

# Government Controls in Industry

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**E**NGINEERING, production, and economics are closely related to any controls which may be placed upon industry. It is recognized that engineering is very much concerned with the field of economics. This article by Paul Hammond should be of interest to engineers and scientists. Statements and opinions advanced are to be understood as individual expressions of the author, and not those of the staff of Engineering and Science or of the Association.

—EDITOR.

**W**HILE there can be little disagreement with the broad objectives of speedy and orderly reconversion following the war, maintenance of high levels of employment and production, and rigid controls against inflation, the specific regulatory measures issued to implement these goals often are highly controversial. The cooking and heating appliance manufacturing industry, perhaps more than any other, has been the experimental laboratory in which theories of control have been tested. Some of these specific controls differ so strikingly from the broad policy statements of the War Production Board and Office of Price Administration as to be startling in their implications to one not acquainted in detail with their provisions.

## LIMITATION ORDER

The customary limitation order issued by the War Production Board concerned itself with the prohibited uses of an item; simplification and standardization of lines; and elimination of critical materials or components in the manufacture of a product. There could be no fundamental doubt as to the necessity of these basic controls in a wartime economy. L23c, the Limitation Order regulating the stove industry, however, introduced two additional theories of control which, in one form or another, have remained controversial since their inception. These were a "concentration of industry" program and what Maury Maverick, chairman of the Smaller War Plants Corporation, has termed the "grandfather clause" policy.

Concentration of industry may best be explained in terms of an actual example. A clear case could be made against the manufacture of civilian automobiles and a limitation order issued preventing their production. Such a limitation order would be uniform in its effect throughout the industry, and all members of the industry would be required to convert to direct war production. In the case of stoves, however, limited production was deemed essential for the army cantonment program and for war housing. The question then became one of how this limited production should be allocated and by whom.

The customary solution would be the issuing of a limitation order permitting manufacture for the specific uses considered essential. Those companies who could secure this business would then be permitted the continuity of production afforded by this limited production. This would normally be supplemented by other war work and some companies would be forced to complete conversion for other types of work. This would be a uniform regulation imposed throughout the industry, and while the effects would differ greatly they would follow relatively conventional economic lines. The companies remaining in production would be determined by price, quality, and delivery.

Concentration of industry through this process might not be the most effective means of securing maximum

overall war production. Larger companies would probably have machinery and facilities more suitable for quick conversion. A company removed from major war production centers would not be in competition for available labor with other critical programs. In the case of the stove industry, it was decided to concentrate the industry by regulation on the basis of size and available labor. L23c, the stove limitation order, classified all stove manufacturers as "A," "B," or "C" producers. "A" producers were manufacturers with an annual base period sales volume of over \$2,000,000; "B" producers those with a volume of under \$2,000,000, located in specific "critical" production areas; "C" producers those with a volume of under \$2,000,000, not in these areas. Only "C" producers were permitted to make stoves. As originally issued this was a highly inflexible and arbitrary ruling. For example, all small Los Angeles companies were required to cease production as "B" manufacturers. Such companies located in adjoining Pasadena or Glendale could have continued manufacturing as "C" producers.

This order was highly unpopular in the industry. In July, 1943, this policy was slightly liberalized in that the arbitrary city designation was dropped and the Group I Critical Labor Shortage Areas as determined from time to time by the War Manpower Commission were substituted. Class "C" producers would be given authorized schedules up to 100 per cent of their base period production before making authorizations to "B" and "A" producers. However, it was June 20 of this year before the idea of classes of producers was dropped from the order.

As reconversion became more imminent the problem of concentration of industry in a slightly different form again became highly controversial. Several industry groups felt that no reconversion should be permitted in that industry until such time as all members of the industry were ready for the resumption of civilian production. In other words, no one should resume production of radios, for example, until all 1941 radio producers were set to begin civilian manufacturing. The effects of this proposal upon our speedy reconversion would have been disastrous.

However, the experiments on concentrations of industry had been pretty well worked out in the stove industry and the things that could and could not be done rather definitely determined. No hard and fast rules were arbitrarily laid down as in the early experiments. In Priorities Regulation No. 25, the "Spot Authorization Plan" covering resumption of civilian production, the following general considerations of policy are outlined: (1) It must not interfere with war production. (2) Labor and facilities must be available and not required for more essential purposes. Thus a flexible plan has been determined that will permit an orderly and partial transition from a wartime to peacetime economy.

## FROZEN COMPETITION

In the meantime the word "producer" had become the center of another controversy closely associated with the concentration of industry. After concentrating the stove industry so thoroughly by regulation the companies frozen out felt it only fair that their relative competitive position be also frozen by regulation. As a result they secured in 1943 a regulation that only a producer manufacturing stoves during the base period of July 1, 1940,

to June 30, 1941, could manufacture stoves. The rationing of stoves for civilian use by the O.P.A. had also become a firm program and as a result it was further determined that a manufacturer could produce only in those fuel types produced during the base period for this purpose.

