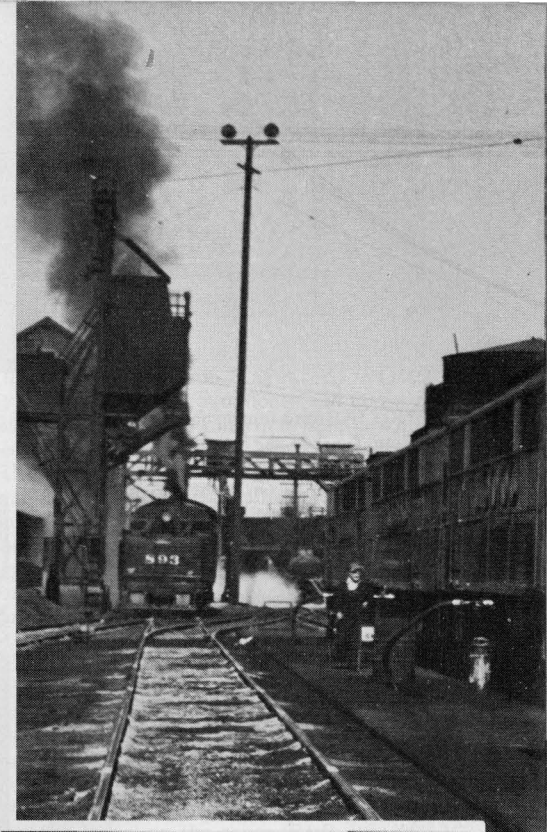
The War Production Board and Diesels

by Eugene L. Huddleston

Did the WPB policies during WWII give EMD an unfair head start in the postwar market?



RICHARD STEINHEIMER

The logical and natural development of the diesel locomotive in America was interrupted in its early stages by the national emergency known as the Second World War. The wartime restrictions placed upon the locomotive builders, both diesel and steam, are often credited—or blamed—for the success or failure of those builders in the free market in the decade that followed. That is not necessarily the case. The war "proved" the diesel-electric's superiority over steam power so convincingly that there was no question as to what type of motive power held the key to the future. The only question seems to be who recognized that fact at the time.

In those years between the Great Depression and Pearl Harbor, General Electric, Electro-Motive Corporation and others developed railroad internal combustion from feeble gas-electrics into road-worthy locomotives for freight, passenger and switching duties. The war itself hastened the development of diesel engine technology, primarily in naval applications, providing a wealth of hardware for postwar exploitation. The switch from steam to diesel rapidly resumed after the war's end in August 1945—so rapidly that 1947 marked the last year of domestic steam locomotive production for American of Schenectady (Alco), with 1949 for Baldwin and Lima. Only the Norfolk & Western Railroad, with a vested interest in coal, continued to construct heavy steam power, but it, too, succumbed in 1953.

The technological revolution occurred so rapidly after the war that few recognized its extent or significance. Only in retrospect could Pennsylvania Railroad President J.M. Symmes write: "The greatest single contribution...to our railroads during my 40 years of association with the industry has been the development of the diesel locomotive." Despite the importance of this revolution, there have been few serious investigations of how it took place.

At the onset of the war in 1941, the "Big Three" locomotive builders (Alco, Baldwin and Lima) were producing about 90% of all domestic steam locomotives in a market still predominantly steam. Alco and Baldwin each had a line of diesel switching locomotives in production in the late 1930s (a market opened by city anti-smoke ordinances), and Alco in partnership with GE had just fielded a passenger unit, but all were behind Electro-Motive in develop-

AT&SF PHOTO

THIS SANTA FE FT set was built during WWII (1942) and was a part of the fleet credited with keeping the AT&SF fluid during the crisis. During that time Alco was restricted to building switchers like SP 1360, a 1943 S2, shown at Ogden, Utah.

ment of large road freight units. Thus, at the outbreak of the war, Electro-Motive was the only producer of freight diesels (its FT of 1939) and held a commanding lead in the production of passenger units, while it shared the market for switchers (although if one uses data supplied by GM for 1940, it led in switchers as well). A subsidiary of General Motors since the 1930s, Electro-Motive Corporation became a full division of GM in 1941.

After the war GM maintained this lead, and the failure of Alco, Baldwin and Lima to share equally in the first-purchase diesel market—which by 1954 was 80% saturated—resulted in these companies eventually abandoning locomotive construction. Even the one post-war newcomer, Fairbanks-Morse, could not make the grade. (Beginning in 1944, FM did not have the handicap of being "forced" like Alco, Baldwin and Lima to keep supplying steam to established customers, but it had the singular drawback of trying to market an extremely successful marine diesel whose dual crankshafts proved to be too much of a maintenance headache in the railroad field.)

Only pioneer General Electric, after ending its alliance with Alco in 1953, remains today as a competitor to EMD, thanks to a complete rethinking of its position and a total commitment to the market in the early 1960s with a freight unit, the U25B, that substantially advanced the state of the art. Its survival is not surprising, for GE had started building locomotives before Electro-Motive, posessed worldwide markets and held cash reserves for research and development.

