(Reprinted from Congressional Record of February 5, 1945)

The Missouri River Basin

EXTENSION OF REMARKS

OF

HON. HUGH BUTLER

OF NEBRASKA

IN THE SENATE OF THE UNITED STATES

Monday, February 5, 1945

Mr. BUTLER. Mr. President, I ask to have inserted in the Appendix of the CONGRESSIONAL RECORD a copy of a forward-looking address by Commissioner Harry W. Bashore of the Bureau of Reclamation, Department of the Interior, delivered before the Nebraska Reclamation Association at Lincoln, Nebr., on January 19, 1945. This association has been formed not only by men and women of Nebraska who are directly concerned with the conservation and use of the water resources of my State, but by many who live in the towns and cities whose future stability and prosperity are dependent on policies that look to the wise use of Nebraska's water resources for the development of the State.

Commissioner Bashore, having spent many years in the active development of the North Platte project which serves such important areas in western Nebraska and eastern Wyoming, is a recognized authority not only on water conservation but on the best means of putting water to work for the benefit of the people. An engineer of outstanding ability, his address shows that he believes that the measure of engineering results in water conservation is the extent to which constructed works can best serve the people.

I consider the outstanding achievement of Mr. Bashore's career to be the foresight and leadership he displayed in bringing about, in cooperation with Major General Reybold, Chief of Engineers, the coordination of the reclamation and Army plans for the unified development of the Missouri River system. This unified plan, which was given the approval of Congress in section 9 of the Flood Control Act of 1944, has important significance not only for the people of Nebraska who are dependent on the Platte River Basin of the Missouri system but also to the people of every river basin in the arid and semiarid areas of the West where water is the most vital consideration.

I thoroughly agree with Commissioner Bashore's observation that all water-use problems were not solved by the recognition that Congress in the Flood Control Act gave to the priority in the use of water west of the ninety-eighth meridian for irrigation and other beneficial uses. Of equal importance is the further recognition in the act which declares it the policy of Congress "to recognize the interests and rights of the States in determining the development of the watersheds within their borders" and "to facilitate the consideration of projects on the basis of comprehensive and coordinated development; and to limit the authorization and construction of navigation works to those in which a substantial benefit to navigation will be realized therefrom and which can be operated consistently with appropriate and economic use of the waters of such rivers by other users."

Eternal vigilance on the part of western water conservationists in cooperation with people of like minds throughout the country is essential to the effective translation of this policy into constructive and effective results of permanent benefit to the Nation as a whole.

There being no objection, the address was ordered to be printed in the RECORD, as follows:

When one places against the long perspective of history the short hundred years or so that this western country has been under development, one cannot help but realize that we have only just begun to build our civilization, to use our natural resources to best advantage, to say nothing of learning how to live with one another in peace and friendliness. The crude pioneering days of the West have passed, but the days of solid and intelligent growth and ripening are before us.

Within my lifetime modern science has placed in our hands miraculous tools with which we have unlocked a vast amount of new knowledge which has given us controls over our material surroundings such as man never before has held—scarcely dreamed of. There is not one of you here who does not know what I mean, who has not seen the tre-

mendous development of air transportation at speeds and heights we hardly hoped to attain. During the same period our knowledge of the structure of the atom has given us new skills in making metals which could withstand pressures and temperatures that have made possible new techniques in the construction of internal-combustion engines, the forging of weapons more deadly than man has ever before conceived, as well as new techniques in chemistry.

At the same time medical science has conquered diseases once regarded with abject fear, agricultural science has shown us how to increase crop production while reducing labor, and modern psychology has given an insight into the hidden resources of the human mind that eventually will teach us how to behave ourselves and lead happier lives.

In view of the short time this western country has been under development and in view of the great progress man has made in conquering his physical surroundings and making them serve his purposes, does it seem to you at all unlikely that along the banks of the Platte, the Loup, the Elkhorn, and the Niobrara beautiful modern cities will be built with all of the luxuries and conveniences that science can produce, peopled by intelligent men and women who have the leisure with which to develop the arts and sciences to a height they never before have reached?

