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## MOBILIZATION OF THE STEEL INDUSTRY

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Mr. Joseph L. Block, Executive Vice President and Vice Chairman of the Board of Directors of the Inland Steel Company, was born in Chicago, Illinois, 6 October 1902. After attending Cornell University in 1923 he joined the Sales Department of the Inland Steel Company and in 1927 became assistant vice president, 1927-1930. He has held the following positions with the company: vice president, 1930-36; vice president in charge of sales, 1936-1951; he has held his title from 1951 to the present. During World War II Mr. Block, on leave of absence from the company, served with the War Production Board. As a member of the Steel Division, he was chairman of the Production Directive Committee, 1941-1943; assistant director of the Steel Division, 1943-1944; and deputy director, 1944-1945. Since the Korean emergency, he has been a member of the Steel Products Industry Advisory Committee for the National Production Authority representing all the integrated steel companies. Mr. Block is active in many civic and charitable organizations. He is a Director of Joseph T. Ryerson & Sons, Inc., other subsidiaries of Inland Steel Company, and the Buffalo Steel Company of Tonawanda, New York.

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MR. BAUM: General Greeley, gentlemen: The steel industry, which composes the steel industrial complex, is the largest and most important basic industry in the world. No defense program can be implemented, nor can the economy provide a respectable standard of living, unless there exists adequate steel productive capacity to support these national requirements.

Our speaker, Mr. Joseph L. Block, Executive Vice President of the Inland Steel Company, is eminently qualified to speak on our subject this morning, "Mobilization of the Steel Industry," since he has held important positions both in industry and in government planning for the steel industrial complex; but above all he has a keen appreciation of both the commercial strategy of the steel industry and the problems of government planning.

It is a pleasure to introduce to the Industrial College Mr. Joseph L. Block of Inland Steel Company.

MR. BLOCK: Mr. Baum, General Greeley, gentlemen: The friendly relationship which exists between the Industrial College of the Armed Forces and the steel industry is most gratifying. We are pleased that you make good use of the publications and statistics prepared by our American Iron and Steel Institute. We are honored that you ask our representatives to occupy your lecture platform at rather frequent intervals.

This is a mutually beneficial arrangement. Steel is obviously essential to the defense of our country and the more you leaders of our armed forces know about this industry the better for all of us. At the same time, the invitations you extend stir us from time to time to reassess our facilities and our problems--to do an extra amount of soul searching--all of which should, in turn, prove beneficial.

You have assigned the subject "Mobilization of the Steel Industry." To me that word "mobilization" has but one meaning, namely, readiness for war. There may be those who speak of "Mobilization for Peace," but I believe that means a managed economy, and being an ardent free enterpriser, I would hardly be the proper individual to discuss it.

I am sure you are well informed on the industry's growth through the years and well supplied with statistical data on production and

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capacity for the various products and districts. I will therefore paint the picture of steel's mobilization with rather broad strokes of the brush.

Ingot capacity is the key to any country's steel potential. You may hear much discussion of the problems of producing one finished product or another--one type of steel or another. Yet, if a nation has the raw materials, the blast furnaces, coke ovens, and the steel furnaces needed to produce the ingots, it can make whatever products or types of steel it requires without too much delay or too great cost.

Today the rated ingot capacity of the United States is 117.5 million net tons. This is an accurate figure computed with great care. But, unfortunately, it is probably the only really reliable estimate of ingot capacity I shall give you. No one I know is ever quite sure about some of the other countries' ingot capacities and this is especially true in respect to Russia and its satellites.

The top figure I have seen for Russian ingot capacity is 41 million net tons. Adding 14 million tons, the peak estimate for the satellite countries, brings the Soviet potential up to 55 million tons. On the other hand, the all-out capacity of the free nations of Europe appears to be about 52 million net tons on the Continent and 20 million tons on the British Isles--a total of 72 million tons. With this capacity added to our own, the free world has 189 million net tons plus another 20 million or thereabouts which we might pick up in other countries such as Canada, Australia, South Africa, and Japan. In other words, we outstrip the Iron Curtain countries in steel capacity something like 3.5 to 1.

Now, of course, a favorite pastime of those who play this game is to push over various free world ingot capacities into Soviet hands. One can work out almost any combination. Let's take the most extreme arrangement. Were the entire output of the Continent and Britain added to the present Russian total, undamaged and intact--an incredible development--they would have 127 million net tons against our 117 million. If such a horrible contingency came to pass, I think we could count on Canada's 5 million tons--but I have no idea exactly where to put the others--so roughly it would be about a mathematical standoff.

This does not tell the whole story though, for no one can, in fairness, make a comparison for defense purposes of the steel capacity of the United States and that of the Communist countries, without calling attention to the marked difference in the standards of living of the people. General Eisenhower himself stressed this important fact when testifying as Allied Supreme Commander before a Subcommittee of the Senate Foreign Relations Committee in Paris on 9 July 1951.

