

## SENATOR CLINTON P. ANDERSON

### Dr. Corbett's Introductory Remarks:

This next part of the program is a personal pleasure. I have known Senator Anderson for many years. He was Secretary of Agriculture when our acquaintance began. We have been on a "Clint" and "Roger" basis for about 20 years. It was a pleasure to hear what Secretary Udall had to say about the Anderson Bill. Senator Anderson's S.2 Water Resources Research Bill is a tremendously important step forward in the water program of the country.

I have had few experiences more enjoyable than a recent meeting of our Board of Regents where there was a unanimous vote to name our new Physical Science Laboratory, which devotes itself largely to space work, the "Clinton P. Anderson Hall." Much more space work will be accomplished in this new building. As an indication, yesterday I signed a new contract for 2 million dollars to go into that work, Senator Anderson.

I can best summarize my feelings by saying I think Senator Anderson is the most respected and the most loved man in the State of New Mexico. And so it is a real pleasure for me to turn this microphone over to our own Senator Clinton P. Anderson.

### Senator Anderson:

Thank you Roger. Secretary Udall, Congressman Montoya, Governor Campbell. While I was listening to Secretary Udall discuss the water resources bill now pending in the Congress and which the Senate has passed, I thought it might be proper sometime to express a few words of appreciation to some of those people who helped. This is a bill which would turn over to the Land-Grant Colleges, generally, to the universities, certainly, in every one of the states, some responsibility for water research and development. I did not just grab that out of thin air, as Secretary Udall has pointed out. I based it upon the program we have had of Land-Grant Colleges and Agricultural Extension work which has operated so successfully for nearly a century. I did not stop there, after we had drafted a bill, I asked the Land-Grant Colleges to supply me with an advisory committee and to give me their individual feelings about the bill and what might be done to it. I am glad to say that Roger Corbett did not take that as just a mere invitation, but sat down and tried his very best to help me come through with what looked like a decent piece of legislation. It has been very useful to have that kind of advice because when the bill was pending in the Senate a number of efforts were made to amend it. Some of them, I thought, would have been extremely destructive if they had succeeded.

Before the bill got to the floor, one of the members of the Senate came to me and said, "I want you to know that I am going to have to be against your bill, I am sorry, we have been friends for a long time. This time I think you have made a serious mistake and I am going to be against your bill."

And I said, "Is that so, are you acquainted with the people in your state that might be interested in this?"

He said, "I know the problem of education and I know the problem of science. The people who might be interested in this, aren't to be involved in this."

I said, "Are you acquainted with the president of the Land-Grant College in your state?"

He said, "Oh, yes."

I said, "What kind of man is he, I would like some advice from him sometime."

He said, "He's a perfectly wonderful man, trustworthy in every regard. Whatever he says I take with great seriousness. I think he is extremely fine and high grade character."

I said, "Thank you. He was chairman of the advisory board that helped me get this bill ready. I hope you will find out from him sometime what he thinks about it." And strangely there wasn't a word said from him when the bill got to the floor, except a few words of commendation. He had recognized that if research is spread all over the map with nobody trying to coordinate it, sometimes some of the money is wasted, sometimes some of the money is lost. But, research well directed seems to be at the present time one of the most precious possessions we Americans have. I was very happy to welcome him into the fold of those who believe there is a function for our Land-Grant Colleges in pioneering in another field in addition to the fields in which they have already pioneered.

Recently, in the Senate Aeronautical and Space Sciences Committee, we invited a group of distinguished scientists to discuss with us their views of the space program. One of these eminent men, Dr. Polykarp Kusch, of the Columbia University, holder of a Nobel Prize, said many problems remain to be solved right here on earth. One of the most pressing is the adequate supplies of fresh water. Dr. Kusch said, "We have a moral obligation not to bequeath to our successors an arid continent." I agree and I believe we can meet that obligation and do the other things essential for the preservation and progress of this Nation, including journeys to the planets.

We are moving in many fields of science with the speed of an olympic runner. At the hearings that I just mentioned, one of the witnesses recalled a book written in 1935 by Dr. Clifford Furnas entitled The Next One Hundred Years in Science. And the speaker then said that everything the author said would take a century to accomplish has already taken place in twenty-five years. Some of us who have been watching this realize that it is possible.

The work in atomic energy, to which I have devoted a great deal of my time, was certainly unheard of in 1935 as far as practical applications which might flow from the splitting of the atom. And in the space program, we have just finished about eight days of long hours devoted to hearings on a 5.7 billion dollar budget. Every item called upon new techniques, new resources which we hadn't realized we had, new skills we have never used, new disciplines which our schools must have. This is part of a great forward movement that has taken place in these last twenty-five years. Incidentally, when I got home I started to finish reading a book called, Red Star in Space, which discusses very frankly the Russian activities in space. This would be, I think, interesting reading for a great many people, because it points out how the Russian scientists did not start their space work with the capture of the German scientists who had been working on the V-2 missile; but, had many years before, been working very effectively in that field and were probably far ahead of the Germans at that time.

