

Were

battery manufacturers and other business concerns unhappy with the success of Pioneers, Inc. the "public" for whom NBBB as petitioning? It is most revealing, in this connection, to note a pronounced dissention which arose in the Better Business Bureau itself.

Already in 1948, the Better Business Bureau of Metropolitan Oakland, Inc. was advocating the case of Jess Ritchie and Pioneers, Inc. to the Bureau of Standards. The General Manager of the Oakland branch wrote to George Vinal at NBS in December of that year to make the point that AD-X2 could not fairly be grouped with all the other battery "dopes," and to request further tests to settle the issue.

(28)

Early in 1949, following correspondence with the National Better Business Bureau, Oakland's Mr. Harris decided to petition the managers of all the branches in the Better Business Bureau to desist from their practice of discrediting AD-X2 by including it in ythe category of useless additives. To substantiate this position, Harris

basis of the fact that the product has not been approved by the United States Bureau of Standards (sic).

"The usual procedure-and the one which we must follow in this case-is to hold everything in abeyance until the accused manufacturer has an opportunity to make a statement in his own behalf.

"In this case the statement would have to be that the product has been approved by the United States Bureau of Standards, because in its department it is the Supreme Court." (Hearings, pp. 119-20)

28. Hearings, p.61.

said he had personally interviewed Ritchie, Randall, and even Dr.F.G.Sawyer, associate editor of Chemical and Engineering News, and that they all confirmed the unique action of this additive in storage batteries. He also listed a number of commercial customers of Pioneers, whom he had interviewed. In addition, "[n]umerous attempts have been made by Pioneers, Inc., Dr. Merle Randall, Senator William Knowland, and I (sic), to get the Bureau of Standards through the Chief of Electro-Chemistry Division, Dr. George W. Vinal, to give this product a fair test to either prove or disprove the statements made in this Circular. [L.C.302] In every case, the only courtesy received from the Bureau of Standards has been a statement that further test is unnecessary in that the product is admitted by its manufacturers to contain sodium sulphate and magnesium sulphate." (29)

Several months later Harris changed his strategy, this time addressing only the western states branches of the Better Business Bureau and trying to establish a regional solidarity which might more effectively influence the national office. It can be assumed that neither of these tactics elicited the desired response, for in August of 1949, Harris wrote again to Ken Willson of the national office. After a long 'introduction.' in which he rehearsed

29. Hearings, p.76.

the history of the situation and the merits of those associated with AD-X2, Harris finally got to the point.

"Here, Ken, is the issue as I see it. In my opinion, neither you nor the National Better Business Bureau nor any other organization in God's green earth have the right to participate in preventing a man from carrying on free enterprise by direct or indirect means unless there is a reasonable basis for such an action..." (30)

Such

passion cannot simply be dismissed as the vitriol of a frustrated and ambitious bureaucrat. It is obvious on reading the statements of the many parties enlisted in Ritchie's crusade that they were truly convinced that this product had merit, and that there was something akin to a hideous conspiracy which had combined to hedge up the way of free enterprise. (31)

Indeed, it was not simply a matter of the National Better Business Bureau replying to the queries of individuals that, in the opinion of the Bureau of Standards,

30. Hearings, pp 77-79.

31. This aspect of the controversy is considered more fully below (). Without an appreciation of the conviction and missionary zeal of the protagonists it is not possible to fully explain their effect on members of Congress and the public.

there were no additives shown to be of value for improving the performance and prolonging the life of storage batteries. The NBBB had produced its own circular, "Battery Compounds and Solutions-An Important Statement on the Subject of Battery Additives from the National Bureau of Standards," which not only quoted from a statement issued by Edward Condon (1949) on the subject, but pointedly mentioned that battery guarantees were voided by the introduction of such additives. Companies such as Exide Batteries, Globe-Union (another manufacturer) and Atlas Supply were responding to customer enquiries with this circular. (32)

