CHAPTER FOUR

Standard Oil Fuels World War II

> In two gears Germany will be manufacturing oil and gas enough out of soft coal for a long war. The Standard Oil of New York is furnishing millions of dollars to help. (Report from the Commercial Attaché, U.S. Embassy in Berlin, Germany, January 1933, to State Department in Washington, D.C,)

The Standard Oil group of companies, in which the Rockefeller family owned a one-quarter (and controlling) interest,[1] was of critical assistance in helping Nazi Germany prepare for World War II. This assistance in military preparation came about because Germany's relatively insignificant supplies of crude petroleum were quite insufficient for modern mechanized warfare; in 1934 for instance about 85 percent of German finished petroleum products were imported. The solution adopted by Nazi Germany was to manufacture synthetic gasoline from its plentiful domestic coal supplies. It was the hydrogenation process of producing synthetic gasoline and iso-octane properties in gasoline that enabled Germany to go to war in 1940 — and this hydrogenation process was developed and financed by the Standard Oil laboratories in the United States in partnership with I.G. Farben.

Evidence presented to the Truman, Bone, and Kilgore Committees after World War II confirmed that Standard Oil had at the same time "seriously imperiled the war preparations of the United States."[2] Documentary evidence was presented to all three Congressional committees that before World War II Standard Oil had agreed with I.G. Farben, in the so-called Jasco agreement, that synthetic rubber was within Farben's sphere of influence, while Standard Oil was to have an absolute monopoly in the U.S. *only if and when* Farben allowed development of synthetic rubber to take place in the U.S.:

> Accordingly [concluded the Kilgore Committee] Standard fully accomplished I.G.'s purpose of preventing United States production by dissuading American rubber companies from

> undertaking independent research in developing synthetic rubber processes.[3]

Regrettably, the Congressional committees did not explore an even more ominous aspect of this Standard Oil — I.G. Farben collusion: that at this time directors of Standard Oil of New Jersey had not only strategic warfare affiliations to I.G. Farben, but had other links with Hitler's Germany — even to the extent of contributing, through German subsidiary companies, to Heinrich Himmler's personal fund and with membership in Himmler's Circle of Friends as late as 1944.

During World War II Standard Oil of New Jersey was accused of treason for this pre-war alliance with Farben, even while its continuing wartime activities within Himmler's Circle of Friends were unknown. The accusations of treason were vehemently denied by Standard Oil. One of the more prominent of these defenses was published by R.T. Haslam, a director of Standard Oil of New Jersey, in *The Petroleum Times* (December 25, 1943), and entitled "Secrets Turned into Mighty War Weapons Through I.G. Farben Agreement."[4] This was an attempt to turn the tables and present the pre-war collusion as advantageous to the United States.

Whatever may have been Standard Oil's wartime recollections and hasty defense, the 1929 negotiations and contracts between Standard and I.G. Farben were recorded in the contemporary press and describe the agreements between Standard Oil of New Jersey and I.G. Farben and their intent. In April 1929 Walter C. Teagle, president of Standard Oil of New Jersey, became a director of the newly organized American I.G. Farben. Not because Teagle was interested in the chemical industry but because,

> It has for some years past enjoyed a very close relationship with certain branches of the research work of the I.G. Farbenin-dustrie which bear closely upon the oil industry.[5]

It was announced by Teagle that joint research work on production of oil from coal had been carried on for some time and that a research laboratory for this work was to be established *in the United States*.[6] In November 1929 this jointly owned Standard — Farben research company was established *under the management of the Standard Oil Company of NewJersey,* and all research and patents relating to production of oil from coal held by both I.G. and Standard were pooled. Previously, during the period

1926-1929, the two companies had cooperated in development of the hydrogenation process, and experimental plants had been placed in operation in both the U.S. and Germany. It was now proposed to erect new plants in the U.S. at Bayway, New Jersey and Texas, in addition to expansion of the earlier experimental plant at Baton Rouge. Standard announced:

> ... the importance of the new contract as applied to this country lay in the fact that it made certain that the hydrogenation process would be developed commercially in this country under the guidance of American oil interests.[7]

In December 1929 the new company, Standard I.G. Company, was organized. F.A. Howard was named president, and its German and American directors were announced as follows: E.M. Clark, Walter Duisberg, Peter Hurll, R.A. Reidemann, H.G. Seidel, Otto von Schenck, and Guy Wellman.