Now the conversion plant that we dedicated this morning is an example of how scientific and technological processes are being applied to our urgent national needs. We should keep up this pace, indeed, we should expect to accelerate it as present programs generate new knowledge on which to base further programs. It is hardly necessary for me to tell this gathering of the intimate relationship between water and agriculture and industry. It takes five barrels of water to refine one barrel of crude oil, it takes 150 to 250 gallons to can a case of spinach or tomatoes, and 1.6 million gallons to sustain an acre of land for a growing season. In the little table of statistics from which I got these figures, it told how many gallons of water it took to produce a barrel of beer. Well, I'm a diabetic and can't drink beer, so I just marked that one out. It's of no real use to me.

It may be appropriate here to recall some of the highlights of the saline water program. It was after World War II that the increasing demands of our large urban centers expanding population and industrial growth required a new look at our water needs. To be sure, the Southwest and other similarly affected regions were no less arid than they had been, but, because of population and

industrial growth the water issue, as a national matter, received increased public interest. The Truman Administration exhibited real interest in Saline Water Conversion. In hearings before the House Appropriations Committee consideration was given to the possibilities of a supplemental budget request to enable the Bureau of Reclamation, which Secretary Udall now presides over, to initiate an elaborate research program. However, the Committee voted to wait for specific legislative authority before appropriating funds even though water conversion was considered to be a meritorious endeavor this report said.

Early in 1950, President Truman recommended that the Congress enact legislation authorizing the initiation of research to find means of transforming fresh water in large volume at economical cost. That's not too many years ago, you realize, when we see this plant here today. A bill introduced by the late Senator Joe O'Mahoney from Wyoming provided authority for one demonstration plant in a general program designed to increase and conserve existing water supply. It was to have been a twenty-five million dollar program under the direction of the Secretary of the Interior. But, the bill died at the end of the session. No action was taken on the President's proposals until the 82nd Congress when identical bills were presented by Senator O'Mahoney and Representative Engle, now Senator Engle, of California. These bills called for research into and demonstration of practical means for economical production from sea or the saline water or from the atmosphere including cloud formation of water suitable for agriculture, municipal, industrial, and other beneficial consumption uses. After much discussion and a number of amendments Mr. Engle's bill passed and was signed into law July 3, 1952. This statute, known as the Saline Water Act, provided two million dollars for a 5-year research program, but they made no provision for demonstration plants.

No matter how modest the start, the ice had been broken and Federal participation in desalinization research was firmly established. The 1952 Act was amended in 1955. The program was extended from 5 years to 14 years, the funding increased from two million dollars to ten million dollars. It was expected that a stepped up program would bring earlier results. But, demonstration plants still had not entered the picture. In the years between 1955 and 1958, the saline water program was discussed at great length in the Congress with a great amount of concern over the lack of concrete results.

During the second session of the 85th Congress, I introduced a resolution to provide for the construction by the Department of the Interior for a full-scale demonstration plant for the production from sea water or other saline water to water suitable for

agricultural, industrial, municipal, and other beneficial uses. The number of demonstration plants was increased finally from one to five.

Maybe I should say that when I introduced a change in the bill from one plant to five, I originally had a provision that there would be three plants in the interior parts of the United States, one on the West Coast, and one on the East Coast. The bill was commented on pretty liberally by writers and other people and I got a call from the then majority leader of the Senate, Lyndon Johnson of Texas, who said, "Don't you know that this country has three coasts, the East Coast, the West Coast, and the Gulf Coast, and if you don't put the Gulf Coast in there, you don't need to expect to pass your bill."

Well, of course, I recognized that there was such a thing as strategy, and I modified my bill to include all three of the coasts and was very happy to see the success it achieved in the Senate soon after. So when we discuss what to do on these bills, Stewart, you and I realize that there are more things to consider than just the geographic limits of the United States as we imagine them. And, I want to say to you that the first plant built, by the way, very accidentally I'm sure, was at Freeport, Texas. You and I all recognize that once you give Texas a chance, it will run with the ball and it did in a very acceptable fashion. Several of us were down to Freeport when that plant was dedicated, and a very fine plant it is. Of course, there was no background noise like we had here today because it wasn't running yet. They didn't get it ready in time.

I commend the people who had our plant ready here today. As a matter of fact, when I listened to that noise I thought once that I would like to have it shut off. But, I remembered something that happened one day. President Truman was given a set of bells by the Dutch government, I guess Queen Wilhelmena had them sent to him. It was a very fine sounding group of bells. An expert player was brought over to play, and we were all invited to go out and listen to them.