The NBBB, however, did not consider this a potent enough message. At NBBB's urging, Edward Condon allowed a special statement to be made public, wherein the Bureau of Standards censured AD-X2 by name. The statement refers to recent testing on AD-X2 which makes it clear that it is not essentially different from the general sodium sulphate and magnesium sulphate preparations with which it had been classed, that bench tests (over a six-month period) showed no benefit, and that the results of field tests not done at the Bureau corroborated the negative finding. In sum, the recent tests showed no reason for the Bureau to alter the findings in Letter Circular 302. (33)

32. Hearings, pp.86-89.

33. Hearings, pp.549-51. This is part of an updated circular issued by NBBB, "Battery Compounds and Solutions," issued in August, 1950. The go-ahead was given by Condon in

There were other actions involving both NBS and NBBB which ring at least injudicious, if not improper. In one of many communication between G.W.Vinal and K.B.Willson, concerning a revision of Letter Circular 302, Vinal mentions his discussing a proposed revision at a meeting of the Association of American Battery Manufacturers. In another letter Vinal tells Willson that NBS does not generally undertake the testing of a commercial product unless requested to do so by a Government agency. Therefore, if the "matter" (e.g. AD-X2) is turned over to the Federal Trade Commission, it is possible that tests will be conducted. (34) The matter did indeed proceed to the FTC, though apparently not as a result of Vinal's untoward suggestion.

The National Better Business Bureau filed a complaint against Pioneers with the FTC on June 17, 1949. (35) Subsequent suit was filed with the FTC by the Association of American Battery Manufacturers in 1950. The Post Office also

a letter to Mr. Willson dated July 24: "...there is no objection to the use of statements made by this Bureau and cited by you in your letter, concerning the battery additive, AD-X2. It is our understanding that the Bureau's statements concerning AD-X2 will appear only in your bulletin Battery Compounds and Solutions." (Hearings, p.781.)

34. Hearings, pp.771 and 777 respectively. Vinal retired from NBS in June of 1950 and thereafter did consulting for both RCA and Electric Storage Battery Co.(Exide). (Hearings, p.250)

35. Technical Information for Congress, 1969, op.cit. p.26. Vinal's 'suggestion' for FTC action was dated June 22.

investigated Ritchie, and testing of AD-X2 at the National Bureau of Standards was run at their behest in 1952. Ritchie was instructed to appear in Washington for hearings on possible mail fraud in April of 1952. These hearings were ultimately postponed until October of the same year. In the mean time, Ritchie began assembling his defense and prevailed upon the House Committee on Small Business to obtain another series of tests at NBS in accordance with procedures Ritchie would specify. After this action, the House committee was no longer involved, and further action became the responsibility of the Senate Select Committee on Small Business.

The NBS tests again showed no merit for AD-X2. Ritchie took issue with the testing procedure and failed to show up for the hearing. A decision was reached on February 18, 1953, and a fraud order issued, only to be quickly suspended by the Postmaster General. On August 20, 1953, the order was cancelled. (36)

36. Technical Information for Congress, 1969, op.cit. pp.27-29. Postmaster General Summerfield suspended the fraud order (issued Feb.24) on March 2 at the request of Sinclair Weeks. (Hearings, p.3)

The Enemy Perceived

The political atmosphere was already charged when the new administration took office in January of 1953, and communists were not the only enemies of the state. Eisenhower was committed to battling bureaucracies and advancing the cause of business. Commerce Secretary Sinclair Weeks and Assistant Secretary (of Commerce for Domestic Affairs) Craig Sheaffer were frontline ideologues in this cause.(37) Still, it must have been a vertiginous shock to the Bureau of Standards to find itself the focus of attention in a political purge.(38) The Bureau had been a scientifically conservative organization of experts, having

37. U.S. News and World Report pointed out that after only one month the new administration could show a decline of 7,800 on the government payroll. Weeks had trimmed 15 percent off the proposed Commerce Dept. budget for the following year. By the early spring of 1953 the signs were clear that government projects, as well as government controls over business, were being eliminated. Businessmen were back in power, and reform theorists were replaced by those with a practical outlook. Weeks, himself a businessman, was quoted as follows: "'Some tub thumpers and pundits are sneering because the President has recalled to public service the 20-year forgotten man. They complain because the new Administration no longer gives priority to the theories of foreign Socialists and to...local egg heads.' This reaction is understandable because a 'whole generation has been taught that knowledge of how to meet a pay roll is a sign of a low I.Q., that honest profit is a wicked motive and that nothing in business is needed by Government except its excess-profits and corporate income taxes.'" (USN&WR, April 24, 1953, pp.15,16,90,93)