The most interesting question about this revolution is how did GM so quickly and so completely dominate the locomotive market—in some years selling up to 89% of the diesel units produced. Critics of the world's largest manufacturing corporation saw its achievements as an octopus-like smothering of competition, and locomotive buffs, who feed on diversity of product, were wont to romanticize GM's fallen competitors, much like a collector of classic cars romanticizes the products of Henry Kaiser or the Studebaker Corporation.

These critics knew the "facts," that the major transition from steam to diesel did not begin until after the war . . . that Alco and Baldwin both successfully marketed diesels before the war . . . and that both had long-established ties with the individual railroads. Yet "upstart" GM took a lead which they (and later Lima and FM) could never overcome. The fans found a ready explanation for this seeming injustice in an action by the federal government during World War II: permitting only GM to build road freight diesels, which proved to be the most important segment of the postwar market.

In 1955 a subcommittee of the Senate Judiciary Committee, investigating possible violations of anti-trust laws by various GM divisions, gave this explanation official sanction. The investigating committee had to determine whether General Motors' size and influence, coupled with its monopoly of road freight diesel production during the war, had given EMD the insurmountable lead it had attained. The commit-

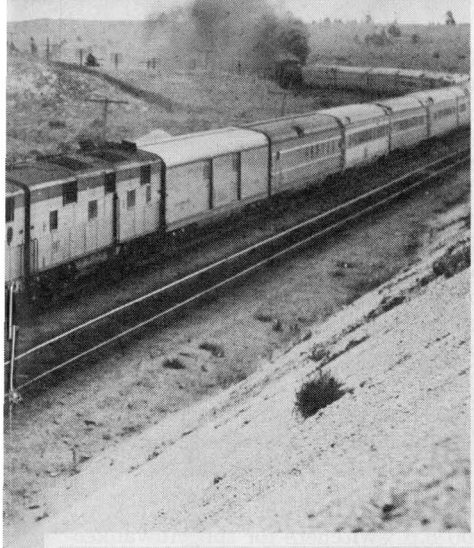
tee's final report left the impression that the restriction on EMD's competitors did, indeed, prevent a healthy competition from developing: "General Motors was prepared with a full line of locomotives at the outbreak of the war. The closure of part of this market to other producers gave it a tremendous competitive advantage. It is true that the great dieselization of American railroads did not occur until after the war, but it seems only reasonable that the experience with diesels during the war, the purchase of GM products, and public acceptance of GM as an innovator insured its success after the war."

This explanation is not the last word, however, because the investigators failed to get testimony from the former government civilian agency charged with regulating locomotive production during the war. No substantive testimony from or about the War Production Board of the Office of Defense Transportation was ever requested or given. In fact, so ill-informed was this Senate subcommittee about the WPB and ODT that its members and counsel let

Richard H. Kindig

BOTH EMD AND ALCO had passenger units before the war, such as EMD's 1940-built UP E6 993, and some New Haven DL109s. Though there was a ban on pure passenger power, more NH DL109s were built as "dual service" units during the war and saw much freight duty. B&O's 1943-built FTs (**right**) were upgraded and lasted to the early 1960s.

NEW HAVEN RAILROAD



JIM EDMONSTON

role in locomotive construction exist; ODT never had much say, anyway, in actual decisions on locomotive construction. It mostly passed along to the WPB the railroads' own estimates of the equipment they needed; WPB made the tough decisions, but not without the input of all concerned. Stevenson's, and the other histories, make clear that the federal government made no decisions "closing" the locomotive market to the competitors of General Motors.

Rather than being closed off, the competitors of EMD lost out for failing to recognize the revolution as it was occurring. At the start of the war, American, Baldwin and Lima did not have their ears to the ground, collectively or individually. If they had, they would have scurried to get off the sinking ship of steam while there was still time. It would not have taken much effort to discover that during the war many railroads took steam because they could not get diesels, and that when they saw the end of the war in sight, they delayed purchases altogether because of uncertainties on tax write-offs for new equipment and the direction of business after the war. But those in the industry at the time, like author John Kirkland *(Dawn of the Diesel Age),* claimed that the steam-diesel builders had little choice. Kirkland, of Baldwin, maintained that since the goal of any business is to maximize profits from investment, BLW could not afford to convert its plant to solely diesel production in the 1930s to emulate EMC. Baldwin, equipped to turn out ten steamers a day, could not let these facilities stand idle, so it utilized them to produce both steam and diesel alongside each other.

