

industries might well have received a more generous welcome" while "in its attitude, always hesitant and occasionally hostile, towards projects of closer integration it lays itself open to the charge of running counter to the movement both of West Indian opinion and of events."

The battle royal has thus been joined. On its outcome the economic and social future of the Colonial Empire depends. The old order will yield only slowly to the new if the diagnosis of the Jamaican Economic Policy Committee finds acceptance. That Committee found that "the remedy for unemployment lies largely with the workers themselves. If they improve the quantity and quality of their effort, industry will be able to afford to pay them more." Apparently they must raise themselves by their own bootstraps, if they have any boots. The same can be said of this picture that Professor Macmillan said of the picture drawn of African conditions: "The fallacy dies hard that the old African life

was easy and comfortable, or that Africans are born lazy and thrive on a minimum of work . . . Without the elements of a decent existence the Africans' work also lacks the quality and direction needed to make the land yield a better return. Much of their effort is wasted. There has been no real attempt to remedy defects not only in their physical but in their mental, moral, and even more immediately their economic equipment."* The New Colonial System will succeed or fail according to the choice of policy made in the immediate future. Will it be too little, too late or will it be imaginative economic construction? Is it "mainly from the land that the West Indian people will continue to secure their living*" or are local markets to be developed in a more diversified economy? The content of the New Colonial Policy hangs on the answer.

**Op. cit.*, p. 291.

.Sir Frank Stockdale, *United Empire*, Vol. XXXVI, No. 4.

Lessons of the TVA Power Program

By C. HERMAN PRITCHETT

EDITOR'S NOTE: PUBLIC AFFAIRS has repeatedly published articles to inform its readers about TVA, the famous Tennessee Valley Authority. In the summer issue of 1943, Professor J. S. Ransmeier of Vanderbilt University reported on "Ten Years of Tennessee Valley Authority." Last year research activities of the TVA were described by Lawrence L. Durisch of the University of Tennessee in an article "Regional Research: the Experience of the Tennessee Valley Authority." In view of the Federal Government's policy to develop the Dominion's natural resources as part of the nation's reconversion program, the example set by the TVA has become of even greater interest for Canada. But the question has also grown more controversial. In recent months TVA has been violently attacked in Canadian newspapers, the main allegation being that its success is due to hidden government subsidies. To examine this question is the purpose of the following article written by Professor C. Herman Pritchett, a member of the Department of Economics of the University of Chicago. He has to his credit a book on the TVA entitled *The Tennessee Valley Authority: A Study in Public Administration*.

THE Tennessee Valley Authority, created by the United States Congress in 1933, has become in a period of 13 years the largest single power producer in the United States. Its installed capacity is now more than 2,500,000 kilowatts. The TVA system generated almost 12 billion kilowatt-hours of electricity in the fiscal year 1945, around two billions more than the generation of the next largest producer, the Niagara Hudson Power Corp. About 85 per cent of this output came from hydroelectric plants at the Authority's 21 dams on the Tennessee River and tributaries, and at 5 dams owned by the Aluminum Company of America which are operated under TVA direction. The remaining 15 per cent was steam-generated power, most

of it coming from the war-built Watts Bar plant.

More than 55 per cent of TVA energy sales for 1945 were to industries and other federal government agencies, including the Oak Ridge atomic bomb project. Over 30 per cent was sold to municipalities and electric co-operatives which distributed the power at TVA-prescribed low retail rates to individual consumers. The TVA itself sells almost no power directly at retail. The problem of competition between the TVA and private power companies in the area has been largely solved, since TVA and the municipalities of the region have acquired by purchase the properties of practically all the power companies in the state of Tennessee and in the adjacent areas of surrounding states. Today 91 municipalities and 46 co-operative systems distribute TVA power over an area of approximately 80,000 square miles. Total TVA power revenues for the fiscal year 1945 were over \$39,000,000, and the net income from power operations was almost \$18,000,000, constituting a return on the power investment of 4.8 per cent.

From the constitutional point of view, the TVA power program has been justified on the ground that the TVA dam construction program fosters primarily the admittedly constitutional goals of improving navigation and providing flood control, and that the generation of power is an incidental result of this program. A group of power companies brought a suit attacking this position before the Supreme Court in 1939, but the suit was dismissed on the ground that the companies lacked the necessary standing to maintain it. There can be no doubt that if the Court had reached the merits of the case, it would have supported the TVA position, as the lower federal court had done. Consequently the constitutional foundation of TVA power activities is assured.