The majority of the stock in the research company was owned by Standard Oil. The technical work, the process development work, and the construction of three new oil-from-coal plants in the United States was placed in the hands of the Standard Oil Development Company, the Standard Oil technical subsidiary. It is clear from these contemporary reports that the development work on oil from coal was undertaken by Standard Oil of New Jersey within the United States, in Standard Oil plants and with majority financing and control by Standard. The results of this research were made available to I.G. Farben and became the basis for the development of Hitler's oil from-coal-program which made World War II possible.

The Haslam article, written by a former Professor of Chemical Engineering at M.I.T. (then vice president of Standard Oil of New Jersey) argued — contrary to these recorded facts — that Standard Oil was able, through its Farben agreements, to obtain *German* technology for the United States. Haslam cited the manufacture of toluol and paratone (Op-panol), used to stabilize viscosity of oil, an essential material for desert and Russian winter tank operations, and buna rubber. However, this article, with its erroneous self-serving claims, found its way to wartime Germany and became the subject of a "Secret" I.G. Farben memorandum dated June 6, 1944 from Nuremberg defendant and then-Farben official von Knieriem to fellow Farben management officials. This von Knieriem "Secret" memo set out those facts Haslam

avoided in his *Petroleum Times* article. The memo was in fact a summary of what Standard was unwilling to reveal to the American public — i.e., the major contribution made by Standard Oil of New Jersey to the Nazi war machine. The Farben memorandum states that the Standard Oil agreements were *absolutely essential* for I.G. Farben:

> The closing of an agreement with Standard was necessary for technical, commercial, and financial reasons:technically, because the specialized experience which was available only in a big oil company was necessary to the further development of our process, and no such industry existed in Germany; commercially, *because in the absence of state economic control in Germany at that time, IG had to avoid a competitive struggle with the great oil powers, who always sold the best gasoline at the lowest price in contested markets;* financially, *because IG, which had already spent extraordinarily large sums for the development of the process,* had to seek financial relief in order to be able to continue development in other new technical fields, such as buna.[8]

The Farben memorandum then answered the key question: What did I.G. Farben acquire from Standard Oil that was "vital for the conduct of war?" The memo examines those products cited by Haslam — i.e., iso-octane, tuluol, Oppanol-Paratone, and buna — and demonstrates that contrary to Standard Oil's public claim, their technology came to a great extent from the U.S., not from Germany.

On iso-octane the Farben memorandum reads, in part,

> By reason of their decades of work on motor fuels, the Americans were ahead of us in their knowledge of the quality requirements that are called for by the different uses of motor fuels. In particular they had developed, at great expense, a large number of methods of testing gasoline for different uses. On the basis of their experiments they had recognized the good anti, knock quality of iso-octane long before they had any knowledge of our hydrogenation process. This is proved by the single fact that in America fuels are graded in octane numbers, and iso-octane was entered as the best fuel with the number 100. All this knowledge naturally became ours as a result of the agreement, which saved us much effort

and protected us against many errors.

I.G. Farben adds that Haslam's claim that the production of iso-octane became known in America only through the Farben hydrogenation process was not correct:

> Especially in the case of iso-octane, it is shown that we owe much to the Americans because in our own work we could draw widely on American information on the behavior of fuels in motors. Moreover, we were also kept currently informed by the Americans on the progress of their production process and its further development.
>
> Shortly before the war, a new method for the production of iso-octane was found in America — alkylation with isomerization as a preliminary step. This process, which Mr. Haslain does not mention at all, originates in fact entirely with the Americans and has become known to us in detail in its separate stages through our agreements with them, and is being used very extensively by us.