38. During questioning, Senator Lester Hunt of Wyoming asked Allen Astin if he had ever encountered a situation like this in his 23 years at the Bureau, to which Astin replied laconically, "This is a most unique experience, sir." (Hearings, p.326)

served the public and government for over 50 years and generating almost no controversy. It was now being scrutinized as a seat of hidden interests and politically-motivated research.(39)

It came as no surprise that Weeks was very sympathetic to the cause of Jess Ritchie, and it might be inferred, then, that he would look critically at the evidence assembled against AD-X2. But no one, besides Weeks and Sheaffer, could have guessed the Secretary's opening move in this controversy.

On March 31, the day on which the Senate Committee hearings commenced, the announcement came that the Director of the Bureau of Standards, Dr. Allen Astin, would resign, effective April 18. Craig Sheaffer had requested Astin's resignation on March 24. In Dr. Astin's own words:

"When Mr. Sheaffer informed me that the Secretary desired my resignation, I felt I had no alternative to submitting it. Unless the Director of the National Bureau of Standards has the full support and cooperation of the Secretary of Commerce, the

39. For example, Congressman Harold Hagen of Minnesota, in calling for an investigation of the Bureau, pointed to suggestions of an arrogant bureaucracy and links between established industries and Government scientists. He also indicated that Astin's dismissal could not be attributed to party influence, since Astin had been a registered Republican in Maryland for more than a decade. (Congressional Record for 1953, pp.A2333, A2334)

effectiveness of the important services which the National Bureau of Standards renders to science, industry and government would be seriously impaired.

"Mr. Sheaffer expressed dissatisfaction by the Department of the Bureau's handling of the battery additive question..."(40)

Although most articles of the day on the ouster of Allen Astin point directly to Secretary Weeks, and rightly so, this tends to obscure the role of Craig Sheaffer. It is significant that during this time Astin tried to discuss the matter with Weeks, but was consistently denied an audience.(41) There is no immediate answer as to why Weeks should have feared a meeting with the accused, though none of the possibilities speak well for the Secretary. On the other hand, there was some indication that Sheaffer was much more than a line-authority message bearer.

Sheaffer had headed the pen manufacturing company which bears his name prior to coming to Commerce under Eisenhower, and had soon come to the opinion that the Bureau of Standards had essentially hounded Jess Ritchie into

40. Press release, "Statement on Resignation by Dr.A.V.Astin..." NBS Archives, box 202. See N.Y.Times, April 2, 1953.

41. *ibid.*

bankruptcy. As a businessman he had had a run-in with the regulatory power of government when the FTC ordered his company to cease advertising its pens with a lifetime guarantee, as the firm was charging a service fee to repair the pens. This may have contributed to his bias in the present case, despite the fact that NBS was not involved with Sheaffer's pens.(42) The New York Herald Tribune reported that "it was on his (Sheaffer's) recommendation that Secretary Weeks dismissed Dr.Astin from office." Months later, after a rapprochement evolved between Astin and Weeks, and Astin (now reinstated) and the NBS were placed under the supervision of another Assistant Secretary of Commerce (for Administration, James C. Worthy), Sheaffer resigned. He offered no explanation for leaving.(43)

If the rest of government and the public at large were surprised by Astin's dismissal, Weeks and Sheaffer were at least as stunned by the outcry it caused. The manner in which the dismissal was explained was perhaps the most damaging part of this action. Weeks appeared as the first witness in the AD-X2 hearings, accompanied by Sheaffer. It must be considered a primary function of this immediate

42. The Washington Post, Sept.19, 1953. When questioned about NBS work on the Sheaffer pen case, Astin replied he had no knowledge of such work ever being done. (Hearings, p.272)

43. New York Herald Tribune, Sept. 19, 1953.

testimony by the Secretary and his Assistant - on the same day that Astin's resignation was announced - was to establish a tactical beachhead for the dismissal. But firing the first shot proved more effective in waking the enemy, than in disbursing them.

