacturer in Oakland, Calif., with making false representations in advertising concerning the properties of its "Battery AD-X2" battery additive designed to be used in lead-acid storage batteries.

Mr. R. P. Bellinger and Mr. William M. King for the Commission.
Ellis, Houghton & Ellis and Mr. Wilbur N. Baughman, of Washington, D. C., for respondents.

INITIAL DECISION BY WILLIAM L. PACK, HEARING EXAMINER

1. This proceeding involves a product known as "Battery AD-X2," an additive designed for use in lead-acid storage batteries. The Commission's complaint, issued March 11, 1954, charges respondents with the making of numerous misrepresentations in the advertising of their product, including statements that a condition known as "sulfation" is the direct or indirect cause of most battery failures, that the product beneficially affects this condition and reduces the harmful effects thereof, and that as a result batteries function better and last longer, operating with less heat, less water loss, cleaner plates, less shedding of active material from the plates, less danger of buckled plates, etc., and that through the use of the product batteries which have failed because of sulfation can be restored to useful service. After the filing of respondents' answer, challenging all of the material allegations of the complaint and denying any misrepresentation of the product, numerous hearings were held and much testimony and other evidence received, both in support of and in opposition to the complaint. The case was then argued orally before the hearing examiner, and is now before him for final consideration and decision.

2. While respondents challenge the interpretation placed upon their advertising by the complaint, insisting that the quoted excerpts from the advertisements are taken out of context and misconstrued, the examiner is of the view that the construction placed upon the advertising by the complaint is substantially correct provided two things are constantly kept in mind. The first of these is that all of respondents' claims for their product are conditioned upon the

product's being used according to their directions, and the second, that respondents emphasize that the product is for use only in batteries which are mechanically sound, no claim being made that the product will be of any benefit to batteries not in such condition.

3. At the heart of the proceeding is this matter of sulfation. This is so because all of respondents' claims for their product are based upon the asserted effects of the product on sulfation and on conditions allegedly resulting from sulfation. The first two questions which must be answered are: first, what is sulfation; and second, to what extent is sulfation a cause of failure of lead-acid storage batteries, that is, is it a major or minor cause of battery failure?

4. First, what is sulfation? In order to answer this question it is necessary that consideration be given briefly to the component parts and the principle of operation of a lead-acid storage battery. Such a battery may consist of one or any number of cells. Essentially, each cell is composed of a positive plate and a negative plate. The positive plate contains lead peroxide and the negative plate sponge lead. These materials are known as the "active materials" of the battery. However, these materials cannot function—become active—unless they are accompanied by a third element. This third element is the electrolyte, which is a solution of sulfuric acid and water. When a cell is on discharge, as, for example, when the lights on the automobile containing the battery are switched on, the sulfuric acid acts on the active materials on both the positive and negative plates and the result is a new compound known as lead sulfate. It is this lead sulfate which supplies or releases the electrical energy of the battery.

5. Thus the "sulfating" of a lead-acid battery, that is, the formation of lead sulfate, is an essential and normal process in the battery without which it would not work. But this is not the end of the matter. The active materials, when placed on the plates, are in the form of rather soft, spongy, porous substances. However, as the battery begins to age, these materials tend to become hard, crystalline and brittle. This tendency may be accelerated by certain external causes, such as overcharging or undercharging of the battery, excessive heat, etc. It is this hardening process which is known as sulfation. Or as stated in the complaint, "The word 'sulfation' is a colloquial name for the formation of hardened lead sulfate in a cell."

6. Next, to what extent, that is, how frequently, is sulfation the cause of battery failure? There is no doubt that it is one of the causes. To quote again from the complaint, "It [sulfation] is one of the causes of battery failure, especially in decreasing battery efficiency." While Dr. Walter J. Hamer, Chief of the Electro-chemistry Section of the National Bureau of Standards, expressed the opinion (not without

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support from other witnesses) that relatively few battery failures are due to sulfation, this view is opposed to the great weight of the evidence. It is impossible upon the present record to fix percentages as to the various causes of battery failure, but it appears certain that sulfation, if not the major cause, is at least one of the major causes. Some of the harmful effects of sulfation which cause or may cause battery failure are loss of active material from the plates, excessive heat, greater water loss, buckled plates, decreased porosity of the material on the plates, and formation of sediment or "mud" in the bottom of the cells, with possible short-circuiting of the battery.