On toluol, I.G. Farben points to a factual inaccuracy in the Haslam article: toluol was *not* produced by hydrogenation in the U.S. is claimed by Professor Haslam. In the case of Oppanol, the I.G. memo calls Haslam's information "incomplete" and so far as buna rubber is concerned, *"we* never gave technical information to the Americans, nor did technical cooperation in the buna field take place." Most importantly, the Farben memo goes on to describe some products not cited by Haslam in his article:

> As a consequence of our contracts with the Americans, we received from them, above and beyond the agreement, many very valuable contributions for the synthesis and improvement of motor fuels and lubricating oils, which Just now during the war are most useful to us; and we also received other advantages from them. Primarily, the following may be mentioned:
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> (1) Above all, improvement of fuels through the addition of tetraethyl-lead *and the manufacture of this product. It need not be especially mentioned that without tetraethl-lead the present methods of warfare would be impossible. The fact that since the beginning of*

the war we could produce tetraethyl-lead is entirely due to the circumstances that, shortly before, the Americans had presented us with the production plans, complete with their know-how. It was, moreover, the first time that the Americans decided to give a license on this process in a foreign country (besides communication of unprotected secrets) and this only on our urgent requests to Standard Oil to fulfill our wish. Contractually we could not demand it, and we found out later that the War Department in Washington gave its permission only after long deliberation.

(2) Conversion of low-molecular unsaturates into usable gasoline (polymerization). Much work in this field has been done here as well as in America. But the Americans were the first to carry the process through on a large scale, which suggested to us also to develop the process on a large technical scale. But above and beyond that, plants built according to American processes are functioning in Germany.

(3) In the field of lubricating oils as well, Germany through the contract with America, learned of experience which is extraordinarily important for present day warfare.

In this connection, we obtained not only the experience of Standard, but, through Standard, the experiences of General Motors and other large American motor companies as well.

(4) As a further remarkable example of advantageous effect for us of the contract between IG and Standard Oil, the following should be mentioned: in the years 1934 / 1935 our government had the greatest interest in gathering from abroad a stock of especially valuable mineral oil products (in particular, aviation gasoline and aviation lubricating oil), and holding it in reserve to an amount approximately equal to 20 million dollars at market value. The German Government asked IG if it were not possible, on the basis o fits friendly relations with Standard Oil, to buy this amount in Farben's name; actually, however, as trustee of the German Government. The fact that we actually succeeded by means of the most difficult negotiations in buying the quantity desired by our government from the American Standard Oil Company and the Dutch — English Royal — Dutch — Shell group and in transporting it to

Germany, was made possible only through the aid of the Standard Oil Co.

Ethyl Lead for the Wehrmacht

Another prominent example of Standard Oil assistance to Nazi Germany — in cooperation with General Motors — was in supplying ethyl lead. Ethyl fluid is an anti-knock compound used in both aviation and automobile fuels to eliminate knocking, and so improve engine efficiency; without such anti-knocking compounds modern mobile warfare would be impractical.

In 1924 the Ethyl Gasoline Corporation was formed in New York City, jointly owned by the Standard Oil Company of New Jersey and General Motors Corporation, to control and utilize U.S. patents for the manufacture and distribution of tetraethyl lead and ethyl fluid in the U.S. and abroad. Up to 1935 manufacture of these products was undertaken *only* in the United States. In 1935 Ethyl Gasoline Corporation transferred its know-how to Germany for use in the Nazi rearmament program. This transfer was undertaken over the protests of the U.S. Government.

