It's always a pleasure for me to return to the Northwest, especially when I can participate in activities and programs which have been developed by people I have known and worked with over a period of many years. The Irrigation Operators'
Irrigation Operators' Conference is one of them. I was looking back at some of your prior programs the other day and noticed that, in 1959, I talked to you about "The Importance of Good Public Relations in Managing a Project"--a subject that's probably even more important today that it was then. Also, I recall with pleasure receiving a surprise presentation from the Kelowna Chamber of Commerce while traveling with your Conference in Canada in 1962.

From looking at the program, I see you have put together another timely and provocative session. I want to compliment Royse Van Curen and John Walker--and all of those who worked with you--for your dedicated efforts in helping make this conference what it is.

In this Bicentennial Year, our Nation is pausing to look back on its heritage and remarkable history. Although the Reclamation program is not 200 years old, we are approaching our 75th anniversary next year. And your own conference is celebrating its 25th year. So, it would seem appropriate to reflect on how far we have come, and to touch on a few problems brought on by recent, rapid changes.

Each one of you
Each one of you here has contributed to the great legacy of the West—a legacy made possible in large part through the wise development of our natural resources, and, equally important, the wise management of our renewable water resources for the benefit of mankind. Beginning with the visionary concept our forefathers of turning barren land into thriving productivity so people could live a life of quality and abundance, water resource development has evolved and broadened over the years into a program which serves multiple purposes and brings magnified multiple benefits.

In fact, I know of no other program within the Department of the Interior . . . perhaps within government . . . which creates the variety of tangible benefits for people as does the Federal Reclamation program. Too many people mistakenly think of Reclamation as a program to build dams primarily for irrigation. They are unaware, or fail to comprehend, how far-reaching the program really is, or how the concrete and steel of water control and regulating structures are translated into specific and long-term social and economic benefits for people and the Nation.

It is true that
It is true that irrigation is one of our most important functions. In 1974, for example, western farmlands irrigated by Federal Reclamation projects produced enough food to satisfy the annual needs of about 33 million people . . . no small contribution in this hungry world. And over the past 69 years of crop reporting, crops produced on Reclamation project lands have a cumulative gross value of over 45 billion dollars. This is (seven and one-half times) as much as the total 6 billion dollars invested in project facilities over the past 74 years.

But irrigation is just one part of the Reclamation program. There are numerous other benefits. For example:

1. Reclamation operates the largest interconnected power system in the United States, delivering clean, non-polluting hydroelectric power over 16,000 circuit miles of high voltage transmission lines interconnected with many more thousands of miles of other public and private lines.

2. Reclamation delivers enough municipal and industrial water to meet most of the daily requirements of about one out of every three persons in the West. Our M&I water deliveries in 1974 were one-third more than the total combined water needs of the six New England States.
3. Reclamation reservoirs are fast becoming some of the Nation's most popular outdoor recreation attractions. The top 10 Reclamation projects draw more visitation each year than the 10 most popular western national parks.

4. Flood control benefits provided by our dams and reservoirs set an all time record in 1974--preventing over $170 million in damages that would otherwise have occurred during the flooding season.

In addition, although too often unsung, the Reclamation program has provided highly significant environmental protection and fish and wildlife enhancement.

We are too inclined to emphasize the negative and fail to recognize the positive. How many hundreds of thousands of China Pheasants do you farmers feed along your ditchbanks and on your field crops and residues each year?

The economic enhancement and stabilization afforded by Reclamation projects also is often overlooked or taken for granted. The social and cultural advantages that accrue are real, but again unsung.

All of these benefits have been made possible because the Reclamation program has been flexible. It has been
quick to respond as its mission has been broadened by statutory enactment to include all sources of water for all beneficial uses to which western water can be put.

But although flexibility to respond to changing needs has always been a key feature of our program, I am concerned about the future. For despite all we have done in the past, and despite all we are doing today, I fear that because of the somewhat antiquated legal and institutional framework under which we operate, we may be ill equipped to meet the new challenges presented by today's realities.

Our world is changing. We are faced with unprecedented challenges in providing increased food and energy production, in meeting growing demands for traditional and sometimes competing uses for water, and in doing all those things in a way that does not have an unduly adverse impact on our natural environment.