This is the destiny that we could not escape if we would, just because we are human beings with brains and spirits that reach out for new and greater things to do. So when the means with which to bring these things about are at hand, as they are today, we cannot help but turn our hands and minds to the task. At least, we shall do so as soon as we have ceased to turn all of our energies in the direction of destruction.

In this State the resource which most requires development is water. There is enough water to bring nearly a million additional acres under intensive cultivation in Nebraska, but it rolls down the rivers and sometimes wreaks destruction along their banks. When we use the water that flows through Nebraska to full advantage, we shall avoid the destruction of floods, we shall assure additional electric power, and we shall make possible an agriculture that will increase the income of your people by hundreds of millions of dollars annually. It will enable Nebraska to combat drought such as wreaked havoc in your State in the thirties and drove thousands of families from the farms.

If we can learn to distribute these benefits so as virtually to end poverty, so as to give the greatest advantages to the individuals who contribute most to the welfare of all of us, we can certainly build for ourselves towns and cities that will be more convenient, sanitary, and beautiful than man has ever seen before.

One basis of every sound civilization lies in a healthy agriculture. The projects in the Bureau of Reclamation's plan for the comprehensive development of the Missouri River and its tributaries approved in the Flood Control Act of 1944 would irrigate 989,000 acres of rich Nebraska land, which lies in the valleys of the Platte, the Republican, and the Niobrara. And this land, which will assure ample moisture whether the rest of the area be suffering from drought or not, will be the basis for a greatly stabilized stock-raising industry, for on irrigated farms can be grown feed and winter forage for far larger herds than could be sustained if natural range lands were their chief source of feed. For that matter, the variety of products that could be grown upon newly irrigated land would add to the agricultural wealth of Nebraska through considerable diversification.

You may not be aware that today the Bureau of Reclamation systems in Nebraska are serving with a full water supply 2,436 farms, including about 170,000 irrigated acres, and that Reclamation developments under Warren Act contracts and other contracts are supplementing the water supply for about 100,000 acres. Moreover, the bureau is now building the Mirage Flats project in northwestern Nebraska, which is part of the war foods program, and has been making as much progress as possible considering the limitations on materials and manpower. Also, as part of the war food program, the Bureau recommended construction of the Cambridge project on the Republican River in southern Nebraska, but the urgent need of materials and manpower for other uses prevented approval. It is included in the initial stage of the Missouri Valley plan authorized by Congress in the Flood Control Act of 1944.

But I shall not go into details regarding the program which the Bureau of Reclamation is proposing for Nebraska. Mr. E. B. Debler, director for the Bureau in region 7, of which this area is part, will tell you about these plans much more in detail tomorrow.

What we propose for Nebraska is a part of the plan for the development and coordination of the natural resources of the entire Missouri River Basin, a development which would include the construction of some 90 dams and cover territory equal to about one-sixth of the land area of continental United States. The cost in 1940 values would be something like one and one-third billion dollars.

This, in turn, is but part of a plan for the development of all 17 States that lie chiefly west of the ninety-seventh meridian—a plan which embraces more than 200 separate projects, and in 1940 dollars would cost about $3,000,000,000. Our economists have calculated that this great engineering proposal would result in doubling the population of the West and in increasing the national income by several billions of dollars annually. With increased prosperity in one section of the country every other section gains through the stimulation of trade, industry, and travel.

In the post-war days, when our productive machine will be put to full use for constructive purposes, it appears to me very probable that people will have to work fewer hours to produce the things they want. This may mean fewer hours per day or it may mean longer vacations—but it certainly will mean more leisure to enjoy the finer things of life—including fishing. And with this leisure is certain to come much greater expenditure upon the cultivation of the lively arts, which embrace many recreational activities. From the commercial angle this is becoming big business.

A factor in the post-war development of the Missouri River Basin will be a link between Nebraska's present power grid and the great hydroelectric developments authorized on the eastern slope of the Rocky Mountains in Colorado. A transmission line from Fort Morgan, Colo., to North Platte, Nebr., will make available energy that can be produced at considerably less expense than in Nebraska, where rivers do not fall anything like the distances they drop down the slopes of the Colorado mountains. The existing Nebraska systems would be linked with the hydroelectric plants to be constructed on the main stem of the Missouri in South Dakota.