7. The principal ingredients in respondents' product are magnesium sulfate and sodium sulfate. Small quantities of magnesium oxide and barium sulfate are also present. In addition, chemical analyses of the product reveal the presence of a number of "trace" elements, that is, elements present in extremely small or minute quantities.

8. Respondents' place of business is located in Oakland, California. Their product was first placed on the market in 1947. It was the result of the joint efforts of respondent Jess M. Ritchie and Dr. Merle Randall (now deceased), who at that time was, or shortly prior thereto had been, a Professor of Chemistry in the University of California. It appears that these individuals, or one of them, had purchased rights to a battery additive from a third party, but the product proved unsatisfactory and was discarded. After extensive experimentation the present product was produced and placed on the market. It was originally called "Protecto-Charge," the name being subsequently changed to "Battery AD-X2." Some 500,000 packages (treatments) of the product have been sold, the great bulk of the sales being to industrial users, that is, industrial plants, including battery shops. Very few sales are made direct to the general public. One package (containing three envelopes of the product) is regarded as sufficient for the ordinary three-cell automotive battery. The directions for use appearing on the package are:

1. Clean top of battery and posts.
2. Cover plates with water.
3. Empty one envelope to each cell.
4. Dissolve AD-X2 on top of plates with battery syringe.
5. IMMEDIATELY start motor and charge for 30 minutes, to blend AD-X2 with battery acid as sulfation preventative.

6. Fully charge at not more than 10 amps, when charger is used.

9. There is no contention on behalf of the Commission that the product does any harm to a battery. The question is whether the product is neutral (without any significant effect) or whether it does in fact have the beneficial effects claimed by respondents. The most

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important issue raised by the complaint is whether use of the product will cause a battery to last longer, and this issue would appear to be closely related to the other issues raised by the complaint. If the product does in fact cause a battery to operate better, that is, with less sulfation, less loss of active materials, less heat, less water loss, less sediment, etc., it would seem to follow that the use of the product lengthens the life of the battery. And, conversely, if the use of the product causes a battery to last longer, it would seem reasonable to conclude that the battery is operating better and with less handicap due to sulfation and its effects. The evidence as to the effect or lack of effect of the product falls into two general categories—scientific evidence, and the testimony of users of the product.

SCIENTIFIC EVIDENCE IN SUPPORT OF COMPLAINT

10. The strongest evidence in support of the complaint comprises certain laboratory tests of the product made by the National Bureau of Standards. These tests were begun in March, 1952 and continued at intervals for approximately one year. There were ten tests, five of them being designated "electrical tests" and five "physical chemistry tests." At various times both used batteries and new batteries were employed in the tests. Where necessary throughout the tests, adequate "controls" appear to have been maintained, that is, batteries not treated with respondents' product were used along with batteries treated with the product, so that any differences in behavior in the two groups of batteries could be observed. The tests covered a wide range, including tests to determine the effect of respondents' product on sulfation, battery life, storability of batteries, temperature, water loss, capacity, sediment, charge and discharge, solubility of lead sulfate in battery electrolyte, etc. The conclusion drawn by the Bureau of Standards from the results of the tests was that respondents' product is without merit; that it has no beneficial effect, certainly no significant beneficial effect, on lead-acid batteries.

11. Dr. Hamer, basing his testimony upon the results of the tests and also upon his general knowledge in the field, testified that in his opinion the product was incapable of producing the effects claimed for it by respondents.

12. While it is possible to find some flaws and imperfections in the testing procedure, they are of a minor nature and do not operate to invalidate the tests. On the whole, the tests appear to have been well designed and properly conducted. There is, however, as will be seen later, a serious question as to whether conditions existing in the day to day operation of automotive batteries in the field can be duplicated

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sufficiently in the laboratory to make laboratory tests conclusive as to actual field operation.