But a drastic policy reversal was called for, certainly in hindsight. By 1939 EMD had developed its FT freight diesel, and the other manufacturers had to do something fast. With the defense build-up and "lend lease," it became clear American railroads were going to buy new locomotives. Major railroads like the Southern, Santa Fe and B&O had learned the advantages of diesel road power in keeping trains moving. The B&O, for example, in 1942 placed in service between Chicago and Pittsburgh 16 FTs (as four 5400-h.p. A-B-B-A locomotives). A few months later it could not get a repeat order of FTs for Seventeen Mile and Sand Patch grades. According to Stevenson of the WPB, because EMD's "sales people" had promised more than the firm could deliver, it had to shut down the first six months of 1943 to fulfill prior obligations to the Navy contracts it held. As a substitute, B&O purchased from Baldwin in 1944 (ordered in 1943) 20 simple articulated 2-8-8-4s, one of the great achievements of the Yellowstone type in both performance and aesthetics. They were so successful that ten more of these EM-1s were ordered in 1944, yet they started to the scrap heap in 1957 and were all gone by 1960.

Even class I railroads in or near bankruptcy went for the diesel. Minneapolis & St. Louis gave up plans for new 2-6-6-4s in 1942 (the order was listed in *Railway Age*) in favor of road diesels from EMD it would have to wait until 1945 to receive. And the Monon, according to Professor George Hilton, made the decision to dieselize in 1942, even though actual dieselization was not completed until 1949. Progressive Monon President John Barriger discovered that the high initial cost of the diesel (its supposed greatest drawback) was overcome by its greater power and utilization and by savings in repair and maintenance.

There is further evidence from hindsight that the demand for diesels became overwhelming as the railroads came out of Depression into war-induced boom. The official Army history of World War II makes clear that a shortage of locomotives developed initially in the war not only because of the lag in time between placement of order and completion (nine months) but also because the railroads wanted "a large percentage of diesel locomotives, and diesel engines were in great demand for naval and merchant vessels and also for locomotives for the Military Rail Service in the theatres and for our allies." Stevenson, in his history, confirms this analysis. Early in 1943 he stated for the records that the railroads were not ordering as many new locomotives as the ODT had estimated they needed because they were having trouble getting diesels. Elsewhere he confirmed the fact that "the railroad orders had developed to be for diesel power rather than steam."

Even if the lack of productive capacity for road diesels at Alco and Baldwin kept them from full knowledge of the market, they should have discovered,

pass in testimony without correction a GM official's identifying the ODT as the "Defense Transportation Authority," a non-existent government agency. (The GM official was probably confusing the ODT with the Defense Transportation Administration, an alphabet agency created in October 1950 to meet the requirements for domestic transportation during the Korean War.)

As a result of the committee's failure to delve into the WPB's role, those who have had only its hearings as evidence have an incomplete account of what actually happened to diesel production in World War II. Chiefly responsible for the crucial decisions of 1942 and 1943 was Andrew Stevenson, a Yale Ph.D. formerly with the Securities & Exchange Commission, who directed the Transportation Equipment Division from its founding until his promotion to Executive Assistant Chief of Operations of WPB in 1944. In 1947 he completed a history of the Division for the series "Historical Reports on War Administration," which he documented with specific dates of appointments, conferences, letters, phone calls and luncheon and dinner engagements. Two shorter official histories of the Division, by different authors, also exist. No similarly detailed histories of the ODT's

through contacts within the industry and with government, that many roads were buying and leasing steam because they could not get diesels. Even though passenger diesels were not in production and Alco and Baldwin were limited to switchers, they managed to build more diesels than steam—despite the entire output of Lima being 100% steam! Of the total of 3,066 new locomotives put in service by class I railroads from 1942 through 1945, 1,891 were diesels and 1,175 were steam. Clearly the trend was towards diesels during World War II.

In spite of this trend, GM's competitors so lost out during the war years that objective observers concluded something underhanded was going on. In alleging that the government showed favoritism to EMD by restricting its competitors to diesel switchers, critics of GM implied, or even stated, that the restriction extended throughout the entire war, from early 1942 to mid-1945. However, the restrictions actually were in effect only about a year and a half! Thus, Alco and Baldwin were not out of the race for a time that made any significant difference. Not until April 4, 1942, were locomotive builders required to secure authorization from WPB "prior to scheduling either production or delivery of all locomotives." Before that time, the Supply Priorities & Allocation Board (which became the WPB in April) had authorized through April production of all locomotives then on order or scheduled for production. By late 1943 the crisis in obtaining material and scheduling domestic production over military and lend-lease requirements had passed. Thereafter, in the railroad industry the shortage would be of manpower, not equipment. With the Allied decision in mid-1943 to invade Europe through France, the end of the war could be foreseen, and railroads had not up to that time been ordering as many new locomotives as they and the ODT had originally projected they would need.