But the Missouri River Basin power projects themselves have a direct interest for Nebraska, especially. Most of the power plants proposed in the plan will generate electrical energy for use in pumping water for irrigation, and for domestic, commercial, and industrial uses. A few will be used almost exclusively for irrigation, however. In most cases, the operations of the power plants will be governed by the storing and releasing of water for purposes other than power generation, such as irrigation, flood control, and navigation, so that capacities and arrangements of the plants have been planned accordingly.

Considering all of the proposed power plants in the Missouri Basin plan of the Bureau of Reclamation as parts of one power generative unit, that unit would be able to turn out about 3,809,000,000 kilowatt-hours of energy each year at a uniform rate of 434,500 kilowatts. That means that these power plants could serve consumers with a uniform demand at the rate of 434,500 kilowatts.

Now all of this generative capacity is not going to be built in a day. If it were, we should not know how to use it. It is anticipated, however, that while we are planning and building dams we shall look ahead to see what the needs of this region are going to be, and make wise provision for them. Statistical data show that in 1940 Nebraska used 78,000,000 kilowatt-hours of energy, and estimates place the probable volume by 1950—which is only 5 years away—at 1,410,000,000 kilowatt-hours. By 1980, it is estimated, this State alone will require 3,900,000,000 kilowatt-hours of electricity—as much as power plants planned by the Bureau of Reclamation for the entire Missouri River Basin would produce. It does not appear as though we were planning too lavishly.

The Flood Control Act of 1944 to which I have referred is a great step forward. In this act the integrated plan of the Bureau of Reclamation and Army engineers for the development of the Missouri River Basin was authorized, calling for the expenditure of $200,000,000 by the Bureau and an equal sum by the Army Corps of Engineers toward the partial accomplishment of the initial stage of the program. An appropriation with which to complete surveys and field studies and prepare designs for structures will be sought to clear the way for actual work on long-awaited projects on the Republican River in Nebraska and Kansas. Passage of such an appropriation will be the signal to make ready all plans, so that as soon as the wars with Hitler and Hirohito end we shall be ready to ask for bids on contracts and commence to shovel dirt.

Within the next few months the Bureau of Reclamation will have completed comprehensive plans for similar development of 14 other great river basins in the West. Among them will be plans for the Columbia River Basin in the Northwest, the Central Valley of California, and the basin of the great Colorado River.

These plans will be presented to the President and Congress. We hope that they will be studied by the people in the areas they cover with as great interest as you of the Missouri River Basin have studied the possibilities of the plan we prepared for your river basins.

Our first purpose which will be served by the construction of post-war projects of the Bureau of Reclamation will be to make jobs for demobilized servicemen and industrial workers after the fighting stops. Everyone knows that there will be a difficult period of transition. We estimate that within 2 years after the end of the wars our post-war program will mean employment for some 200,000 workers on the construction sites, and as many more in industrial centers making electrical equipment, machinery, semifabricated materials, and other things used in building dams, power plants, tunnels, and canals.

But the principal task will be to settle servicemen and war workers on new farms created for them by these projects. If all of the projects suggested in the Bureau of Reclamation plan are constructed, there should be some 135,000 new farms created. These will be family-type farms in conformity with the established land policy of the Bureau of Reclamation. Under the original Reclamation Act of 1902 the policy was first laid down that the Government would stimulate the development of family-type farms—a farm small enough for the members of one average farm family to handle.