We must ensure that our people are well fed, well clothed, and well housed. Unfortunately, even in this the richest Nation in the world there are large numbers among us who lack these basic necessities.

To achieve that objective, we need a national water policy that is specific enough to accomplish national goals, yet
goals, yet flexible enough to recognize regional physical differences, human problems, and opportunities. The objectives and programs in the Missouri River Basin are bound to be different than those in the Colorado River Basin. The problems and opportunities in the Pacific Northwest are vastly different than those of the southern Great Plains.

And although we must acknowledge those differences, we must also acknowledge our commonality. There is, today, disturbing evidence of State isolationism and isolationism among competing interest groups. No Western State could have reached its present-day stage of development, growth, and prosperity without the help, materials, manpower, ingenuity, and mutual progress of other States. Interdependence among the States has created growth and strength. This will hold for the future as well as the past.

In making certain that our water resources are developed and managed wisely to attain the maximum benefit for the majority of people, there is a role for each of us to play... as individuals and as members of the different organizations we represent at the Federal, State, regional, and local level.
One of the most important roles is that of the water users themselves, the local people like you and members of other user groups, as well as groups concerned with environmental protection. You have important responsibilities.

First of all, I feel strongly that the local people should play an active part in deciding the priorities for water allocation by participation at the beginning and throughout the planning process. I urge you to participate fully in the decision-making process. Let your voices be heard, your views be known, along with the views of others.

But the role played by all participants in the planning process must be a responsible role recognizing national as well as regional priorities, and long-term as well as short-term objectives.

We will have problems and we will have differences of opinion. But it serves none of our interests, individually or collectively, to provoke a modern-day clash between the West and Washington, D.C., between energy and agriculture, or between responsible development and environmental preservation.

Our problems can most likely be solved through communication, coordination, and cooperation, including some give and
some give and take among all interests. They cannot be solved through confrontation and obstruction. Objectivity, knowledgeability, and integrity are key elements required.

The accomplishments we have achieved to date have resulted from a combination of circumstances. The physical resources of this part of our Nation have been eminently well suited for development. The people involved in that development have had the vision to recognize the opportunities available . . . and have been willing to find and support ways and means to get the job done.

The very nature of our operation--the fact that we are in business to serve the changing needs of people--means that we must frequently seek and accept changes in the way we conduct our business. These changes are usually evolutionary, rather than revolutionary, although at times they occur so rapidly that they may seem to be revolutionary.

For example, for those who have not been watching closely, there seems to have been a revolutionary jump in the Northwest from the traditional gravity irrigation system to the huge pivot sprinkler that waters nearly 160 acres in one revolution.
Actually the change has been evolutionary from traditional gravity systems to irrigation systems . . . to the hand move sprinkler systems of only a few years ago . . . to the wheel move sprinklers . . . and on to the huge mechanized pivot sprinklers which today irrigate up to 160 acres in one revolution.

And there will be further developments in irrigation methods in future years, some occurring rapidly, some not so rapidly. Closed pipe distribution systems and bubbler and drip irrigation methods will probably one day be as commonplace as the systems now in use, because of the water savings, operating economy, the advantages in weed control, and the esthetics involved. We are hopeful that more and more irrigators in the future will be taking advantage of our computerized, highly sophisticated irrigation management services. These and other steps toward better management of our limited water resources are as essential to the future of irrigated agriculture as are the facilities now being planned and built by the Bureau of Reclamation.

One evolutionary change we have witnessed and participated in has been the growth in environmental concern in this.
concern in this Nation. I say evolutionary because it did not spring full blown from the head of some backpacking refugee from a crowded metropolis five or six years ago.

Most of us who have worked with the land and water all of our lives, long ago developed a healthy respect for the environment and a concern that it must be protected and preserved for future generations.

Soil and water conservation have been of basic concern to irrigators and to Reclamation for several decades, particularly so since the depression, drought, and dust bowl days of the 1930's.

It is true that we are today wrestling with some specific new problems associated with the environment—point discharge of polluted waters, bans on open burning, restrictions on the use of herbicides, and the preservation and enhancement of wildlife habitat. But we have faced the same general problems before.