Ethyl's intention to transfer its anti-knock technology to Nazi Germany came to the attention of the Army Air Corps in Washington, D.C. On December 15, 1934 E. W. Webb, president of Ethyl Gasoline, was advised that Washington had learned of the intention of "forming a German company with the I.G. to manufacture ethyl lead in that country." The War Department indicated that there was considerable criticism of this technological transfer, which might "have the gravest repercussions" for the U.S.; that the commercial demand for ethyl lead in Germany was too small to be of interest; and,

> ... it has been claimed that Germany is secretly arming [and] ethyl lead would doubtless be a valuable aid to military aeroplanes.[10]

The Ethyl Company was then advised by the Army Air Corps that "under no conditions should you or the Board of Directors of the Ethyl Gasoline Corporation disclose any secrets or 'know-how' in connection with the manufacture of tetraethyl lead to Germany.[11]

On January 12, 1935 Webb mailed to the Chief of the Army Air Corps a "Statement of Facts," which was in effect a denial that any such technical knowledge would be transmitted; he offered to insert such a clause in the contract to guard against any such transfer. However, contrary to its pledge to the Army Air Corps, Ethyl subsequently signed a joint production agreement with I.G. Farben in Germany to form Ethyl G.m.b.H. and with Montecatini in fascist Italy for the same purpose.

It is worth noting the directors of Ethyl Gasoline Corporation at the time of this transfer:[12] E.W. Webb, president and director; C.F. Kettering; R.P. Russell; W.C. Teagle, Standard Oil of New Jersey and trustee of FDR's Georgia Warm Springs Foundation; F. A. Howard; E. M. Clark, Standard Oil of New Jersey; A. P. Sloan, Jr.; D. Brown; J. T. Smith; and W.S. Parish of Standard Oil of New Jersey.

The I.G. Farben files captured at the end of the war confirm the importance of this particular technical transfer for the German Wehrmacht:

> Since the beginning of the war we have been in a position. to produce lead tetraethyl solely because, a short time before the outbreak of the war, the Americans had established plants for us ready for production and supplied us with all available experience. In this manner we did not need to perform the difficult work of development because we could start production right away on the basis of all the experience that the Americans had had for years.[13]

In 1938, just before the outbreak of war in Europe, the German Luftwaffe had an urgent requirement for 500 tons of tetraethyl lead. Ethyl was advised by an official of DuPont that such quantities of ethyl would be used by Germany for military purposes.[14] This 500 tons was loaned by the Ethyl Export Corporation of New York to Ethyl G.m.b.H. of Germany, in a transaction arranged by the Reich Air Ministry with I.G. Farben director Mueller-Cunradi. The collateral security was arranged in a letter dated September 21, 1938[15] through Brown Brothers, Harriman & Co. of New York.

Standard Oil of New Jersey and Synthetic Rubber

The transfer of ethyl technology for the Nazi war machine was repeated in the case of synthetic rubber. There is no question that the ability of the German Wehrmacht to fight World War II depended on synthetic rubber — as well as on synthetic petroleum — because Germany has no natural rubber, and war would have been impossible without Farben's synthetic rubber production. Farben had a virtual monopoly of this field and the program to produce the large quantities necessary was financed by the Reich:

> The volume of planned production in this field was far beyond the needs of peacetime economy. The huge costs involved were consistent only with military considerations in which the need for self-sufficiency without regard to cost was decisive.[16]

As in the ethyl technology transfers, Standard Oil of New Jersey was intimately associated with I.G. Farben's synthetic rubber. A series of joint cartel agreements were made in the late 1920s aimed at a joint world monopoly of synthetic rubber. Hitler's Four Year Plan went into effect in 1937 and in 1938 Standard provided I.G. Farben with its new butyl rubber process. On the other hand Standard kept the German buna process secret within the United States and it was not until June 1940 that Firestone and U.S. Rubber were allowed to participate in testing butyl and granted the buna manufacturing licenses. Even then Standard tried to get the U.S. Government to finance a large-scale buna program — reserving its own funds for the more promising butyl process.[17]