The law provides that we can furnish irrigation water to not more than 160 acres under one ownership. If water is to be supplied to more than this acreage, the excess

land must be sold. While there may be areas in the West in which this rule has been modified for one reason or another, it is the policy of the Bureau to encourage family-type farming. Already the established pattern of irrigation in Nebraska is in farms of less than 160 acres. Data from the 1940 census and from Bureau of Reclamation records of more recent date indicate that the average size of an irrigation farm in Nebraska is close to 120 acres, of which 67 acres is actually irrigated. This compares, for instance, with an average size irrigated farm of 197 acres in Wyoming, of which 129 acres gets irrigation water. Compare also the average size of all farms in Nebraska of 391 acres—irrigated and dry farms taken together—with the average of 1,866 for Wyoming and 822 acres for Montana. It seems clear that the transition from dry farming to irrigation farming under the 160-acre limitation of the reclamation laws can be far more easily accomplished in this State than in most others.

One of the reasons that the family-type farm has prevailed in Nebraska is that it ranks high in percentage of farms operated by their owners. It follows that if Nebraska holds to this form of farming its communities will continue to be prosperous in comparison with the areas where tenant farming predominates.

We are now entering another phase of conservation in the West. The Flood Control Act, approved by President Roosevelt on December 22, 1944, marks what many westerners believe to be the most significant step for the conservation of the waters of the West since the passage of the Reclamation Act of 1902. Read carefully section 1 (b) which provides that:

"The use for navigation, in connection with the operation and maintenance of such works (authorized by the act) for construction, of waters arising in States lying wholly or in part west of the ninety-eighth meridian shall be only such use as does not conflict with any beneficial use, present or future, in States lying wholly or partly west of the ninety-eighth meridian, of such waters for domestic, municipal, stock water, irrigation, mining, or industrial purposes."

If the courts hold that paragraph means what I think it does, this paragraph is of especial significance when read in connection with the opening paragraph of the act, which declares it the policy of Congress "to recognize the interests and rights of the States in determining the development of the watersheds within their borders" and "to facilitate the consideration of projects on the basis of comprehensive and coordinated development; and to limit the authorization and construction of navigation works to those in which a substantial benefit to navigation will be realized therefrom and which can be operated consistently with appropriate and economic use of the waters of such rivers by other users."

Effective implementation of this policy is given in section 9 of the Flood Control Act of 1944 by approving as integrated and comprehensive plans the proposals of the Bureau of Reclamation and Army Corps of Engineers for the development of the waters of the Missouri River Basin. The Nebraska Senators and Representatives vigorously supported this policy together with all reclamation programs.

It would be assuming too much, however, to suppose that all water-use problems were solved by this bill. For example, it will require a good deal of thoughtful planning to avert the type of litigation which hampered development in the North Platte area for years.

I think a good many of you know of my connection as an active construction engineer on the North Platte project. It is a great satisfaction to see the effects of one's work bear good fruit—and I am not punning. Not only has agriculture along the North Platte been stabilized, but cities and towns which are dependent upon the irrigated farms of the North Platte have grown and flourished. In Scotts Bluff County, which includes the city of Scottsbluff, the population grew from 2,552 persons in 1900 to 33,875 in 1940, a thirteenfold increase. In the decade from 1930 to 1940 the Scotts Bluff County population gained 18 percent and the city of Scottsbluff gained 42 percent, although the population of Nebraska as a whole declined almost 5 percent. I feel grateful to have had something to do with the growth of this section because of the irrigating works which I helped to build.

I feel grateful also for the opportunity to take a part in even greater developments after the war. Today the Bureau of Reclamation, as an arm of the Department of the Interior, is preparing to build not only irrigation systems, great dams, power plants, and canals, but is preparing to make Federal investment in these works contribute to man's well-being to a greater extent than ever before.

We in the Bureau of Reclamation believe that we have a greater responsibility than ever before not only because we desire to help the water users repay their pro rata share of the Federal investment but because the Government is in a position to help the settler avail himself of many techniques and uses of modern science in farming and in living in a way that he is not able to avail himself of them as an individual. In this way the Bureau of Reclamation, with the cooperation of all of you, can make its greatest contribution to the development of western communities and States. You will hear much more of this in days to come.

I thank all of you for this opportunity to tell something about the plans of the agency of Government for which I am responsible. I know that you will feel a friendly, intimate connection with the Bureau of Reclamation through Mr. Debler, who is the director of our newly constituted region No. 7. Mr. Debler and I will work with you closely to increase the prosperity of your State and bring about the fullest possible development of its resources.