Some of the restrictions that have been proposed to meet these problems may well be excessive, but it is up to you and others like you to make your concerns known, just as those who advocate those restrictions have made their concerns known, so that a reasonable
a reasonable compromise can be reached. Our system has been built on constructive compromise, and I urge you to participate fully in a search for common ground.

Workable solutions to these and other environmental problems can only be arrived at by people familiar with both agriculture and the environment.

Today the activities of the Bureau of Reclamation are of concern to many more different segments of our society than were once interested in what we were doing. They have a right to be concerned because what Reclamation does affects/indirectly if not directly the lives of so many Americans.

It is up to us to make sure that their concern is not blind and uninformed. Let us do our part to let them know what our problems are and how they-as well as we—benefit through reasonable, responsible resolution of those problems. And let us work with them to achieve such solutions.

Another evolutionary change, still only in the beginning stages, which I see as a possible wave of the future, is the emergence of cost-sharing in our construction programs.
Cost participation in advance by local sponsors has obvious advantages to both the local entity and the Federal Government. It means that a project can move to an earlier construction start. It means a potential savings to both parties because of an accelerated construction schedule. It means an advantage in the competition for Federal dollars, and it lessens the drain on the treasury for construction funds. It means more rapid repayment, which minimizes the interest foregone by reason of the interest-free aspects of repayment applicable to irrigation. Finally, it gives local beneficiaries a greater voice in planning and decisionmaking.

Water safety is another evolutionary change. I would like to call to your attention. When we built our canals many years ago through long reaches of sand inhabited by jackrabbits and gophers, we were not too concerned with the possibility of kids diving or toddlers falling into them. Today many of those once-isolated canals are surrounded by houses and families. And newer construction is planned through more densely inhabited areas. We must now consider the advantages of underground pipelines and fencing, and the cost
and the cost involved, and who should pay that cost. We must work with the local communities to find an equitable answer to these problems. This is an example from an Indian tribe—landowners and water users, who share the cost.

Also evolutionary has been the growth of the Reclamation program. And I'd like to conclude my remarks with a discussion of the portion of Reclamation's all-time high 1976 program that will be accomplished in the Pacific Northwest.

The fiscal year 1976 appropriation bill, as signed by the President last month, will provide about $636 million for the Bureau of Reclamation. This is the largest budget we have ever had, and is based on a philosophy of orderly continuation of on-going work. It also will permit some new construction starts this year. The current fiscal year budget includes about $130 million for programs here in the Pacific Northwest Region of the Bureau. About half of that money will go to the Grand Coulee Third Powerplant. One 600-megawatt unit is completed and on-line, and a second unit is scheduled to be completed this spring. Ultimately, there will be 6 units—3 at 600,000 MW, 3 at 300,000 MW.

Another major project just getting underway at the Grand Coulee complex is the installation of four more pump and generating units. Contracts will be awarded for the
awarded for the major equipment this year with completion of all four of the reversible units scheduled for late in 1980. Two of these reversible units have previously been installed but due to latent construction defects little service has been obtained from them so far. The contractor is in the process of correcting the defects, and we expect the units to be producing in the near future. Thus six of the 12 pumps at the Coulee Dam will be reversible units.

It appears that we may be able to start construction of the Second Bacon Siphon and Tunnel later this fiscal year. As you know, that is a major feature of the Columbia Basin Irrigation Project. Congress has appropriated over $3 million to initiate construction of this feature—which will permit irrigation eventually of more than double the acreage currently irrigated by the project. Without the Second Bacon Siphon and Tunnel further expansion of the irrigated acreage is not possible.

Some of the other major construction work underway in the current fiscal year includes the Teton Project in eastern Idaho, where the dam and powerplant are almost
powerplant are almost completed, and the Tualatin Project in western Oregon, where we are just getting underway with the pipeline distribution system.

Work on several projects will be completed this year, including the Manson, Foster Creek, and Whitestone Coulee Units of the Chief Joseph Dam Project; the East Greenacres Unit in northern Idaho; and the recreation facilities at Palisades Dam. Rehabilitation work will be completed on the Cascade and Tumalo Districts. We will continue rehabilitation work on the Crooked River Project and the Rogue River Basin, and we will start rehabilitation of the Burley and Snipes Mountain Irrigation Districts. We will also start work on a small loan project for the Wenatchee Heights Reclamation District.