Consequently, Standard assistance in Nazi Germany was not limited to oil from coal, although this was the most important transfer. Not only was the process for tetraethyl transferred to I.G. Farben and a plant built in Germany owned jointly by I.G., General Motors, and Standard subsidiaries; but as late as 1939 Standard's German subsidiary designed a German plant for aviation gas. Tetraethyl was shipped on an emergency basis for the Wehrmacht and major assistance was given in production of butyl rubber, while holding secret in the U.S. the Farben process for buna. In other words, Standard Oil of New Jersey (first under president W.C. Teagle and then under W..S. Farish) consistently aided the Nazi war machine while refusing to aid the United States.

This sequence of events was not an accident. President W.S. Farish argued that not to have granted

such technical assistance to the Wehrmacht "... would have been unwarranted."[18] The assistance was knowledgeable, ranged over more than a decade, and was so substantive that without it the Wehrmacht could not have gone to war in 1939.

The Deutsche-Amerikanische Petroleum A.G. (DAPAG)

The Standard Oil subsidiary in Germany, Deutsche-Amerikanische Petroleum A.G. (DAPAG), was 94-percent owned by Standard Oil of New Jersey. DAPAG had branches throughout Germany, a refinery at Bremen, and a head office in Hamburg. Through DAPAG, Standard Oil of New Jersey was represented in the inner circles of Nazism — the Keppler Circle and Himmler's Circle of Friends. A director of DAPAG was Karl Lindemann, also chairman of the International Chamber of Commerce in Germany, as well as director of several banks, including the Dresdner Bank, the Deutsche Reichsbank, and the private Nazi-oriented bank of C. Melchior & Company, and numerous corporations including the HAPAG (Hamburg-Amerika Line). Lindemann was a member of Keppler's Circle of Friends as late as 1944 and so gave Standard Oil of New Jersey a representative at the very core of Nazism. Another member of the board of DAPAG was Emil Helfrich, who was an original member of the Keppler Circle.

In sum, Standard Oil of New Jersey had two members of the Keppler Circle as directors of its German wholly owned subsidiary. Payments to the Circle from the Standard Oil subsidiary company, and from Lindemann and Helffrich as individual directors, continued until 1944, the year before the end of World War II.[19]

Footnotes:

[1]In 1935, John D. Rockefeller, Jr. owned stock valued at $245 million in Standard Oil of New Jersey, Standard Oil of California, and Socony-Vacuun Company, *New York Times,* January 10, 1935.

[2]*Elimination of German Resources,* op cit., p. 1085.

[3]Ibid.

[4]*NMT,* I.G. Farben case, p. 1304.

[5]*New York Times,* April 28, 1929.

[6]Ibid.

[7]Ibid, November 24, 1929.

[8]*NMT,* I.G. Farben case, Volumes VII and VIII, pp. 1304-1311,

[9]See letter from U.S. War Department reproduced as Appendix D.

[10]United States Congress. Senate. Hearings before a subcommittee of the Committee on Military Affairs. *Scientific and Technical Mobilization,* (78th Congress, 1st session, S. 702), Part 16, (Washington: Government Printing Office, 1944), p. 939. Hereafter cited as Scientific and Technical Mobilization.

[11]Ibid.

[12]*Oil and Petroleum Yearbook, 1938,* p. 89.

[13]*New York Times,* October 19, 1945, p. 9.

[14]George W. Stocking & Myron W. Watkins, *Cartels in Action,* (New York: The Twentieth Century Fund, 1946), p. 9.

[15]For original documents see *NMT,* I.G. Farben case, Volume VIII, pp. 1189-94.

[16]*NMT,* I.G. Farben case, Volume VIII, p. 1264-5.

[17]*Scientific and Technical Mobilization,* p. 543.

[18]Robert Engler, *The Politics of Oil,* (New York: The MacMillan Company, 1961), p. 102.

[19]See Chapter Nine for details.

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