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Referring to Russia's steel capacity, he said that country "can put 70 percent of its steel capacity into war materials--and we certainly would never consider any such figure."

I surely am not able to estimate the exact proportion of our steel supply that the American people would devote to war needs in an all-out emergency. However, if the chips were down, our liberties at stake, our homeland attacked, I wonder if there would be any limit to the extent we would go. I believe it is fair to say that the civilian population was never really tested in World War II and we have no bench-marks on this subject.

And here is another point which is often overlooked in this regard. As the Russians become more industrialized and mechanized, they, too, must devote more and more of their steel supply to the so-called defense supporting purposes. The steel cannot all go for tanks, shells, and guns. Russia must maintain railroads, power plants, oil refineries, farm machinery, and kindred activities just as we do. So when you sum it all up it seems to me that the steel capacity of the United States--three times the capacity of Russia, the next largest steel producing country--is a mighty potent force in helping to preserve peace in the world.

Let us now relate this capacity to our defense needs. Last year, under the Controlled Materials Plan, the stated defense requirements, quarter-by-quarter, were considerably higher than the actual "take" by military contractors. I have seen no final figures but I believe it safe to say that defense production did not consume much more than 10 percent of the industry's output--that is, not over 10 million out of the 93 million net tons of ingots produced. Even were the figure to rise by several million tons this year--say to 12 or 13 million ingot tons--it would still be about 10 percent of our present capacity.

Incidentally, in 1943, the year in which the largest tonnage of our steel went into direct war needs, these requirements took less than 33 million tons of ingots and over half of that tonnage went into ships and defense plants rather than armament. In that year we used 38 percent of our steel for these purposes. Today, because of the great growth of the industry since the end of the war, we could, if necessary, put 50 percent of our steel into direct war needs and still have more left over for other essential requirements than we had in 1943.

The question of whether our present capacity is large enough or larger than necessary to meet our combined defense and civilian requirements is always intriguing. With both of these needs somewhat in the category of the proverbial "X" or unknown quantity, it is certainly a

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difficult problem to say the least. However, if the military requirements at present will take no more than 10 percent, as seems likely, leaving 90 percent or about 105 million tons of ingots for other needs, we would seem very well fixed indeed. That is more steel than we ever before had available for civilian uses. And most of these needs seem pretty well supplied at present. No one, so far as I know, is having any difficulty in buying the automobile, refrigerator, or television of his choice and getting delivery according to his wishes. So I lean toward what I believe is the prevailing view in the industry, that sometime in the second half of the year steel operations will drop down below capacity. However, I surely would not expect anything drastic--perhaps a rate of something like 90 percent in the last six months of 1953. Such a rate of operations would by no means be harmful to the economy--on the contrary it could be most beneficial, sharpening competition, reducing waste, and giving the industry an opportunity to take care of its deferred repair and maintenance programs.

Looking up ahead one cannot help but be optimistic about the continued expansion of markets for steel. This can come about not only through a rise in the standard of living of our people not only through population increases, but also through the development of new uses for steel. One might visualize a boom in steel housing, a great growth in road building and underground automobile storage, containers for whole milk and soft drinks--to name but a few of the possibilities.

As you know, the industry continues to grow and, based on present plans, the ingot capacity of the United States should be about 124 million tons in 1955. This reminds me that our company's President, Mr. Clarence B. Randall, spoke to you on 14 February 1951, when the country's ingot capacity was 105 million tons, and said, "As of the end of next year we will have 117.5 million tons." He hit it square on the nose! I hope my 124-million-ton estimate is as good. However, if steel demand recedes, it may be that some obsolete capacity will be scrapped. I do not know how much. My own company has no intention of scrapping any steelmaking facilities. So far as I know, there has been no industry-wide survey of this subject. Perhaps one should be made. For the purpose of this discussion, I am willing to go out on a limb and guess that such capacity as might be dismantled in the next two years would not exceed one million tons and would have no effect on the steel potential of the country from a military point of view.

This expansion of the industry's ingot capacity from 90 million tons at the end of the war--99 million in 1950, when the Republic of Korea was invaded--to 124 million in 1955 is a prodigious undertaking. Its cost will be approximately 5 billion dollars and it is being accomplished entirely through privately owned and managed business enterprises. It has necessitated the development of many new raw

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material sources, some of which are in distant lands, the construction of new cargo freighters and many other farflung activities to arrive at a properly balanced program. A statement issued by Defense Mobilizer, Henry H. Fowler, on 16 January 1953 testifies to the fact that the program has been successful. He said, "On the basis of present information it appears that the expanded basic steelmaking facilities now projected . . . will be sufficient to provide the . . . steel necessary to meet the increasing needs for military and supporting industrial production while at the same time providing for the needs of our expanding civilian economy."