Written into the stove limitation order this so-called "grandfather clause" policy became a subject of violent controversy in the W.P.B. and various industry groups. In effect it was a regulation freezing business to what it was before the war. The argument was not limited to the stove industry. To many business men this appeared an ideal means of insuring their place in their industry after the war. The idea of newcomers usurping their place while they engaged in war production was a compelling argument for the regulation.

The assumption was made that the large companies would be held longest in war production. Many smaller companies, including the "war babies," would be seeking an item to produce with the drop-off of their war production. This search would naturally lead to those fields where the major producers were still in war work. The business secured would be at the expense of these established companies, who would return to civilian production to find new and firmly entrenched competitors.

Reasonable as this position seems, it could hardly be justified if we have as a goal an expanding economy with maintenance of full employment, greatly augmented production, and the smoothest possible transition from war to peacetime production. The conflict over this policy was one of the major causes of the recent dissension in the W.P.B. The restrictions against new producers were deleted from the stove order on August 29, 1944, and in the order issued October 23, 1944, the following excerpt is quoted "Applications from persons who have not previously been engaged in the production of stoves, burner valves, or thermostats will be accepted and processed on the same basis as all other applications."

This little publicized but highly significant W.P.B. control in the stove industry has apparently been discounted. The effect is of importance to all industry. It has been determined that within the limits of available materials and relative degree of essentiality, the W.P.B. will give individual companies freedom of choice to produce what they wish and will not try to preserve the prewar status quo or protect the prewar competitive position of any company. This is particularly significant to small companies who are already feeling the effect of cutbacks in war production. It augurs well for an expanding competitive economy that will of its own force go far to break monopolistic control.

#### PRICING POLICY

In October the O.P.A. issued a memorandum on the subject of "Our Pricing Objectives in the Reconversion Period." One of the objectives of this policy as given by Chester Bowles, the Administrator, was: "It must encourage maximum production. It must not stand in the way of the manufacturer's desire to produce to the limit of his capacity. This means prices which yield good profits for business, large or small, on the basis of high volume of production."

The stove industry prices are controlled by M.P.R. 64. On August 11, 1944, Amendment No. 1 to this order was issued and, despite strong industry protest and the above statement of O.P.A. policy, the following section governs reconversion pricing for this industry.

##### *Section 10. Application for adjustment.*

(a). Any manufacturer subject to this regulation may apply to the Office of Price Administration, Washington, D. C., for

an adjustment of his maximum price for a particular stove or stoves. An adjustment may be granted if it appears that:

1. The manufacturer's ceiling price is below his total cost to make and sell the stove; and
2. The manufacturer's entire stove operation is being conducted at a loss or will be at a loss within 90 days; and
3. The loss of the manufacturer's production of that stove would result in higher prices to consumers for the same or substantially the same stove.

(b). Any adjustment, if granted, will not be greater than the lower of the following amounts:

1. An amount sufficient to eliminate the loss incurred in making and selling the stove.
2. An amount sufficient to bring the maximum prices established by this regulation for sales of competitive manufacturers' comparable stoves to the same class of purchaser and on the same terms and conditions of sale.

The economic implications of such a pricing policy might be summarized by stating that this regulation assumes the profit motive should have no place in reconversion. Some manufacturers find their whole stove production program operating at a loss, while many will find a loss incurred on certain models. In no case could an adjustment be made which would do more than provide a recovery of costs with no margin of profit.

From the O.P.A. viewpoint the following facts may have been the governing considerations. The prices of stoves had previously been set by this regulation at 112 per cent of the lowest price quoted to each class of purchaser during the period January 15 to June 1, 1941. It should be pointed out, however, that this does not necessarily represent a relative 12 per cent price increase above ceiling, as the generally applicable ceilings are March, 1942, prices. As most prices were materially increased during that period of some 14 months, this theoretical price adjustment was thus far less than it would at first appear in relation to other products.

However, the price of stoves clearly affects the cost of living and it might be contended, therefore, that any increase in the price of stoves would tend to increase living costs, be against the "hold the line" order, and be inflationary in character. Nevertheless, the provisions of the Emergency Price Control Act direct the Administrator to make adjustments for such relative factors as general increases in costs of production and distribution and general increases or decreases in profits. There have been sharp increases in production costs for the stove industry. Since January, 1942, labor costs have risen by as much as 30 per cent and material costs increased from 5 per cent to 15 per cent, depending on the type of product.

O.P.A. has indicated that a distinction will be made in reconversion pricing between products that have been continuously in production during the war and those whose production has been completely suspended. Thus it appears that existing ceilings will be applied in the stove industry, regardless of whether the particular manufacturer had continuity of production or not. This application would theoretically be based on the assumption that if some manufacturers have been able to produce under existing ceilings, then all companies should do so. It ignores the fact that some companies have let their war production "carry" their stove manufacturing to retain the competitive advantage of continuity. While such practice may be justified in wartime, it could not continue during the reconversion period.