Major items under the operation and maintenance program include acquisition of supervisory control equipment for the Boise Project's Black Canyon and Anderson Ranch facilities; acquisition of the final generator stator winding at Grand Coulee; construction of a storage building and boat ramp at Hungry Horse; repairs to the Jackson Lake and Island Park Dams on
Park Dams on the Minidoka Project; and new gates for the Keechelus Dam on the Yakima Project.

We also plan to purchase and install a highly sophisticated, automated electronic system to improve river regulation on the Boise and Yakima Projects. These systems will include electronic sensors at reservoir sites to give us immediate data on runoff and storage. With this equipment we will be able to make better use of the available water by eliminating some of the waste in irrigation releases.

I have given you just a brief summary of the work going on here in the Pacific Northwest Region. This region has always been one of the most important in the Federal Reclamation program, and I have every confidence it will continue to grow and prosper. Reclamation today is entering a new and exciting era in its continually evolving mission to develop water for the benefit of people. We are proud of our excellent relationship with groups such as yours, and of the record which we, together, have accomplished in the past. With your continued support, I know we will improve on that record in the years ahead.
IRRIGATION OPERATORS’ CONFERENCE

"AGE OF AQUARIUS"

JANUARY 19-21, 1976

RODEWAY INN, BOISE, IDAHO
25th Irrigation Operators' Conference

AGE OF AQUARIUS

Convention Center, Rodeway Inn
29th & Chinden Boulevard
Boise, Idaho

January 20-21, 1976
FOREWORD

Age of Aquarius may sound a little bit "mod" for such a dignified Conference as those we conduct in Boise every other year. However, upon researching the horoscope sign of Aquarius, we find that it means "Water Carrier". Our Planning Committee thought there was no better way to describe the participants of our Conference than as "Water Carriers".

We are proud to be conducting the 25th Irrigation Operators' Conference during the same year that our great nation is also celebrating its Bi-Centennial. Perhaps irrigation didn't play a major role in the forming of the government of the original 13 colonies, but as we are all aware, agriculture plays a very vital role in the development and operation of any country.

We are also happy to be observing the 73rd year of operation of the Bureau of Reclamation. We in the western states of this nation have encountered problems in agriculture unlike those in states where rainfall is plentiful. Through cooperation of the farmer, irrigation districts, and Bureau, these problems have not only been solved, but many new and more efficient procedures have been developed. We hope that the problems we face in the future will not be insurmountable and that we may continue to stride forward in the field of agriculture.

AGE OF AQUARIUS

Tuesday, January 20, 1976

MORNING SESSION

8:00 Registration for Late Arrivals ----------
Convention Center
Rodeway Inn

9:00 Welcome to Boise ------------------------
Royse Van Curen
President
Irrigation Operators' Conference
Boise, Idaho

Conference Convened ----------------------
R. J. Vissia
Regional Director
Bureau of Reclamation
Boise, Idaho

Introduction to Theme ---------------------
J. V. Walker
Regional Supervisor of Water & Land Operations
Bureau of Reclamation
Boise, Idaho

Announcements -----------------------------
Jerry Schaack
Chief, Water Operations Branch
Bureau of Reclamation
Boise, Idaho
Methods of Irrigation

9:30 Moderator ----------------------
    Mel Haqood
    Washington State University
    Extension Service
    Prosser, Washington

Is Sprinkler Irrigation the Answer
to All Irrigation Problems? ------
    Marv Shearer
    Oregon State Reclamation Congress
    Corvallis, Oregon

Is Gravity Irrigation on Its Way Out? --
    Leo Busch
    Chief, River Operations Branch
    Bureau of Reclamation
    Burley, Idaho

Future of Drip Irrigation in the U. S. -------
    Leonard J. Erie
    Irrigation Engineer
    Agricultural Research Service
    Phoenix, Arizona

10:30 RECESS

11:00 Methods of Irrigation -----------------
    Panel Discussion and
    Question and Answer Period

12:00 Noon

Luncheon
    Toastmaster
    Robert A. Anderson, President
    Oregon Reclamation Association
    Redmond, Oregon

    Speaker
    Gilbert G. Stamm, Commissioner
    Bureau of Reclamation
    Washington, D. C.