In spite of its constitutional status, its entrenched position in the centre of an immense public power area, and its great war-time power production record,

the TVA program continues to be the object of attack from some quarters. Probably the contention most often presented is that the success of TVA power operations rests on a policy of subsidization by the federal government, and that the favorable financial reports issued by the TVA hide the fact that certain legitimate and necessary charges are avoided. One of the most recent statements of this view is found in a curious and fanciful tract by Frederick L. Collins entitled *Uncle Sam's Billion-Dollar Baby*. The charge takes the form of a wisecrack in the saying that the Tennessee River flows through seven states and drains all 48.

The confusion which exists on this issue arises in part from differences of opinion as to what cost obligations a public power operation should assume. Some would argue that the TVA should calculate as charges against its power program all costs which a similar private power company would incur. Because the TVA admittedly does not meet this test, the conclusion is announced that TVA power is subsidized. The difficulty with this position is that the original premise is unsound. The TVA cannot be compared with a "similar" private company, for there could not possibly be a private company similar in character. For the TVA is a regional development agency administering a multiple-purpose program of conserving and utilizing the resources of an entire geographical area. The TVA is not primarily a power agency. Power development is simply one of the instruments used by the Authority in a well-rounded program for raising the standards of living in the Tennessee Valley and making more effective use of its resources. Its concern is an overall one for soil fertility, fertilizer experimentation and production, forest resources development, water control for navigation and flood prevention purposes, stimulation of recreational uses of land and water, fish and wild life development, malaria control, stream sanitation, minerals development, com-

munity planning assistance, aids to food processors, studies of the area's freight rate situation, and a variety of other approaches to the goal of regional development.

Consequently, it is quite impossible for the power section of this integrated program to be lifted out of its context and treated as though it were a separate activity carried on by a private organization. However, it is quite possible and proper to insist that TVA power operations be treated differently from the rest of the TVA program by being required to pay their own way and to meet all the expenses actually incurred by the government in the course of power production. This obligation the TVA has fully accepted, and it is being successfully met, as an examination of the various claims to the contrary will demonstrate.

Allocation of Costs

The point which is probably most stressed as evidence of the TVA's power subsidy is the fact that TVA bookkeeping reduces the capital investment chargeable to power by allocating a substantial portion of the cost of dams and reservoirs to flood control and navigation purposes. On June 30, 1945, the government's total capital investment in TVA was \$735,000,000. Of this total, \$439,000,000, or 60 per cent, was charged on the TVA books to power, while the remaining 40 per cent was divided almost equally between navigation and flood control. This allocation was arrived at, first, by charging to each of these three purposes investment useful for that purpose only; thus a power house would be charged entirely to power, and a lock would be charged entirely to navigation. Second, investment useful for more than one purpose, such as the spillway and non-overflow sections of dams, is divided among the purposes served, substantially in proportion to the costs of obtaining the same results by single-purpose developments.

The objections offered to this allocation practice take many forms. Often there

is an attempt, as in the Collins' book, to give the impression that the allocation principle was a crafty and underhanded TVA plot to yield fictitiously favorable power results. The fact is that Congress specifically directed the TVA to make such an allocation among the various factors served by the dams, even throwing in fertilizer production and national defense as additional items for allocation consideration. (The TVA has made no allocation of its capital investment to these two latter purposes.)

Sometimes the objection is that the allocation formula used by the TVA is weighted in favor of power. Admittedly the formula adopted was not the only one that could have been employed, but it was developed through long study by TVA and outside experts. In the opinion of the writer, it would have been preferable if Congress had directed the Federal Power Commission to make the allocation, as was done in the case of Bonneville Dam, instead of leaving it to the TVA, with approval by the President. This shift would have relieved the TVA of the charges of bias in arriving at the allocation. Judging by the allocation made at Bonneville, the Federal Power Commission might well have produced an allocation for the TVA dams more favorable to power than the one the TVA itself developed.