I know you have also been well supplied with information on the materials needed in steel production. For that reason and for lack of time, I shall not dwell on that phase of steel's mobilization, but I should like to comment briefly on two of these materials--ore and scrap.

Those charged with the management of an integrated steel company are certainly mindful of the fact that iron ore is essential to the survival of their enterprise. Whether they find it near-by or far away--they do find it--and they do provide for a supply far into the future. It is in truth another of the many advantages of the free enterprise system that many Americans are constantly at work on this problem and not just one government bureau as in a dictatorship country. I like what Mr. Randall said in his lecture to you. "I agree with those who say 'Let the military worry about their problems' and I ask you to let us worry about iron ore. Nobody in the steel industry has any doubts whatever that in the years that lie ahead they will be able to meet their full obligations to the public and to you in terms of iron ore." A man asked me recently if I thought our furnaces in the Chicago area would soon grow cold for lack of high quality iron ore. I told him that I felt sure that he and I and our children and grandchildren would grow cold first--and that's far enough ahead so far as I am concerned.

Scrap differs greatly from iron ore. No one can go out and sew up a supply of scrap far into the future. But at the same time a prudent management, by increasing its pig iron capacity in relation to the growth of its ingot capacity, will provide properly for its metallic needs and hold down the demand for scrap by its own company and by the industry in general. Scrap comes from three sources--"home scrap," made right in the steel mill itself; scrap produced in manufacturing processes; and scrap derived through obsolescence and replacement. All three of these sources grow in direct relation to the growth in steel production. Therefore, as long as the industry maintains its blast furnace capacity at historic levels, scrap should provide no problem. As a matter of fact there has never been any significant loss of steel production because of a shortage of scrap. However, I submit one word of caution before leaving this subject. We must not export much larger

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quantities of scrap than we import. We did that once before to our sorrow. It probably was the cause of the tight scrap situation we had during the war and occasionally since war's end.

I now turn to the industry's ability to diversify its product mix--an invaluable asset in times of emergency. The recent report issued by the Defense Production Administration and the National Production Authority stated that "the finishing end of the iron and steel industry is characterized by considerable flexibility and convertibility in many product areas." This can be best illustrated by referring to our experiences in World War II.

At the time of Pearl Harbor our greatest defense need was ships--both naval and merchant--and it was estimated that we required one million tons of steel plates per month to build these ships and meet our other essential programs. Although the steel industry was then operating at capacity levels it was only producing 600,000 tons of plates a month. Time was of the essence and obviously our enemies were not going to sit idle for a couple of years while we built new plate mills.

A group from the industry, of which I was a member, was called to Washington to tackle the job. A rapid survey of all possible plate-producing facilities was undertaken immediately. Not only the regular plate mills, but all the continuous strip mills were studied. These latter mills--27 in number--were built during the preceding 14 years to roll light gage sheets for the automotive and other consumer industries. In many cases they did not have the necessary facilities to shear and handle heavy plates. Nevertheless, steel producers were asked to make all the plates they could on these continuous strip mills, and secure the auxiliary equipment they required as rapidly as possible.

They did a magnificent job. Countless stories of exceptional ingenuity could be told. At times the plates were even loaded hot in the freight cars. In some cases they were shipped unsheared, leaving that job for the shipyard. The net result was that strip mill production of plates rose from 169,000 tons in November 1941 to 550,000 tons by July 1942, in which month total plate production from all types of mills was 1,124,000 tons. Thereafter, never less than a million tons per month, often considerably more, the output of steel plates was ample to meet all the requirements of the war program. And the plates from the continuous strip mills filled one-third of our defense needs, one-half of our total needs, during the entire war period.

This points up not only the industry's flexibility, but something I deem even more important. How did we happen to have these strip mills which gave us the needed plates and ships and, I am sure, helped

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immeasurably in winning the wars? There were none on the Continent, only one in England. Why did we have them? We had them because competitive enterprise caused many companies to build them, some even in the midst of depression, almost all in anticipation of demand. We had them because we were free--free to imagine, free to plan, free to compete, free to build, free to profit--yes, just plain free, and because we were free we were strong.

The conversion of strip mills to plate production, although probably the most important, is by no means the only experience in World War II which can be cited to illustrate the industry's flexibility. Furnaces, as well as mills, were converted. A pressing need was for more alloy steels--particularly for the tank and airplane programs. The electric furnaces which customarily made these steels were full. But many a producer learned how to make alloy steels in open-hearth furnaces. By 1943 the industry produced more than 13 million tons of alloy steel ingots--compared with 5 million tons in 1940--enough alloy steel to take care of all the military and essential civilian requirements.