I was at a meeting of the World Food Board and didn't think I could quite get away. When I finally finished, I told my car to dash out there. I got there just in time to have a big policeman say, "No, the program has started, you are going to have to stay back here."

So I stayed in the very, very far background and finally after the speeches they started to play on these bells and it was very nice. I turned to the man next to me and said, "That's very fine isn't it?"

And he said, "What did you say?"

And I said, "It's a very pleasant sound from those bells, isn't it?"

He said, "What'd you say?"

And I said, "Excellent music, isn't it?"

And he said, "Stranger to tell you the truth, those damn bells are making so much racket that I can't hear a word you are saying."

Well, the plant this morning made so much racket that I couldn't hear everything that was said, but I was so glad to see it running I didn't care. Despite a good many objections to the construction of these plants, passage of the resolution in the 85th Congress gave us the third big step in our national saline water effort--a large new program to demonstrate the economic possibilities of conversion.

In 1961 the Congress was again concerned with keeping this program moving. As many of you may remember, we had a new administration headed by a former Senate colleague of mine. In his message to Congress that year, President Kennedy requested that this country make every effort to search for low cost processes for converting sea and brackish water into fresh water to meet our future needs and those of our neighbors throughout the world. I had a little something to do with suggesting that there might be a phrase like that somewhere in the message.

I had gone as a representative of this country to a nuclear conference in Geneva, Switzerland. At one of the luncheons I was placed next to Dr. Homi Bhabha who was the chairman of the conference, and a great expert on nuclear power from the government of India. He has recently visited this country again and I had an opportunity to renew my acquaintance with him. As we sat down to lunch in Geneva, seated next to me was Ralph Bunch, because he had gone to school in Albuquerque, I guess, and then Sobolev, a great scientist, who was the Russian representative in the conference, as I was from the United States. I tried to get Homi Bhabha from India into some sort of conversation and I finally got him talking a little bit and he turned to me and said, "I want you to know one thing, and tell your son and colleagues this thing. We are not interested in your bombs, we are not interested in the things you can bring us that you can say to us 'with this you can blow your neighbors to bits'. We are not interested in blowing our neighbors to bits; we are interested in trying to do something to lift from the backs of mankind some of the burdens now upon them."

I think, Mr. Secretary, that's the real virtue of this program today, that the saline water program offers perhaps one of the greatest chances of all to lift some of the burdens from the backs of those people who live around many of these areas; the burdens they now face to make it possible to live as some of our people do.

So, in response to the President's appeal in 1961, Congressman Aspinall from Colorado, and I introduced legislation to further expand the saline water program. The resulting act authorized an additional 75 million dollars for research and vital plant activities. This provided the added emphasis needed to carry on a concentrated Federal effort. The research program has been very rapidly accelerated and problems are now being investigated which may provide us with a series of break throughs necessary for success.

I am told that since the saline water program began in 1952, the cost of converting 1,000 gallons has dropped from \$4.00 to \$1.00. This is indeed a significant achievement, but we realize that it is not enough. More demonstration plants will undoubtedly be necessary, such as the one currently under study for the Florida Keys. Mr. MacGowan told me this morning that the reason we may be able to build a plant on the Florida Keys is because of the San Diego plant's success. And that is the way these things go, you move from one success to another, each being a little better than the last, and finally you get to something you want real badly. You heard the Secretary refer to this great demonstration they are planning which will involve tremendous supplies of water and utilize our nuclear power as well. That is being done at Oak Ridge by Philip Hammond who is a scientist at Los Alamos.

Also, there is the possibility Mr. Secretary--I think maybe I can say what you probably won't want to say--there is a possibility, and I say it only as a possibility, that processes may be developed that will produce electric current at 2 to 3 mills, and some people say a mill and a half, and make possible at the same time the production of potable water at as low as 20 cents per thousand gallons. That's a long time in the future. It may never be achieved, but it is a very worthwhile goal. And I compliment day by day our great Secretary of the Interior for his courage in being able to say, "I will try it, I will not just stand back." I am confident that you in water activities will continue to carry on this important work, and I am equally certain that we in Congress will continue to support it in every way that we can.

When he was still the Senior Senator from Texas, Vice-President Lyndon Johnson, commented that a civilization of faucet turners can regard water supply indifferently--the generation of bucket carriers

and cloud watchers cannot. We in the Southwest certainly follow in this second category; but, I think even the faucet turners are waking up to the water problem. This is to our advantage for we will all profit from the heightened awareness of a national need to move forward together to meet it.

I compliment this gathering here today. I congratulate the state of New Mexico on its first plant. I know it is the fore-runner to many fine things to come. It will mean a great deal to us industrially and agriculturally, and we will profit for years and years because of the effort now being made in this community and in this state.