Weeks' battle-plan was to lay out all the 'evidence' as he saw it, and establish a rhetoric of outrage whereby republican values were being brutalized by a decadent bureaucracy. While those bodies with sanctioning power, namely the Post Office and FTC, were mentioned obliquely, the dark center of deceit lay in the Bureau of Standards. Weeks appeared ready to confess the evil perpetrated by a branch of his own department, wishing only to make recompense.

Astin's dismissal was not mentioned in prepared testimony, but only came up in subsequent questioning. When the issue was broached first by Senator Leverett Saltonstall (R-Mass.) and then by Lester Hunt (D-Wyo.), neither Weeks nor Sheaffer could give any clear reason why Astin was being removed. The additive controversy, they assured the senators, was just "one factor in a number of reasons." When pressed to give those reasons, Sheaffer replied: "We are not prepared to do so now, sir." If a sacrifice were to be made on the political altar, Astin, it soon became obvious, was

the worst possible choice.(44)

Senator Hunt criticized the move unambiguously. He referred to it as "a strong-arm police state method." He further commented, "Dr.Astin's reputation is ruined. The reputation of the Bureau is ruined. If they already had his resignation, why did Weeks come before the committee to testify?" Senator Wayne Morse (Ind.-Ore.) urged an investigation, saying "we are not to enter an era in which political pressure and intimidation are to be brought to bear upon the NBS in order to force the Bureau to produce scientific findings that would justify placing the word 'scientific' in quotation marks." And Senator Bennett (R-Utah) saw the ouster occurring because "the President wanted his own man in the job."(45)

The resignation quickly became the topic of news and commentary in newspapers around the country. The Washington Post promptly suggested Eisenhower himself investigate the dismissal, which was bound to hurt the morale of government scientists, and accused Weeks of "shooting from the hip."

44. Hearings, pp.1-8. In an interesting twist, the (Washington) Evening Star opined that the only way for Weeks to gain vindication for Astin's dismissal was to find a scapegoat, and the most likely candidate was Sheaffer.

45. Federation of American Scientists, press release, April 4, 1953. NBS Archives, box 202. Morse called for a "full scale investigation of the Astin case by the Senate Committee on Interstate Commerce..." (Congressional Record, 1953, p.A2086)

The New York Times said the forced resignation had "mushroomed into one of the most embarrassing political incidents the Eisenhower Administration [had] yet faced." The Times also took exception to a part of Weeks' testimony which would stigmatize the entire Administration, namely that the Bureau had "not been sufficiently objective, because they discount entirely the play of the market place..."(46)

The Washington Post (Sept.27, 1953) considered that simple catch-phrase, "the play of the marketplace," to be "the explosive ingredient that set off the chain reaction in scientific circles." That, in fact, is not simply hyperbole. The scientific community would likely have strenuously protested Astin's firing regardless of the language used. But since Week's never leveled a substantive complaint (besides the disagreement over AD-X2 and a nebulous assertion of differences in administrative policy) against Astin, the real contention was crystallized in this bald statement. This made it particularly easy for the scientific community to take an ideological stance against which there was no defense. Grant Olson, an assistant whom Sheaffer had brought with him, was the reputed author of the offending phrase. He left Commerce with his boss in the fall of '53. (Wash. Post, Nov.29,1953)

46. Hearings, p.3.

The Federation of American Scientists, The Washington Academy of Sciences, and the Association for Computing Machinery and Senator Allen Ellender (D-La.) were among those who petitioned the President for his intervention.