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A New Louisiana Purchase

EXTENSION OF REMARKS

OF

HON. HELEN GAHAGAN DOUGLAS

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Monday, February 5, 1945

Mrs. DOUGLAS of California. Mr. Speaker, now and then the human imagination steps out boldly to encompass the future in a manner that stimulates enthusiasm and commands respect. A big plan is presented which thoughtful men recognize as practical because its roots go deeply into their own experience. People will say to themselves, "Now that is a big idea, but it is a good idea—one which I can go along with and work for." That is the way I felt when I read a speech made January 24, 1945, by William E. Warne, Assistant Commissioner of the Bureau of Reclamation, before the Associated Equipment Distributors at their meeting in Chicago. Mr. Warne has outlined a picture of development for western United States based upon the 43 years of experience of the Bureau of Reclamation which, although tremendous, is highly practical. I request permission to have it printed in the CONGRESSIONAL RECORD, because I believe it is a document you will wish to read with care.

STATEMENT BY WILLIAM E. WARNE, ASSISTANT COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR, BEFORE THE ASSOCIATED EQUIPMENT DISTRIBUTORS AT CHICAGO, ILL., ON JANUARY 24, 1945

Members of the Associated Equipment Distributors, the Bureau of Reclamation proposes nothing less than the full development of the water and related natural resources of the West.

Unless you have done some pretty hard thinking about such a program, have a lively imagination and a good deal of faith in American ingenuity and initiative, it is difficult to realize fully what this means.

The most obvious first step is to more than double the irrigated area of the 17 Western States where rainfall is inadequate to sustain stable agriculture from 21,000,000 acres to 43,000,000. When you have irrigated 43,000,000, you will have found consumptive uses for nearly every available drop of moisture that falls in the United States west of the ninety-seventh meridian, except a portion of the run-off on a narrow strip along Pacific coast.

In doubling the irrigated area, you will have built dams from which electric power output for the West will have been vastly expanded. This will be the lowest cost hydro power produced in the United States and will bring to life tens of thousands of small industrial establishments and a good number of large ones.

In expanding the agricultural and industrial production, towns and villages will spring up—the population of the West will have been doubled—at least doubled. National income will have been increased by several billions of dollars a year. And in providing new employment on a very large scale, time will have been given to business and Government to discover adjustments to the most profoundly disturbing fact—the fact that we are learning to produce more and more goods with fewer and fewer people faster than at any time since the industrial revolution and science brought into being what we call the modern world. The pioneering period of the West will have been definitely extended almost as though the Nation had been able to effect another Louisiana Purchase.

Of course, the Bureau of Reclamation does not propose that all of this ground be covered in a single leap, although we have laid before Congress a very substantial post-war program which will cost well over $3,000,000,000 to complete.

But our proposals do call for irrigation of about 10,000,000 new acres of what is now dry soil, although fertile, on more than 300 separate projects, and would give supplemental water to some 10,000,000 additional acres now inadequately irrigated.

Coupled directly with irrigation expansion is the development of hydro power which assists in financing the construction of multiple-purpose projects and helps to balance industrial advancement with agricultural progress. Our post-war plans contemplate adding more than 4,000,000 kilowatts of firm power capacity through such projects. This will more than double the installed firm power capacity of the West.

To complete so vast a program calls for a new concept in the development of the West. In the early pioneering days, the winning of the West depended mainly upon individual courage and initiative. Quite true, fellow settlers cooperated in digging the ditches and building primitive dams that diverted water from streams onto land won from the desert, but this was done almost entirely as a private matter and on a relatively small scale.

Toward the turn of the century it became clear that there was an important job for the Federal Government in helping to construct dams and canals to supplement the efforts of private groups and individuals; and

since the Reclamation Act of 1902, the Bureau of Reclamation has brought adequate water to some 4,000,000 acres of the 21,000,000 now served by irrigation in 15 Western States. Development has gone very nearly as far as it can under the methods of the past.