Finally, it is often alleged that the allocation principle is improper because flood control and navigation are pious frauds to camouflage the power activities of the TVA. The facts are, however, that the TVA system of multiple-purpose dams provides space to store 13,000,000 acre-feet of flood waters at the height of the flood season, and creates a 650-mile modern navigation channel. Not everyone is convinced that the development of inland waterways is worth what it costs, but that is the congressional policy, and the TVA has provided a better navigation channel by its high dams than any other method would have given. Likewise it is objected that the TVA dams have themselves permanently flood-

ed many of the best farming acres in the valley, but this has been the cost of establishing control of the Tennessee and making a substantial contribution to flood control on the lower Mississippi.

The allocation principle was justified, then, because the TVA dam program has been, in planning and in execution, a true multiple-purpose program. If power had been the only goal, the dams would not have been the type they are, or located where they are. Since flood control and navigation are general, social and economic goals, which elsewhere in the United States are financed out of general taxation, there is no conceivable reason to suggest that in the Tennessee Valley these costs should be met out of power revenues.

Interest Payments

A second major complaint against the TVA power program is the allegation that it does not pay interest to the federal government on the money it utilizes to build its power system. In one sense this charge is largely true. The great bulk of the capital that has gone into the TVA project has been appropriated funds made available to TVA by Congress without any interest requirement attached. Only \$61,000,000 of TVA capital has been raised by the issuance of bonds, which have been sold to the Treasury and the Reconstruction Finance Corporation. Interest is paid on these bonds, but on all except \$4,500,000 millions the payments are at the low rate of 1 per cent.

While the TVA thus pays interest, as such, on only a fraction of its power investment, the *entire* net receipts of the power enterprise go to the credit of the government. This net return has been, during the five years from 1940 to 1945, at the rate of 4.1 per cent on the power investment, which is more than double the average long-term interest rate of the government during that period. Consequently the government is in fact receiving more than the equivalent of interest on its TVA power investment.

Power company protagonists, such as Charles W. Kellogg in a recent *Atlantic Monthly* article, seek to charge the TVA power program with interest not only on power investment, but also on capital investment for other purposes, and even on its current expenditures for fertilizer development, forestry protection, and so on. The impropriety and irrelevance of these latter charges are as obvious as the motives in presenting them.

Tax Exemption

A third complaint is that the TVA does not pay taxes. Again, this allegation has a surface appearance of validity. The TVA pays no taxes, as such, to the federal, state or local governments. As a federal agency it would, of course, have no right to pay taxes to other levels of government unless Congress directed it to do so. What Congress has done is to require the TVA to make payments according to a certain formula "in lieu of taxes" to state and local governments in that region. These payments amounted to over \$2,000,000 in fiscal 1945. The effect of these "in lieu" payments is to reimburse state and local governments for all property tax losses due to TVA purchase of reservoir lands or previously existing electric properties; in fact, the "in lieu" payments more than meet this obligation by a large sum. The purpose of the arrangement is to prevent TVA purchase of power facilities and reservoir lands from wrecking the finances of local governments formerly dependent on these properties for tax support. Newly constructed TVA dams and power lines, on the other hand, are not made the basis for such "in lieu" payments. There is clearly no reason in sound public policy why the federal government, having built a \$35,000,000 dam in a rural Tennessee county, should pay property taxes on that dam to the county, for the effect would be to subsidize that county at the expense of the country generally.

So far as federal taxes are concerned, the TVA pays none. Again the relevant question is whether it is in the public

interest for it to do so. The principal federal tax paid by private power companies is the corporation tax on net income. The TVA, however, has no net income that does not already belong entirely to the government. Up to the present time TVA net income has been plowed back into additional construction, thus increasing the federal government's investment in the TVA and reducing proportionately the appropriations that would otherwise have been required from Congress. After the construction stage is completed, the net income can be applied by the government to amortize its investment in TVA power properties.

Thus the point about the TVA not paying federal taxes is meaningless, for the federal government as the proprietor of the TVA is entitled to that corporation's entire net earnings. However, for those who wish to make comparisons between the TVA and private corporations, it may be pointed out that in 1944 electric utility taxes, according to the Edison Electric Institute, amounted to 23.8 per cent of total utility operating revenues. Almost one-third of this tax load was due to high war-time federal excess profits taxes, so that the ratio was an abnormally high one. In contrast, during the fiscal year 1944 the TVA net income (after charging interest on power investment at 2 per cent) plus its actual "in lieu" tax payments, was 28 per cent of its gross revenues. This means that the TVA's tax payments to state and local governments plus its net earnings for the federal government were at a higher rate than the tax payments of private utilities at their war-time peak.