Other groups and individuals of the scientific and industrial research communities expressed concern and indignation through the press. The Christian Science Monitor interviewed faculty at the University of California at Berkeley, Rithcie's home area, to sample academics in the West. Not surprisingly, their objections echoed those of their peers, both on and off campus, from around the country.(47)

Congressman DeWitt Hyde introduced legislation to reorganize the Bureau as the "National Physical Sciences Laboratory," removing it from the oversight of the Commerce Department.(48) Weeks, under siege from time of the Astin announcement, continued to stonewall until the deadline of Astin's departure, offering "no comment" to questions on the

47. The Christian Science Monitor, April 10, 1953. Concerning calls for Eisenhower's involvement, see The Washington Post, April 16, 1953. Learned societies, professional organizations, the press, and members of Congress were already protesting vigorously by mid-April.

48. H.R. 5043, May 6, 1953, "A Bill to establish the National Physical Sciences Laboratories." As preface to the introduction of this bill, Hyde made a lengthy address on April 15. It was a masterful presentation where he first chronicles the illustrious history of the Bureau, and then sets forth the elements of the proposal. The appeal

matter. On April 15, Detlev Bronk, President of the National Academy of Sciences, told Weeks it would be best to retain Astin, at least until an inquiry could be completed.(49) By April 17, reports were emerging that approximately 400 scientists and technicians would leave the Bureau of Standards if Astin's resignation became effective.(50) The

concludes with strong editorials appearing first in technical journals (Steel, Product Engineering, and Chemical and Engineering News) and then the popular press (Washington Post, Washington Evening Star, and New York Times). (Congressional Record, 1953, pp. A2037-A2041)

Senator Harley Kilgore (D-W.Va.) made a similar proposal in a public speech given April 29, 1953. (The Evening Star, April 30.) Kilgore suggested placing the Bureau under the policy guidance of politically-insulated scientists from government, industry, and universities. Sen. Kilgore had also been prominent in the debates to determine a federal science policy in the mid-40s. His concept of a National Science Foundation, at that time, called for direct control by the Executive branch, and a research agenda designed for the social good. (Kevles, op.cit. pp.343-48)

49. Federation of American Scientists, circular #A-994, May 22, 1953. NBS Archives, box 202.

50. The Washington Post stated on April 13 that "[m]ore than 50 scientists, many of them key men, have submitted undated written resignations to their division chiefs..." pending dramatic action by Secretary Weeks. The article also reported uneasiness among scientists at the National Institute of Health, the Naval Research Laboratory and the Naval Ordnance Laboratory. Further, "[r]epresentatives of an electronics and a chemical firm have been around the bureau during the past week asking for a crack at any personnel who might leave. A high Pentagon official, for whose department the bureau has performed millions of dollars worth of research and development, said he has been trying to calm the group down. However, he added, it is common knowledge that any of the group can command twice their salary merely by transferring their research efforts to private industry."

By April 17, The Evening Star reported that a secret poll conducted by Bureau division chiefs showed about 400 scientists and top technicians would probably leave, with one Bureau official adding "I would not be surprised if it were not twice [that] number." Among the effects of such a massive departure, "[t]he bureau unit working on projects for the Atomic Energy Commission would be virtually destroyed."

following day the press announced that Astin would stay on at NBS until late summer or early fall.(51)

Secretary Weeks appended the postponement announcement with the observation that there was no question that Astin would be asked to leave the Bureau, but that it would be useful to have him continue until the investigation was completed. Weeks added that he was "authorized to say" Astin would be offered another comparable position.(52)

Meanwhile, political cartoonists were finding the 'Astin case' an apt metaphor for broader failings of the new administration (see Appendix B). On August 22, Weeks announced, "No further need exists to seek a successor [for NBS Director] as Dr.Astin has expressed his willingness and desire to continue as a key official of this Administration and as such he is from here on a member of my team."(53)

51. The following situation, involving an unnamed Bureau scientist called in to meet with Sinclair Weeks during the controversy, was recounted years later:

"...as he came into the office, the Secretary got up and came around his desk and greeted him and the first thing out of his mouth was 'I am so glad you are here, I wanted to assure you that under no circumstances should the staff of the Bureau be concerned about the stability of their jobs.' And he [the scientist] said...'Sir, I'm afraid you misunderstand. It isn't a question of whether the staff is worried about losing their jobs, but the question now is whether they still want to work for the Bureau.'" (Oral History Interview of Dr.A.V.Astin, July 12, 1983, NBS Archives. The instance was cited by Walter Weinstein.)