Other examples of the flexibility and convertibility of the industry could be given, but I think these two will suffice for our purposes today. I hope you will bear the strip mill plate story in mind if you hear criticisms of the fact that heavy expenditures in the present program went for sheet and strip facilities. Built essentially for peacetime purposes, these mills were very valuable for wartime needs in the past--and certainly could be again in the future. But you should also know that about three quarters of the 5 billion dollars involved in the present program is for raw material and basic steel plant facilities. That is the foundation on which the industry is built and which permits its extremely valuable flexibility.

To be properly mobilized for defense, there must be an effective mechanism to control distribution. Much was learned in this regard in World War II. It then became clear that a system of priorities was ineffectual when the total essential demand exceeded the supply. As you all know, this was replaced by a system of complete allocation developed by men from the steel industry and called the Controlled Materials Plan. This type of distribution control for steel is effective and should be used in all-out war.

On the contrary, in my judgment, such an elaborate control mechanism is not needed in times of limited emergency such as the present, or in peacetime. Nevertheless, it has been employed during the present emergency and, in my opinion, has resulted in a vast amount of wasted effort. It has not aided, but hindered, civilian industry, substituting unnecessary bureaucratic control for the competition of the market place.

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There are those who contend that a full allocation system has been needed because of the so-called defense supporting industries--railroads, power plants, oil refineries, and so on. However, it is difficult for me to see why the full requirements of these industries are deemed essential except in an all-out war. After all, the railroads today carry many highly nonessential commodities. People use gasoline in their automobiles for pleasure driving--in fact, a long list could be assembled to emphasize the point. The military can get what it needs in times of limited emergency by using defense priorities, whether the end product is steel, oil, transportation, power, or anything else.

To those of us who have long held these views, it was heartening indeed to hear the President in his State of the Union address two weeks ago today say to the Congress, "I believe . . . that material and product controls should be ended, except with respect to defense priorities and scarce and critical items essential for defense." And it is very encouraging to note that this new policy is already being implemented by action.

Another error in the initial control policy during World War II was the failure to recognize the service rendered by steel warehouses. Some men, including military personnel, were of the opinion at that time that this steel was a "leak in the dam" and went into frivolous and nonessential uses. The truth is that distribution from warehouses can be controlled by the same mechanism that controls mill distribution. Furthermore, if there is not adequate steel in these warehouses--which are the retail stores of the steel industry--it would be impossible to take care of the emergency requirements and the quick deliveries which are often vital to the success of a military production program. When warehouse stocks reached perilously low levels, this situation was recognized and corrected. The mistake should never be made again.

It is of paramount importance that any type of control system be administered by men well experienced in the industry involved. In the early days of World War II, there was a philosophy in the Government that it was wrong to have men administer their own industry's affairs and that this would result in favoritism and bias; this was a most unfortunate policy. In their zeal to remove any possibility of bias, they hamstrung efficiency and injected confusion. Happily, this policy, too, was changed later in the war but much valuable time was lost and irreparable harm was done to the war effort before steel men were permitted to take charge of steel problems.

The importance of having experienced men handle emergency controls is fortunately now well recognized. In his report to which I have already referred, Mr. Fowler said, "The Steel companies have made their

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very best men available for service with the government defense agencies, so that their experience could be utilized to solve the problems related to steel production and demand."

I have painted a bright picture to you of the steel industry's ability to serve our Nation. Its capacity is large, its flexibility great, its techniques for channeling steel into defense needs well developed and effective. Yet, I would sound no note of complacency. We must forever be on guard and together continue to strengthen this industry which is so essential to the Nation's security.

But, if the industry is to do its part well, it must be kept fully informed regarding military requirements. In that regard I should like to quote from a statement made in a report submitted about a year ago to Defense Mobilizer, Charles E. Wilson, by a Steel Task Group which he appointed: "We strongly recommend that finishing facilities be reviewed to establish their relationship to military programs and we further recommend that the industry be kept currently informed during the development of long term military programs in order that appropriate adjustments in finishing facilities, if required, may be made in time to meet actual production needs." It is encouraging to know that a detailed study implementing these recommendations is now in process.

The industry in turn has its responsibility not only to do the things requested by the Government, but to do even more. I believe that every integrated steel company should be prepared to make at least one important steel mill defense product which it does not ordinarily manufacture. For instance, any steel company which has a plate mill, or a wide strip mill, can make armor plate or cartridge case plates. Any steel company which has a bar mill, a structural mill, or a rail mill, can make some sizes of shell steel. It may well be that certain capital expenditures would be necessary for each company to be equipped adequately. These should be made even though the total capacity for certain items becomes substantially more than the stated requirements. After all, how can anyone know what plants may be put out of commission by hostile attack.

In conclusion I would like to express my very strong personal hope that the steel industry's mobilization will never be needed for another global war, but will continue to be one of our great safeguards in preventing such a catastrophic development.

I thank you.

MR. BAUM: On behalf of the College, I thank you for a very instructive lecture.

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