AFTERNOON SESSION

Beneficial Use of Water & Water Laws

1:30 Moderator ----------------------
    Sherl Chapman
    Executive Director
    Idaho Water Users Association
    Boise, Idaho

    Oregon ----------------------
    Chris Wheeler
    Deputy Director
    Oregon Water Policy Review Board
    Salem, Oregon

    Idaho ----------------------
    Keith Higginson
    Director
    Idaho State Dept. of Water Resources
    Boise, Idaho
Beneficial Use of Water & Water Laws (continued)

Washington -------------------------------
Charles B. Roe, Jr.
Senior Assistant Attorney General
State of Washington
Olympia, Washington

2:30 RECESS

3:00 Financial Assistance to Districts through
the R&B, Small Loans (P.L. 984), and
Distribution System Loan (P.L. 130)
Programs -------------------------------
Larry Vinsonthaler
Chief, Repayment & Statistics Branch
Bureau of Reclamation
Boise, Idaho

Martin H. Fabricius
Agricultural Economist
Bureau of Reclamation
Boise, Idaho

3:30 Hydromet System ------------------------
Max E. Van Den Berg
Hydromet Coordinator
Bureau of Reclamation
Boise, Idaho

4:00 Adjourn

COMMERCIAL DISPLAYS IN ROOM 704
**AGE OF AQUARIUS**

**Wednesday, January 21, 1976**

**MORNING SESSION**

**Water Quality**

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<td>A Workable Program for Water</td>
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**O&M Practices**

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**Toastmaster**

Russell D. Smith, President
Washington Association of Irrigation Districts
Pasco, Washington

**Speaker**

Arthur A. Hart
Idaho State Historical Society
Boise, Idaho
AFTERNOON SESSION

1:15 Call to Order -----------------------------
  Sec Jerry Schaack
  Secretary-Treasurer
  Irrigation Operators' Conference
  Boise, Idaho

1:30 Water Safety Movie - "Dippy Duck" -------
  Provided by
  Imperial Valley Irrigation District
  Imperial, California

2:00 Impact of the Amended Federal Insecticide,
    Fungicide, and Rodenticide Act on
    Irrigation District Weed Control Programs
  Gary Hansen
  Pest Control Specialist
  Bureau of Reclamation
  Denver, Colorado

3:00 Conference Wrap Up ----------------------
  J. V. Walker
  Regional Supervisor of
  Water & Land Operations
  Bureau of Reclamation
  Boise, Idaho

3:15 Adjournment

REMEMBER 1976 FIELD TOUR

IN MEMORIAM

Cal Liebel, an active member of the Irrigation
Operators' Conference, passed away October 26, 1975.

The Clock of Life

The Clock of Life is wound but once,
And no man has the power
To tell just where the hands will stop,
At late or early hour.
To lose one's wealth is sad indeed,
To lose one's health is more.
To lose one's soul is such a loss
As no man can restore.
The present only is our own,
Live, love, toil with a will.
Place no faith in TOMORROW,
For the clock may then be still.
Mr. Gilbert G. Stamm  
Commissioner  
Bureau of Reclamation  
C Street between 18th and 19th  
Washington, D. C. 20240

Dear Mr. Stamm:

The 25th Irrigation Operators' Conference will be held in Boise, Idaho on January 19-21, 1976. The Planning Committee is working very hard to make this conference the best yet. This year's theme is "Age of Aquarius". We thought it was quite appropriate, since Aquarius or Water Carrier, so aptly describes our Conference participants.

Some of the topics to be discussed are Improved O&M Practices; Beneficial Use of Water and Water Laws; R&B, Small Loans, and Repayment Ability; Hydromet; Methods of Irrigation; and Pesticide Registration. We also plan to have a segment on the history of irrigation in the Northwest in honor of the Bi-Centennial.

We would like to invite you to speak to our Conference group as the luncheon speaker on Tuesday, January 20, 1976.

Please let us know if this can be worked into your busy schedule.

Sincerely yours,

Royse Van Curen, President