52. While Weeks did not say who had made the authorization, The Washington Post reported that it was known that considerable pressure had come from the White House to back down on the dismissal. Soon afterward, Eisenhower emphasized in a press conference that he expected his administration to be fair, just and decent in relations with career employes, and no dismissals should be made just to bring in a favored individual. (Post, April 26).

53. The New York Times, Aug.22, 1953.

Issues and Influences: Consequences for the Bureau

In the spring and summer of 1953 the National Academy of Sciences assembled two committees (at the request of Secretary Weeks) to investigate the National Bureau of Standards. The first, commonly referred to as the Kelly Committee, was formally the "Ad Hoc Committee for Evaluation of the present Functions and Operations of the National Bureau of Standards." Organized in April, the Kelly Committee made its final report to the Secretary of Commerce on October 15, 1953. The "Committee on Battery Additives," received its assignment from the Academy in July "to consider the work of the Bureau of Standards relating to Battery AD-X2..." and made its final report on October 30 of the same year.(54)

These panels of experts provided a needed political buffer for Weeks, and he made frequent mention that his decisions would come pending their findings. The Battery Additives (Jefferies) Committee stated forthrightly in their report that their assignment was not to conduct a new series of laboratory tests, but rather to evaluate the many tests

54. "A Report...by the Ad Hoc Committee...", op.cit.(note 9), hereafter, Kelly Comm.Rept.

"Report of the Committee on Battery Additives of the National Academy of Sciences," hereafter, Jefferies Comm. Rept., NBS Archives, box 682.

Mervin J. Kelly, Chairman of the Ad Hoc Committee was at the time President of Bell Telephone Laboratories, and Zay Jeffries, Chairman of the Battery Additives Committee was a retired vice-president of General Electric Co.

For detail on committee memberships, se Appendix C.

already done and judge both the merit of AD-X2, and the technical competence of the Bureau in this connection. While this was the direction given by Detlev Bronk, President of the Academy, Weeks had hoped for another round of independent tests.

The Additive Committee addressed the question historically, summarizing the investigations on additives through the years. It then described the testing done on AD-X2 by government, commercial and university laboratories, and systematically eliminated most of the procedures for technical inadequacy or non-applicability. Of particular importance were the tests done at MIT, which had been highly publicized as favorable to AD-X2.(55) The committee concluded that the testimony of the MIT investigator himself (that he could not conclude whether the product were good or bad) along with the technical problem of tests run at electrical parameters which could not be extrapolated to conditions of normal use, sufficed to disqualify the MIT

55. The tests, performed by Prof. Harold Weber at the request of the Senate Small Business Committee, were interpreted by Keith Laidler (a chemistry professor at Catholic University, consultant to the Senate Committee, and former paid consultant to Jess Ritchie) as demonstrating "beyond a reasonable doubt that this material is in fact valuable, and [the tests] give complete support to the claims of the manufacturer." Despite Weber's disclaimer and a statement by MIT Provost J.A.Stratton that "our group [did not] arrive at any definitive conclusions with respect to the commercial value of the product," Weber admitted to using the additive in his own automobile.

MIT Report, "Effect of Battery Additive AD-X2 on Lead Acid Batteries," April, 1953. NBS Archives, box 682.

tests from further consideration.(56) The committee's evaluation of AD-X2 concurred with NBS: the additive was without merit. The committee rounded out its report with a point by point appraisal of the complaints of incompetency leveled against the Bureau, with especial attention given to the perceived incompatibility of the results at NBS and MIT. The committee members closed their report with solid support for the beleaguered Bureau.

"We conclude from our studies and investigations that the quality of the work of the National Bureau of Standards in the field of lead acid storage battery testing is excellent. This statement is made without reservations.

"Our opinion is that the quality of the work of the Bureau in this field is better now than at any time in the past..."