From the stove industry viewpoint this was a definite threat to its reconversion and if similar regulations were issued for other industry, it would hurt all reconversion activity. A program permitting limited civilian production had been written into L23c on June 20, 1944. A company producing stoves for civilian use would thus

be conforming with W.P.B. policy as outlined under the "Spot Authorization Plan." Such a company would have available excess capacity *not required in war production*. They would have *labor available*, the use of which would not interfere with labor requirements for war production in that area. They would furthermore be producing a scarce and essential civilian item—a fact that the O.P.A. has recognized for over a year, as proved by its distribution of stoves under a rationing program. Thus when Amendment 1 to MPR 64 was issued on August 11, 1944, the O.P.A. must have been fully aware that this was a pricing policy to be applied in an industry where an approved reconversion plan was in operation.

#### PROFITS

This must then be considered as a reconversion pricing policy and examined in the light of its probable effect in the stove industry. This industry has been largely engaged in war production. As war contracts terminate, each company must consider its re-entry into the stove business in the light of this price regulation. Unless established ceilings are high enough to provide a profit, the best the manufacturer can hope for is a break-even operation and that only if he can meet the prices of his lowest competitor. Two probabilities suggest themselves.

A large percentage of the average manufacturer's output is in "low cost" production of low-profit, large-volume items. These are in contrast to slower-selling, higher-priced, larger-profit models. Under stringent price control, the low-cost production would be discontinued and, as a severe consumer shortage exists, the higher priced models would be sold exclusively. The entire O.P.A. policy is thus circumvented as overall cost to the consumer is increased as a result of the attempt to control profits.

Not all manufacturers will be able to realize a profit even on their most profitable models. Such companies might, in view of this no-profit order, decide to enter an entirely new field. This would, in the first place, retard the manufacturer's reconversion, as presumably retooling, altered plant layout, engineering design, sales policies, and a host of incidental problems would prevent his speedy resumption of full-scale operations. Such a delay is generally considered to be the most likely cause of a serious unemployment problem following the war. In the second place, the loss of any considerable portion of the stove manufacturing capacity would prolong the present shortage, make normal competitive pricing more difficult to attain, and finally threaten a definite hardship to the civilian population, as cooking and heating equipment is essential to health and comfort.

Since a manufacturer faced with this specific problem would surely choose one of these two courses of action in preference to continued operations at a loss or at the best on a break-even basis, it is difficult to see how either O.P.A. or overall government policies can be realized through such pricing regulations. It is to be hoped that once again the experience gained in the operations of reconversion pricing in the stove industry will guide the way to a more effective and workable control to insure high levels of production and employment.

#### Human Blood

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Other products which have been obtained from human plasma and show real value include: (1) immune globulin used to control epidemics of measles and scarlet fever, and (2) thrombin used with foams prepared from human fibrin. These foams or sponge-like preparations,

together with thrombin solutions, are of special value in brain surgery for the control of bleeding and may be left in place following the operation, since they are ultimately absorbed.

One of the most recent and important developments is found in the special anticoagulant solutions for preservation of whole blood. Solutions of this type have been prepared which now make it possible to send blood transfusions directly from this country to all the battle areas (thanks to modern air transportation). It is necessary, of course, to carefully type these whole blood preparations so that the patient is sure to receive the right kind of material. These whole blood units are of great value in the treatment of those casualties where extremely heavy losses of blood have occurred.

#### FIELD RESULTS

Reports from the South Pacific and other fighting fronts describe the use of plasma and albumin on the battlefields. Casualties are given transfusions at aid stations a few hundred yards from the firing line, some 10 to 30 minutes after being wounded (see Fig. 5). The process, taking from eight to 15 minutes, prepares the wounded men for transportation by litter back to the operating hospitals, by restoring the bulk and balance in the blood stream and counteracting the effects of shock. Navy Medical Corps men say that the tins of plasma are as easily handled and transported as cans of food, since they are protected from weather and breakage and are not affected by extreme temperatures. Some seriously wounded men receive as many as five or eight injections in a few days. Nearly half the injured soldiers need plasma injections, and most of these require more than one dose. The total number of plasma injections about equals the total number of wounded men, say doctors at the fighting front. In the South Pacific transfusions from fit men on the spot are risky because of the prevalence of malaria.

American military surgeons have emphasized the low mortality rate among wounded men in this war. One of the most important factors responsible for this fact undoubtedly is human plasma which has been made available through the voluntary blood donations of millions of patriotic Americans under the direction of the American Red Cross. Truly, human blood has been "Life Saver 1 in World War II."

## C. I. T. NEWS

### ADMISSION OF VETERANS TO C.I.T.

THE policy of admission of veterans who wish to pursue courses of study at the California Institute of Technology has recently been established. This policy is directed principally to those who are seeking entrance for the degree of Bachelor of Science in Engineering or Science. Those who wish to continue their studies in pursuit of graduate degrees will be held to the usual requirements of the Graduate School. The details for the establishment of special refresher courses for men who have their B.S. degree have not been completed. Recently a questionnaire was sent to graduates of the Institute to determine how many were interested in such courses and the subject matter desired. The result of this questionnaire will assist in the formulation of a policy.

Two forms of leaves of absence have been granted to students. Those men whose education was interrupted because of induction into the armed services have been