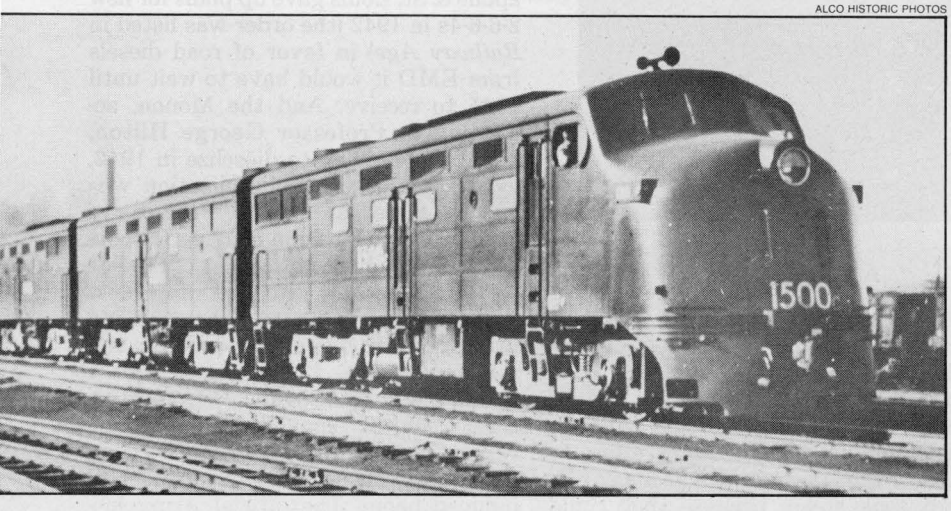
Limitation Order No. 97, as variously interpreted and amended, remained in force from April 4, 1942, to July 17, 1945. It required locomotive builders to secure authorization from WPB prior to scheduling production. However, by the end of 1943 WPB had all but ended controls over new construction and standardization of design of steam locomotives (except in lots of ten or under), and production of new models could proceed apace—as examination of the output of steam by the three major builders in 1944 and 1945 will testify. Diversity once again became possible, as exemplified by the entry of Fairbanks-Morse into the locomotive market. This company, famous for its opposed-piston diesel engines powering U.S. submarines, began locomotive production with two 1,000 h.p. switchers for the Milwaukee Road, delivered in August 1944.

The fact that the Limitation Order did not seriously interfere with diesel development prior to April 1942 is illustrated by Alco having the first true roadswitcher, the RS1, that it had begun marketing in 1941. Alco, using GE electrical gear, by January 1940 had developed its 2000-h.p. DL109 passenger unit. By April 1942, the date of the Limitation Order, this model was in production or had been delivered to seven Class 1 railroads. By July 1942 the New Haven had received 20 of the units, described by *Railway Age* as being for "mixed service" (though primarily passenger units, the New Haven did use them extensively on freight). The road would receive even more beginning in February 1944.

Thus, World War II did not appreciably hold up Alco's move into the road diesel market. True, these locomotives were powered by an already-existing engine (the 539), which was slower and heavier than EMD's equivalent 567. Knowing it needed a more competitive prime mover, Alco had begun development in 1940 of a new engine at its McIntosh & Seymour plant in Auburn, N.Y. The WPB delayed completion of this Model 241 engine until early 1943 when it approved production of two 12-cylinder prototypes.

As Win Cuisinier noted in his article on Alco's Black Marias in the Summer 1975 RAILFAN, "Meanwhile, Alco management, apparently disillusioned by early developmental problems with the 241 engine design, in early 1944 authorized the design of a second engine (the 244) by the special projects group at the Schenectady plant, which would compete with the Auburn-designed 241." Although the 241 went into the "Black Maria" demonstrator in September 1945, it had been killed in favor of the Schenectady-designed 244 before it ever hit the road. This was a "political" decision between Schenectady and Auburn, and it turns out to have been a poor one, for the 244 was a trouble-plagued engine. The 241 was subsequently used as the basis from which

ALCO HISTORIC PHOTOS



THE WPB DELAYED completion of Alco's 241-powered "Black Maria" 1500-h.p. freight demonstrator units, which were never put into production but were replaced by the 244-powered FA1, delivered to the GM&O in 1946.

ALCO PHOTO

JOHN KRAUSE

EMD HAD very successful prewar switchers, such as this Winton 201A-powered 900-h.p. NW shown in Chicago's Dearborn Station in September 1948. Duuring WWII EMD produced only road units, leaving the lucrative switcher market to Alco and others.

Alco developed its very successful 251 engine. It appears that Alco's falling behind EMD was due at least in part to its wrong bet on the 241 versus the 244.