Secretary Weeks received the Additive Committee's report that fall with understandable relief, saying it "is an assurance to the public and a source of satisfaction to me and to the Bureau," adding that he would "do all in [his] power to aid the Bureau in maintaining this high level of scientific service to the nation."(57) Jess Ritchie

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56. Jeffries Comm. Rept., op.cit. pp.22,23.
57. The New York Times, Nov.14, 1953.

considered the report a "whitewash" of NBS, and sent a comprehensive rebuttal of the Battery Additive Committee's report to Sinclair Weeks. Both the Post Office and the FTC dropped their cases against Ritchie.(58)

The Kelly Committee was no less concerned with repairing the damage sustained by the Bureau of Standards (59), and their report is not lacking in assurances of the Bureau's overall exceptional quality. And yet the 109 page evaluation does contain an open criticism of certain aspects of the Bureau's operation, and several concrete proposals.

The bulk of the text is devoted to summary appraisals of the non-ordnance related divisions of the Bureau. The recommendations for improving the separate divisions are very similar. In all instances but one (Building Technology Division), the committee recommended an increase of direct funding for basic research.

There were, of course, recommendations peculiar to particular divisions. The Optics and Metrology Division, and the Metallurgy Division were insufficiently staffed. The divisions of Organic and Fibrous Materials, Metallurgy, and

58. Both the Jeffries Comm Rept. and Ritchie's response are in the "Annual Report of the Senate Select Committee on Small Business," Report #1092, U.S.G.P.O., March 25, 1954. Ritchie is cited by The New York Times (Nov.14) as saying that while the Jeffries committee is made up of honorable men, the report had essentially been written by the Bureau of Standards itself. In an interesting adumbration of Ritchie's words of censure, The Washington Post commented, on July 1, that if the Post Office were to abolish the fraud order against Ritchie it would constitute a "whitewash" of AD-X2, as well as a stigmatization of the Bureau of Standards.

59. The Kelly committee was comprised of scientists nominated by various institutions. The American Chemical

Building Technology all needed the direction of an advisory committee to help balance research programs. Three divisions (Electronics, National Applied Mathematics Laboratory, and Central Radio Propagation Laboratory) were assessed as having greater needs involving their overall research agendas, but all three were already facing the prospect of fundamental change, and so recommendations were held to a minimum.(60)

Other recommendations transcended division boundaries. Directly related to the battery additive controversy, the committee suggested that responsibility for policy and procedure on commercial product tests be shared by the Director of the Bureau and the Secretary of Commerce. The Kelly Committee also found the job of the Director, as then defined, essentially unworkable. The Director was too

Society's representative was Kenneth Pitzer of the University of California. Upon accepting the nomination he telegraphed Sinclair Weeks, saying "we feel that this committee must consider as part of its evaluation studies the challenge of the integrity of the bureau and its staff." (The Evening Star, April 16, 1953)

60. i. The Electronics Division was operating on 98% transferred funds (primarily Defense), and this would be fundamentally changed with the loss of ordnance programs (discussed below).

ii. The Applied Mathematics Advisory Council was in the process of deciding whether to sever one of the four branches of N.A.M.L., the Institute of Numerical Analysis.

iii. The Central Radio Propagation Laboratory had not yet completed moving the Wash. D.C. personnel involved to the new facility at Boulder, Colorado. This relocation, it was felt, would enhance the administration of the division.

closely tied to division supervision. The committee recommended strengthening and expanding the Associate Director level. (see Appendix E)

Sinclair Weeks warmly received the Kelly report.

"I am in complete accord with the views of the Evaluation Committee of the high level of importance to the nation of the Bureau of Standards and of the need for strengthening the Bureau so that in its performance it measures up to this level. I shall do all in my power to aid in the strengthening of the Bureau so that it can fully discharge its responsibilities to the nation."(61)

In r

eality, support for the Bureau was not so generous. A second evaluation committee, again chaired by Mervin Kelly, made its report to the Secretary of Commerce (still Weeks) in March of 1960. It found a serious deficiency in funding during the intervening years, and recommended increasing the professional staff by 15% in following years to achieve a doubling of the 1960 level.(62)

61. Dept. of Commerce, press release, Oct. 16, 1953. NBS Archives, box 202.

62. "The Role of the Department of Commerce in Science and Technology: A Report to the Secretary of Commerce by a Special Advisory Committee of the National Academy of Sciences," March 2, 1960, pp.5,6, and 92-96. NBS Archives, Administrative History File, box 1. See Appendix E for Bureau Organizational Charts for 1953 and 1960, and budget graphs.