Conclusion

The conclusion, then, is that the TVA power program, operating as an integral part of a broad regional development organization, is meeting the power costs actually incurred as well as those costs which might legitimately be attributed to TVA power operations, such as interest on capital and a tax equivalent. No

attempt has been made here to argue that the TVA meets exactly the same costs that a private utility corporation must meet. Valid comparisons of this type, it has been suggested, cannot be made. It must be admitted that the early backers of the TVA project gave currency to the notion that TVA would act as a "yardstick" for private utilities by furnishing a basis for comparing costs and charges. There is still a certain amount of uncritical talk about yardsticks, though the TVA very early dropped any yardstick claims for its wholesale power rates.

Yardstick comparisons cannot be made because the TVA system is a unique system. Its integrated development of an entire river system is clearly not readily or directly comparable with steam power plants. Some of the TVA individual dam sites may not be particularly favorable for power, since they were located primarily for other purposes. However, the system as a whole provides a comparatively favorable source of low cost power. The TVA has an advantage in the status of its power system as one of three major purposes in its dam construction program, so that power has partners in sharing the heavy burden of capital costs. This advantage, in turn, is partly offset because water must be managed primarily to control floods and maintain navigation, which means that much water that would be useful for power generation cannot be employed for that purpose.

These disadvantages and advantages cannot be cancelled out or equalized by any system of hypothetical book-keeping charges. It is simply necessary to recognize that TVA power operations stand on a different level from the profit-making services of privately-owned utilities. The only relevant test to be applied is whether the TVA power program actually pays its own way as a part of a broad regional resource development program, and that question has been answered affirmatively above.

There are, however, at least three aspects of the TVA power program which do have universally valid significance. The first is the demonstration which the TVA has given of the promotional effect of lowering electric rates. In the TVA territory average home use of electricity for the fiscal year 1945 was 1754 kwh. as compared with 1186 kwh. for the United States as a whole. Second, the TVA has proved that a public agency can administer a gigantic power operation without succumbing to the bureaucracy

and the political favoritism and the inefficiency which some Americans seem to believe are inevitable consequences of public administration of a business service. Finally, the TVA experience has demonstrated that power can be employed as an effective, financially self-supporting partner in a public program of regional development aimed at the wise utilization of natural resources and the raising of general living standards. These are the real lessons of the TVA power program.

Reconversion and the Employment of Women

By MARY ELIZABETH PIDGEON

EDITOR'S NOTE. Mary Elizabeth Pidgeon has been for fifteen years Director of Research in the Women's Bureau, United States Department of Labor, and formerly was Director of Citizenship Education at the University of Virginia, Extension Division.

While the observations reported in the article are derived from studies in the United States, the general principles stated by the author and the conclusions arrived at seem to apply equally to the industrial sections of the Dominion.

THE close of the war in Europe, and in its turn the Japanese surrender, were followed immediately by extensive lay-offs of workers in industries in the United States, particularly of those making munitions, aircraft, and other direct war supplies. The indications are that these lay-offs struck with especial force on women workers. In common with men, they had difficulty in finding new jobs at anything that required the best skills they had been exercising during the war. But even more than that, they frequently have found less opportunity than men to get any type of employment at all.

It is not surprising that the loss of jobs was most severe in the major war-industry centres. This had especially serious effects in those localities that offered little diversity of employment along other lines.

Impact of Lay-offs on Women

It was precisely in those war industries that employed great numbers of women that lay-offs came most promptly and severely. For example, in aircraft and parts plants (engines excepted), roughly a third of the workers were women. In May, 1945, the War Department announced cuts in this industry that were expected to reduce employment by 30 per cent, and this was greatly increased after the middle of August. A similar situation occurred in various branches of munitions' manufacture.

But more than this, lay-offs affected women in much larger proportions than men. Even in the mid-war period and long before its close (1943 and 1944), women constituted 40 or 50 per cent of those reported affected by cut-backs in a large sample of war plants, though they were only 35 per cent of all those employed. Later, from June to September, 1945, according to reports of the Bureau of Labor Statistics, women were separated from their jobs at a much faster rate than men in every munitions industry group; and both numbers and proportions of women also declined in non-munitions industries. In these three months, about 1 in 4 women factory