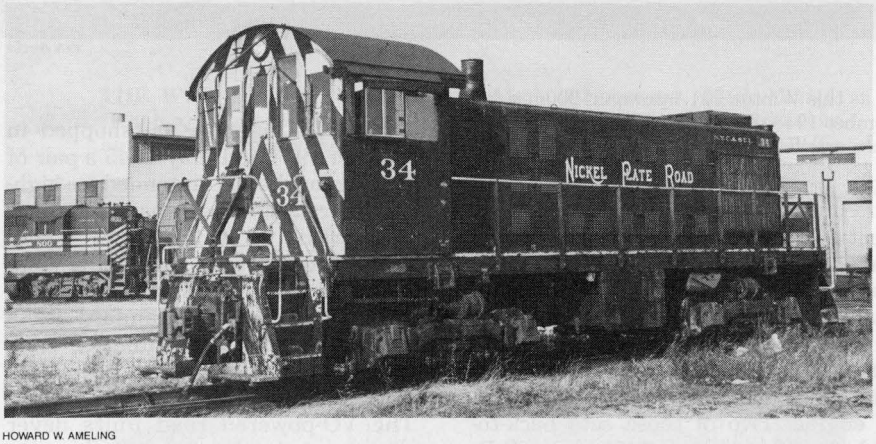
Like Alco, Baldwin had a road diesel under development when the war began. The prototype "Centipede" No.600 was to produce 6000 h.p. from no less than *eight* 750-h.p. eight-cylinder engines mounted crosswise to the carbody. It was never equipped with more than four of the engines due to engineering problems. Although it did produce 53 3000-h.p. Centipedes after the war (one demonstrator, 24 for PRR and 14 each for SAL and NdeM), Baldwin recognized the huge carbody and articulated frame design as impractical. In Fred Westing's words, "its cost of manufacture exceeded the cost of equivalent horsepower installed in smaller standard locomotive units operating in multiple units"—an obvious reference to EMD's FT, sold in two-unit semipermanently-coupled A-B sets, with each unit packing a single 1350-h.p. V-16 engine. Two of these sets back-to-back would produce a 5400-h.p. A-B-B-A "locomotive." Also, when the operating unions finally agreed that multiple units could be run as one locomotive with one crew, packing so much power into a single unit was no longer a selling point. Therefore, Baldwin's experimental and expensive Centipede could never hope to compete against the already established FT.

With the 600 mothballed in 1944, Baldwin-Westinghouse outshopped in December 1944 and May 1945 a pair of cab unit road diesels "intended for high-speed operation of both passenger and freight trains up to 90 m.p.h." These units, demonstrators 2000/2001, were more in the mainstream of diesel development, packing two standard 1000-h.p. "VO" engines and riding on A1A passenger trucks (they were ultimately sold to NdeM).

The VO-powered road units never went into production, however, because Baldwin had in the meantime developed a new prime mover, the 606/608 in six and eight-cylinder versions, which with and without supercharging became its standard postwar diesel. (The production Centipedes had the supercharged 608 engines.) Interestingly, Baldwin officials testifying before the Senate subcommittee never went into detail about their wartime production problems;

TERRY ARBOGAST

IF THE THEORY is correct that EMD's lead in road units was caused by WPB policy then the most successful and numerous postwar switchers should have been from Alco and Baldwin. But we recognize Baldwin S12s like B&O 9278 at Fairmont, W.Va., in January 1968 and Nickel Plate Alco S2 34 at Bellevue, Ohio, in 1965 as rarities.



HOWARD W. AMELING

they attributed their getting behind, in part, to Baldwin's inability to sufficiently road test its experimental models before going into production with them.

Detailing the wartime developments at Alco and Baldwin demonstrates that neither builder was held back appreciably in research and development during the war. The WPB had put no limitation upon development of new designs, only on their production. Where EMD was at an advantage was in having already in production a reliable and top-performing road freight diesel. Alco and Baldwin had little to offer in this line at the time, and, not surprisingly, the builders themselves initially approved the decision to limit wartime production of road freight diesels to EMD. (No solely-passenger road power, steam or diesel, was permitted under the General Limitation Order.) Their acquiescence is documented in a letter dated July 6, 1942, from Stevenson to the Railroad Industry Advisory Committee, composed of top executives of the nation's major railroads: "Since the Branch (that is, Stevenson's division), in order to achieve maximum production, had acted upon the advice of the locomotive builders at the April 8 meeting and scheduled only switching locomotives at American and Baldwin and only road locomotives from Electro-Motive, this meant the loss of most of the locomotive production from Electro-Motive so that only 30 of the WPB authorizations were scheduled and completed." The loss referred to occurred because the defense contracts EMD had with the Navy took precedence over locomotive production, a situation which, according to Stevenson, the EMD "sales people" had not sufficiently taken into account in projecting the number of diesel locomotives it could manufacture.

Being unable to "ante up" a road freight locomotive in this construction

poker game did not completely put Alco and Baldwin out of the contest, however, for they did not have to give up any of their steam locomotive production, still a major part of their new business. Further, the biggest market in diesels at that time was switchers, not road units. The *quid pro quo* was that EMD give up its lucrative domestic switcher production in exchange for producing FT road units. Alco and Baldwin gave up what they could not produce anyway, road freight units, in exchange for practically all the diesel switcher market.

These advantages were brought out in testimony before the Senate subcommittee by an Alco Products vice president in charge of marketing and a Baldwin-Lima-Hamilton vice president. The former affirmed that it was in the national interest for GM "to turn out road diesel locomotives at a high production rate" because Alco's skill "at that time was in the switching business," which it could do "best and most efficiently." The Baldwin executive, in similar testimony, stated that during the war all of Baldwin's "resources, eneries and facilities" were devoted to supplying steam locomotives to the military services overseas.