Now a bold new concept has broadened the outlook. We realize that, by thinking of the great river basins of this country as a whole, by planning the coordinated development of their water and other resources as one great unit, by building large, multiple-purpose projects, vastly greater benefits may be derived by every individual living within a river basin. In this way, the maximum use of water for irrigation can be obtained, along with a low-cost hydro-power development. Flood control can be achieved, navigation improved, and many related conservation ends served. At the same time, coordinated planning brings into the picture undeveloped mineral resources from which will grow new industries. This is the new concept which points to a greater future for the West than had previously seemed possible.

In approaching the tremendous problems involved in this development, the Bureau of Reclamation has made a series of 15 studies, each of which examines the natural and human resources of a great river basin in the West. Most of these river basins include all or part of several States.

The first of these studies was that based on the Missouri River Basin, the results of which were printed as Senate Document No. 191, Seventy-eighth Congress, second session, and which covers proposals for coordinating the use of resources in territory comprising one-sixth of the land area of the United States. Already Congress has authorized expenditure of $400,000,000 on this enterprise—$200,000,000 for initial work to be performed by the Bureau of Reclamation and a like sum for work by the Corps of Engineers. Altogether, the cost of work proposed by both Corps of Engineers and Bureau of Reclamation in the Missouri River Basin comes to about one and one-quarter billion dollars.

Within a short time, we expect to present another report based on a study of the Colorado River areas—both upper and lower basins.

Thirteen other river-basin reports will follow within the year, each calling for the construction of dams, canals, and hydroelectric power systems.

Now let us analyze briefly what this plan may mean to the Nation in post-war construction work, in related production of machinery, electrical equipment, and building materials, and the long-time effects which will flow from the continued expansion of the West.

First of all, accomplishment of a $8,000,000,000 program requires an approach which builds up volume of work as it proceeds. We could not put a full force to work at once. During the first year, our engineers figure that, if appropriations have been made by Congress, and we have a shelf of projects engineered to the point where bids can be let and dirt can fly, we would spend some $164,000,000. In the second year, this could be increased to something like $360,000,000; in the third year to $450,000,000; and in succeeding years we might spend some $500,000,000 each year until we tapered off near the conclusion of the program. This estimate is based upon 1940 prices.

We figure also that about 40 percent of this $3,000,000,000 program, or $1,200,000,000, would be spent for materials and equipment. The principal items of equipment would include $205,000,000 for electrical equipment and supplies; $145,000,000 for foundry and machine-shop products; and $74,000,000 for hydraulic and mechanical equipment. Construction machinery on a few individual projects may run as high as 30 percent of the cost, judging from past experience; but this is seldom the case. The remainder would be spent for iron and steel products, cement, lumber and timber products, gravel, and other materials.

A little arithmetic indicates that the labor cost probably will run in excess of $1,500,000,000. Our estimates figure that the work would provide jobs at peak production for more than 250,000 men working at the project sites and as many more in industrial establishments, chiefly in the East, producing machinery, equipment, and materials. This would provide work for a considerable number of demobilized servicemen and industrial war workers during the period of adjustment from war to peace, when jobs may be comparatively scarce.

Now it may surprise some of you to learn that the Bureau of Reclamation is far more than just a construction agency. It is operating a Federal investment of about $900,000,000 consisting of irrigation projects, power plants, dams which assist in flood control, and some recreational areas. It is an operating arm of the Government serving millions of acres of some of the most fertile land in the United States. It is also the largest single power-producing agency in the world, having under its jurisdiction hydroelectric plants with nearly two and one-half million kilowatt capacity. To administer these large investments and to carry on the tremendous construction program that it proposes, the bureau is divided into seven regions, each under a regional director, who is the personal administrative representative of the Commissioner of Reclamation in the unified territory under his jurisdiction.

Thus, the regional directors have a responsibility for the welfare of settlers who operate farms on the irrigation projects served by the Bureau of Reclamation, in order that, as water users, they may repay their pro rata share of the construction cost of the multiple-purpose projects built for them. It is clear that the increased purchasing power created by the construction and operation of these projects by the Bureau will be very great. Such purchasing power will provide

wholesale and retail markets for manufacturers of all kinds, including construction equipment manufacturers.