13. Respondents' attacks upon the fairness and objectivity of the Bureau of Standards are rejected as without foundation. No good reason appears for questioning the good faith or the scientific integrity of any of the personnel of the Bureau who were connected with the tests, practically all of whom appeared as witnesses in the present proceeding.

14. A test of the product was also made by Dr. Reginald S. Dean, who operates a private research and testing laboratory in Riverdale, Maryland, under the name Chicago Development Corporation. Dr. Dean is a consulting engineer, holds the degree of Ph.D. in physical chemistry, and has had wide experience in the field of electro-chemistry and electro-metallurgy. He has seen service in both Government work (Bureau of Mines) and in private industry. The test in question was made by Dr. Dean for Consumers Research, Inc. While it appears that a prior test of the product had been made by him at the instance of respondents, the results of this test are not in evidence. There is direct conflict between the testimony of respondent Ritchie and that of Dr. Dean as to whether the results of the former test were favorable or unfavorable to the product.

15. The Consumers Research test took place during the period August 7 to September 20, 1953. Sixteen cells from discarded automotive batteries were selected and arranged in comparable pairs as nearly as possible. Eight of the cells, one in each pair, were treated with respondents' product, the remaining eight being left untreated for use as controls. However, it was found that two of the latter group were defective and these two were discarded. This left only six cells for control purposes, and it was therefore necessary that two of the control cells be doubly paired—that is, that each be used as a control for two treated cells. All of the fourteen cells were sulfated to some extent, but no estimate of the degree of sulfation was attempted. During the test period all of the cells were uniformly subjected to varying rates of charge and discharge and the behavior of the cells noted. At intervals measurements were taken as to specific gravity, temperature, and other factors. The conclusion reached by Dr. Dean was that there was no significant difference between the behavior of the treated cells and that of the untreated. Basing his answers upon both the test and his general knowledge, he testified in substance that in his opinion respondents' product was without merit.

16. Another test of respondents' product was made by William H. Hand, who operates a private research and testing laboratory in Nyack, New York. Mr. Hand is a chemist and physicist and holds a

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B.S. degree. He has at times acted as a consultant to battery manufacturers, and he also manufactures batteries which bear his own name. Mr. Hand testified that around 1949 or 1950 respondent Ritchie, in company with another person, came to his place of business in Nyack; that Mr. Ritchie gave him a circular advertising the product AD-X2 and also left with him four packages of the product; that while Ritchie was there he (Ritchie) selected a used battery from a number in the laboratory and demonstrated with this battery how the product should be applied.

17. Hand further testified that some four years later, in March 1954, he received an inquiry about the product from one of his customers and he decided to make a test of the product, using the packages of the material which Ritchie had previously left with him. For the test he selected three new three-cell batteries which had been made in his own shop and which were in as nearly perfect condition as possible. Through a process of charging the batteries and then permitting them to remain idle, a substantial amount of sulfation was purposely built up in them. Two cells in each of the batteries were then treated with the product in accordance with the oral directions which he said had been given him by Ritchie, the third cell being left untreated as a control. At intervals during the test period of approximately two months, the batteries were subjected to charge and discharge and the behavior of the several cells noted. Observing no difference between the behavior of the treated cells and the untreated, Mr. Hand concluded that the product was "neutral," that is, that it neither helped nor harmed the batteries.

18. One aspect of Hand's testimony on which there is sharp controversy is his identification of respondent Ritchie, both in his original testimony and when recalled in rebuttal, as the person who visited his laboratory in 1949 or 1950 and left the advertising circular and the packages of the product. Ritchie in his own testimony denied that he had ever been in Nyack, that he had ever seen Hand prior to Hand's appearance as a witness, and that he had ever given Hand any packages or any advertisement of the product. Ritchie further testified that for a period of several years, which included the period of time referred to by Hand, he (Ritchie) was not out of the States of California, Arizona and Nevada. This latter statement is corroborated by the testimony of Mrs. Jess M. Ritchie and by that of William M. Hager, a former business associate of Ritchie's in Pioneers, Inc.

19. The examiner finds it unnecessary to decide this issue, which may present only a question of accuracy of memory rather than a question of veracity. The important matter here is whether in con-