At the beginning of the war, General Motors had in production well developed models of freight, passenger and switching locomotives, partly because it had educated railroads into accepting its standardized designs, whereas Alco and Baldwin were less decisive about placing all their engineering eggs into two or three baskets. EMD knew that American railroads were ready for standardized road diesels, even if the railroads themselves did not. In the late 1930s most railroads still believed locomotives—whether steam or diesel—had to be tailor-made for their particular requirements, which they rationalized were different from everyone else's. Part of the reason for this was the need for each railroad's mechanical department to preserve the elaborate organizational and physical structure which customizing required. To leave everything up to the manufacturer would be to surrender much of that structure and the jobs it supported. Many a motive power official was thus unwilling to accept standardization imposed by outsiders.

As late as 1944, in *Railway Mechanical Engineer,* the superintendent of motive power for the Chicago Great Western spelled out the conventional wisdom: "In order to obtain the best results in railroad operation, it is necessary that the motive power be fitted to the needs of the railroad rather than trying to provide service based on the design of the motive power." With this attitude prevalent in the railroad industry, EMD faced a big selling job, and its determination not to vary from its "firm policy" of standardization is well illustrated by the testimony of an EMD official before the Judiciary Subcommittee: "After the LaGrange plant was completed (1936) and we sought to sell our new passenger locomotive, our first and best potential customer was the Santa Fe. In fact, their management had indicated they were prepared to buy some diesel locomotives from us. Their mechanical department in due course arrived at the plant with a large roll of drawings, and immediately we were precipitated into a situation which if accepted would destroy the basic concept of our design, manufacturing and operating program. We were certain that our program of standardization, once accepted and established, would be of inestimable future value to the railroads. We were unsuccessful in our efforts with the Santa Fe, and after a few days the railroad officials wrapped up their bundle of drawings and left our plant without placing an order."

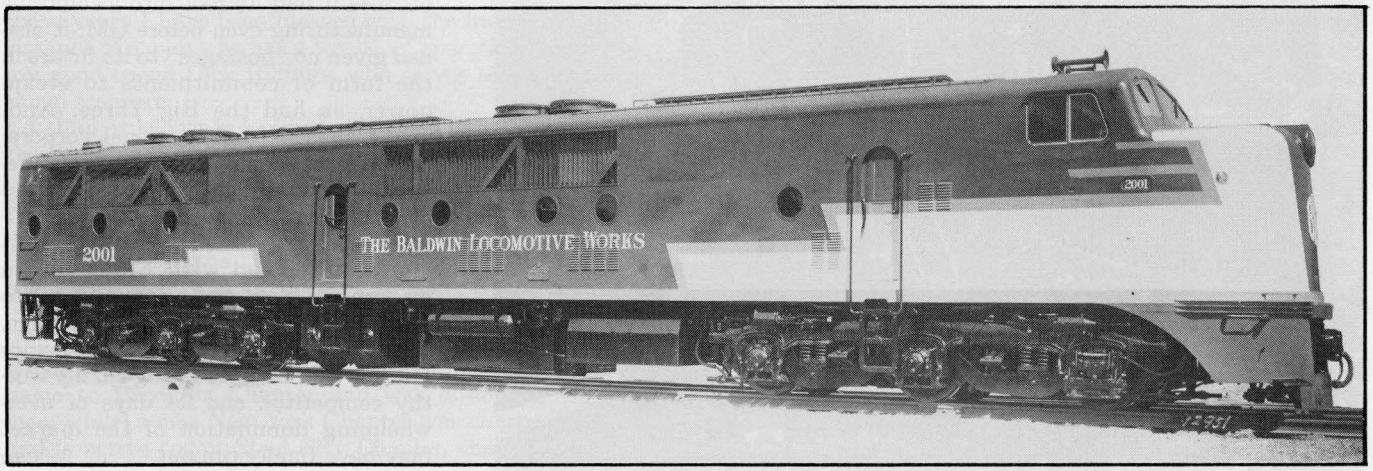
By World War II the Santa Fe had gone so far toward conforming to EMD's way of doing things that the road was pleading with the WPB to allocate its scarce road diesels in preference to other roads wanting them. Late in 1942, Santa Fe's representatives in Washington pointed out to Stevenson of the WPB and Kelly of ODT that "the road was hauling more than 200 (tank) cars of water a day for its own locomotive use (between Barstow and Winslow), which might be saved with diesel power." Stevenson, with ODT's concurrence, then allocated Santa Fe more new FTs, diverted from Eastern roads, e.g., the Boston & Maine.

Baldwin, and Alco to a lesser extent, having failed to develop a standardized line of freight and passenger models before the war, were without the clear production guidelines that contributed to EMD's quality control and efficiency. Above all, at the crucial time midway through World War II, they could not face the fact that the new diesel technology—enabling multiple units to be operated as one locomotive—had doomed the steam locomotive. A simple fact escaped them: the steam locomotive had gone as far as it could as a single unit. It took the design genius who invented EMD's versatile General Purpose locomotive—the "Geep" of 1949—to first articulate the obvious. Dick Dilworth, chief engineer at EMD during the great years of its expansion, summed up why steam "died" in 1929, making the diesel ten years overdue at the time of the interview in 1939: "The only way to make a steam locomotive more powerful is to increase the number of square feet of heating surface in the boiler. Since tunnels and railway platforms and the width between rails all limit the height and width of an engine, the only way to increase the heating surface is to make the boiler longer. But if it gets too long, the fire gets cold before it reaches the far end of the boiler. Thus there is a practical limit to how large a steam locomotive can be."