Our studies show that on the completion of the irrigation developments contemplated by the program, the increased purchasing power of the West would amount to one and one-quarter billion dollars annually. Here are some of the items that make up this tremendous annual home market for the products of American industry outside of the West: Automotive supplies, $225,000,000 annually; autos and trucks $160,000,000; farm machinery, $70,000,000; tractors $40,000,000. The remainder would go for food supplies which are not produced on irrigated land, building materials, clothing, beverages, refrigerators, washing machines, and hundreds of other items which are produced in the factories of the Nation.

The initial capital investment of an irrigated farm has been estimated at $8,000. Of this, approximately 40 percent generally is invested in farm machinery, autos, trucks, and tractors. Since the irrigated land to be brought in under this program would provide for more than 200,000 newly irrigated farms, the total initial capital investment of the settlers would be more than one and one-half billion dollars.

Similarly, the concern of the Bureau of Reclamation extends beyond the basic job of constructing and operating irrigation projects, as well as related facilities such as hydroelectric power plants. In the 43 years since the Bureau of Reclamation was established its activities have created or sustained through supplemental water supplies nearly 100,000 successful irrigated farms in the West. These farms, with the cities and towns that are dependent on them, support directly a population of more than a million persons.

Through its power developments Reclamation now serves areas of a population of more than 3,500,000.

Under the post-war program which has been outlined, the activities of the Bureau of Reclamation through irrigation, power, municipal water supplies, and related activities would be extended to areas with a population of more than 12,000,000 people, not counting the increase which would result.

Right here I would like to point out that the Bureau of Reclamation is interested in your plans just as you, the Associated Equipment Distributors, are interested in what we propose. The design and production of efficient construction machinery and its sale at reasonable prices will have a considerable influence on the public works programs after the war. If we can keep our construction costs relatively low the reclamation program can be expected to absorb a considerable part of the expected employment slack by putting veterans and demobilized industrial workers on useful jobs of permanent value.

The Bureau of Reclamation operates under a law requiring that the cost of our projects allocated to irrigation, power, and municipal water supplies shall be reimbursable to the Government over a period of years chiefly through payments by farmers for irrigation water and through payments for electric current that we sell at wholesale from our dams and transmission lines. It is obvious that costs of operation in such a program are important in justifying that program before the Congress and the people. You are one of the most important factors affecting our costs. The greater ingenuity the equipment designers display, the more efficient the construction machinery becomes, the more work we can do at lower unit cost. So you see you have an actual part in determining the size of this program, the aim of which is to develop our western resources.

Now let us review in its entirety the proposal which the Bureau of Reclamation puts before you. We offer you a program for the future—a program which envisages a new approach to the problem of developing the West because it pictures coordinated use of the natural and human resources of great river basins, each basin taken as a whole.

This would be the third step in a great progression. The first step was the diversion of streams to irrigate pastures and dry benches bordering our western streams. The second was the control of great rivers through the magnificent multiple-purpose structures, such as Boulder, Grand Coulee, and Shasta Dams. The third is the application of the multiple-purpose principle to a whole watershed after first investigating and reviewing the unused or wasted resources and planning a unified program for their employment in the stabilization and development of the basin.

Through this concept, unit costs are reduced and greater engineering works than ever before are made possible. It is possible so to place and time the construction of the dams and water-control works so as to reach the most and the best of the arid lands with irrigation ditches; so as to get the maximum of hydroelectric power from the streams; so as to provide the optimum of flood protection; and so as to make all of the works serve the many useful and essential purposes for which God gave man water.

With the exception of the erection of the great $22,000,000,000 war-production plant built by this Nation to defeat the Axis, the Bureau of Reclamation's program is the greatest construction enterprise ever presented. It involves not only the construction of dams, canals, and power plants, but the construction which would result from building thousands of industrial enterprises, towns, villages, and farms that would arise in the West as an indirect result.

This program calls for the democratic cooperation of all of the people. With such cooperation, it points the way toward vigorous economic and social progress in the United States.

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