Finally, there was the most dramatic proposal of all: sever all ordnance programs. The Kelly Committee had a strong argument for removing ordnance work from the Bureau. As mentioned at the opening of this essay, defense work was grossly out of balance with basic research. Still, as reasonable as the proposal may have been, it was a wrenching one. And the decision to reorganize NBS had its own history.

From the beginning of its term, the Eisenhower administration worried about the role and limitations of government science. In particular, the stated philosophy was that government should get out of all services which could be performed by the private sector. The transfer of the Camp Detrick facility of the Army Chemical Corps to private management, and the Commerce Department's investigation of the United States Weather Bureau represented this policy in action.(63)

This mindset lurked in Congress as well. Making a plea for increased operating funds for the Bureau of Standards, Senator Andrew Schoeppel (R-Kansas) pointed out the very basic needs NBS met, and that if the proposed funding cuts

63. Reported in Science, vol.118, Nov.13, 1953 p.584, and The Washington Post, July 12, 1953 respectively. The Science report also noted that the scientists at Camp Detrick first learned of the transfer through news releases, and resignations of certain key investigators had already occurred. Further, the "likely, but unpredictable, extension of industrial management to other branches of the Army and the federal government [had] already led to unrest among scientists at other centers."

were not reversed, the Bureau would have no choice but to make its first reduction in force in 20 years. Senator Hickenlooper of Iowa challenged Schoeppel, saying "...I am not disposed to support the Bureau when it enters into competition (with private industry) and builds plants to enable it to do so, and then wants more employes to man the plants, and more money with which it may seek contracts in order to keep going plants that are outside the scope of its normal activities. I do not say that is true; I am merely suggesting that there is a feeling on the part of many people." (64, emphasis author's)

The complaint of Jess Ritchie that government scientists and certain established industries were in league to prevent the appearance of useful inventions was provocative in the new administration even before the AD-X2 hearings began.(65) On April 4, Secretary of Defense Charles Wilson privately sent an order to the Army, Navy, Air Force and the Research and Development Board, requiring that no further research projects be contracted at outside government agencies on transferred funds without being

64. Congressional Record-Senate, 1953, pp.6221,2.

65. New York Herald Tribune, March 8, 1953. The disclosure of this perceived subterfuge triggered a welter of similar 'revelations.' Other products which had supposedly been denied the light of day included sparkplugs, safety glass, photographic development solutions, nickel-cadmium batteries, a cleaning compound, and a lubricating oil "extender."

submitted for his personal review, or that of Deputy Secretary of Defense, Roger Kyes.

The "Kyes Order" (it had his signature) was not described as intentionally hurtful to NBS, but as intended only to allow Defense to make a closer accounting of its various projects and to inform possible cost-cutting measures. But the order was initiated by a letter from Sinclair Weeks to Secretary Wilson, suggesting he check into the large expenditures in the Bureau's critical proximity fuse program.(66) The Bureau itself quickly realized the grievous effect this order would have. NBS was informed by some Defense Department project officers that they would prefer to have work done elsewhere, rather than process orders through this new multi-stage review, or not have the work done at all. In the estimation of the NBS administration, this would result in staff reductions by June, 1953.(67) The Kelly Committee also worried for the Bureau. Lee DuBridge, a member of the Kelly Committee, described the damage that would accrue to the Bureau of Standards as two-fold. First would be the reluctance of agency heads to request research at NBS, and second, those orders which were submitted "might face months of delay"

66. The Washington Post, April 24 and May 1, 1953.

67. Summary of minutes of meeting of the Applied Mathematics Advisory Council, May 12, 1953, p.4. NBS Archives, box 202.