When competitive development of a

BALDWIN FLOUNDERED in the road freight unit business beginning in 1943 by trying to produce monster "locomotives" rather than multiple units. This 1945 demonstrator had two VO engines and produced 2000 h.p.—it was one of the smaller units!

BALDWIN LOCOMOTIVE WORKS



JIM SHAUGHNESSY

product is no longer possible, that product is usually doomed, even if customer loyalty delays the day of reckoning. In the case of the steam locomotive, customer loyalty was the loyalty of a number of large coal-hauling railroads to the coal-burning steam locomotive. This loyalty evidently lulled the major steam builders into a false sense of security. More likely, they were in a bind. To satisfy their customers and to utilize full plant capacity, they had to keep producing both steam and diesels, unlike EMD and General Electric (considered as a builder of locomotives rather than supplier to Alco). An Alco representative testifying before the Senate subcommittee called the dilemma of the Big Three steam builders "straddling two horses." Yet the day of reckoning was at hand, for the slowness of the coal-hauling railroads to dieselize simply spread out the transition period a few years more than it would have taken otherwise.

POSTWAR ENTRY into the diesel market was no guarantee of success, as Fairbanks Morse discovered with its opposed-piston engines in units like the PRR "C-Liners" at Silver Creek, N.Y., in 1957. Only GE made it big, thanks to new ideas built into its U25B.

GENERAL ELECTRIC

As the records of the WPB reveal, it was not the "head start" General Motors got during the war that allowed EMD to outdistance its competitors and eventually drive most of them out of business. Rather, it was a false faith by the Big Three in the future of steam power—a faith likely born of desperation. For by 1939 EMD was ready with a full line of road and switching power. In addition, the steam builders apparently lacked the capital to sacrifice steam production capacity and to pursue a crash research and development program while there was still time to catch up with EMD in engineering know-how. General Electric survived because it had its foot into locomotive manufacturing even before GM; it also had given no "hostages" to its future in the form of commitments to steam power, as had the Big Three. And, above all, this multi-national corporation had the money for research and development. General Electric's resources are still awesome, and in today's drastically reduced market, it is slugging it out head-to-head with EMD with a modernized plant and a commitment to the product equal to that of La Grange. It appears that for the first time since Hitler's war, EMD is facing a truly worthy competitor, and its days of overwhelming domination of the market may have finally run out.

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From the Publisher's desk: Film & Video

The *Independent Producer's Guide to Super 8* (Small Format Audio Visual, Inc., 95 Harvey St., Cambridge, MA 02140; $5.00) is a 52-page publication that lists many rare Super 8 cameras, recorders, mixers, editors, projectors and other equipment and duplicating services; it is a must for any serious filmer in 8 or Super 8. A recent article in it tells about a college professor who was preparing to film a documentary in China but who was not allowed to use 16mm film for his sample segment. He was given the option of using 35mm slides, 1/2" videotape or Super 8mm film. The professor chose the Super 8 format, later transferring the filmed footage to a 3/4" videotape master using a Rank Sintel Scanner equipped to take Super 8. During the transfer, several of the technicians stuck their heads in to ask if the picture on their monitors was actually 16mm.

It is possible to copy old movie footage to video format at home by projecting the film onto a flat-surfaced screen and shooting the projected image. Because of differences in scanning time between the film and video, however, the resulting tape will probably develop occasional black scroll lines which are objectionable. We recommend taking your film to a store specializing in conversion and let them do the work using equipment that will synchronize the two formats.

My initial attempts at having 8mm footage converted to VHS at a local shop were disappointing, probably because they used simple equipment. Professional equipment, very costly, would permit correction of underexposed scenes, improvement of color quality (especially on old, faded footage) and optimum sharpness. Readers who have had experience in conversion are welcome to write us about their results.

At the moment, Kodak and other companies are experimenting with an 8mm video format, and several such systems are now available, although they are often more costly than standard VHS or Beta format equipment—the compact size and light weight of their combination camera/recorders is their primary selling point, not cost. The 8mm video cassettes are similar in size to audio cassettes. Shown on small-screen TV monitors, quality is as good as the larger format. I have not seen 8mm video shown on a large screen set.

Video films are difficult to show to large groups, since equipment is cumbersome and image quality is still lacking. Railfan video is presently finding quite a market for home or small club use, however. Experimental work with video having much finer scan lines is now going on and will undoubtedly be the way to go in the future, with picture quality rivaling that of good motion picture film. Those in the business, however, observe that the "standards war" over the new high-resolution video will make the VHS/Beta battle look like a Sunday-school picnic by comparison, and the final products are likely to be many years away. We would not suggest holding off any anticipated purchase of video equipment waiting for the resolution of this one.

Video fans who'd like a trip over Whit Towers' famed HO-scale Alturas & Lone Pine model railroad can now do it in their easy chair at home. Our new videotape, "ALP Way Freight," takes you for a trip over this famed California pike. (Carstens Video: VHS 03001 or Beta 03002, $39.95. N.J. residents add sales tax. At hobby shops or direct from our Reader Book Service).

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Features

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A surviving example of EMD's post-WWII prosperity was Santa Fe F3 21C, built in 1946, entrusted in January 1969 to run alone with the nation's hottest piggyback train, the *Super-C*. A year after the premium-tariff speedster hit the rails, it was carrying only five loaded flats—the mail contract and tonnage came later. Read about the controversial government ruling that gave EMD a monopoly on the production of road freight diesels during WWII, beginning on page 36. A night photo session at the Railroad Museum of Pennsylvania on August 22 was part of the NRHS 50th Anniversary Convention and featured simulated steaming of PRR E6 460 and K4 3750. Convention coverage begins on page 45. For the story of another K4, see page 62. Two photos: Jim Boyd.

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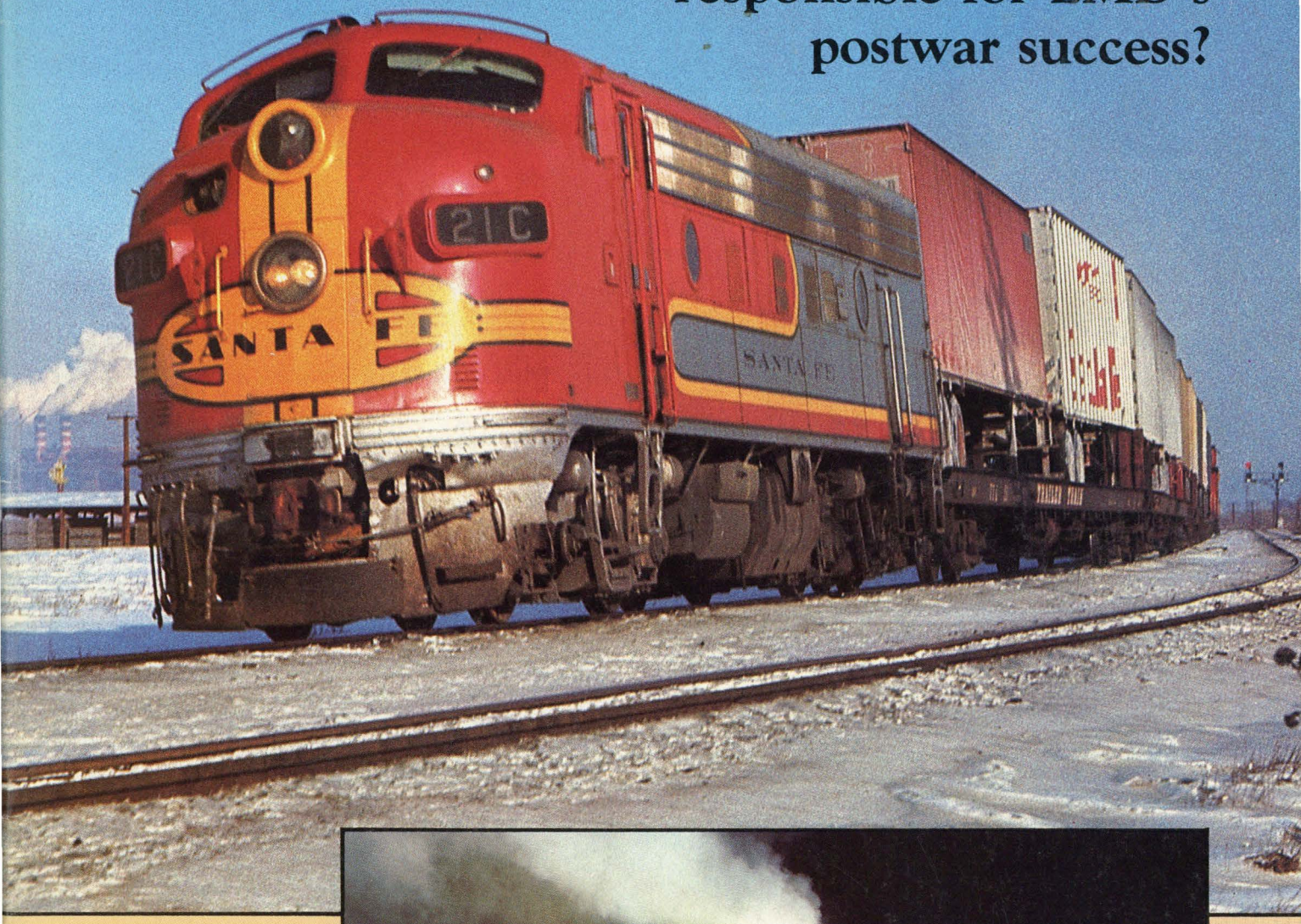
Was the War Production Board responsible for EMD's postwar success?



The NRHS' 50th Anniversary Convention

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