COLORADO RIVER STORAGE PROJECT

Statement by Dan H. Hughes, before the Sub-Committee on Irrigation and Reclamation of Senate Interior and Insular Affairs Committee, in Hearing on S 1555, Upper Colorado River Storage Project.

June 29, 1954

I am Dan H. Hughes of Montrose, Colorado. I have lived in the Uncompahgre Valley on the Western Slope of Colorado since 1904. My occupation has been that of a practicing attorney and the operation of irrigated farms and livestock.

My experience with water matters in Colorado has been as attorney for The Uncompahgre Valley Water Users' Association which operates the Uncompahgre Valley Irrigation Project, a Federal reclamation project.

I have been or am a member of the following boards: Colorado Water Conservancy Board until 1952; Uncompahgre Valley Water Users' Association Board at the present time; Colorado River Conservancy District Board at the present time.

With my sons I now own and operate some four thousand acres of irrigated land. We run both sheep and cattle.

In Western Colorado we have varied agriculture. The type with which I am most familiar is the raising of hay, grain and the running of livestock. We have summer pastures in the mountains, winter pastures in the desert. There are approximately four months on the average when our livestock must depend upon raised feed.

Western Colorado has a wealth of minerals. The largest deposits are oil shale; next in size is coal; and at present the first in importance is uranium ore. We also have iron, copper, lead, zinc, tungsten and other minerals too numerous to mention.
The limiting factor in our development on the Western Slope of Colorado is water. The main supply of water is from the melting of the winter snows in the higher elevations. This water comes through small streams, which in the main are not in deep canyons, into the larger streams which flow through the bottoms of the canyons. Our problem is to make this water available for use on the mesas or flat lands. Unquestionably we need the assistance of the Federal Government in solving this problem.

Through private industry and several reclamation projects, the main and largest of which is the Uncompahgre, in the course of some eighty years we have put 1,185,000 acre feet of water to a consumptive use. There is at present transmountain diversion, a large percentage of which is through Federal projects, of 377,000 acre feet. There is at present an additional committed use of 528,000 acre feet, giving a total of present and present committed use slightly in excess of 2,000,000 acre feet. According to the engineers this leaves 1,000,000 acre feet available for un-committed use.

We know the limitation of our growth will be water and that even if this full one million acre feet is made available for consumptive use in Western Colorado we still cannot reach the maximum development in growth that our resources other than water, justify. This is true even if there were not another acre foot of transmountain diversion, and if we had the total supply allocated to Western Colorado by compact between the Upper Basin States, taking into consideration the Colorado River Compact.

We recognize that if Western Colorado is to have its allocated supply of water it must proceed to put the same to beneficial use within
a reasonable time. The use we have in mind is consumptive use; that is, for irrigation, the development of oil shale, coal mining, and municipal use for our ever-growing cities such as Grand Junction.

For this use to be made of the water it must be stored near its source of supply in the mountains in sufficient quantities that it will be available throughout the entire irrigation season. This will mean a large number of small reservoirs with canals and ditches for distribution of the water. To illustrate, let us take the situation this year on the Gunnison River. To produce a crop we must have water through August. For the last thirty days on the smaller streams there has been a serious curtailment of water. The Gunnison River itself is so low the Uncompahgre Project is already drawing water from the Taylor Park Reservoir to supplement direct-flow supply. Streams now running will fast go down in volume and yet we have ahead of us a minimum of two months irrigation. The only answer to our problem is up-stream reservoirs. We visualize a large number of smaller reservoirs located sufficiently far upstream so that the water can be made available for the land lower on the stream.

Waters from a small reservoir above the irrigated lands in Gunnison County would be first used for the irrigation of these lands. Our experience is that a minimum of 60 per cent of the waters so used would return to stream; these waters would then be available for the Gunnison tunnel and would be used on the Uncompahgre Project. After this use they would return to the Uncompahgre River and would be available for use in Delta County. Such waters as was not taken through
the tunnel would be taken down the Gunnison River and be available in Delta County. Further down the Gunnison the Redland's project in Mesa County would receive benefit from the waters and such as was not consumed would be available for irrigation the third time. It is a fair estimate that every foot of water stored high on the stream in this particular area would furnish a minimum of 2 feet of water for irrigation. This of course is a favorable situation but in the main the same condition would exist on the entire western slope provided the reservoirs were built sufficiently high on the stream.

We recognize that for us to have a million acre feet available of our share of Colorado River water in each year, hold-over reservoirs further downstream will also be necessary on account of the Colorado River Compact. On the other hand, without upstream reservoirs the water so stored will not in any way make water available for our consumptive use. In other words, only one-half of the problem is solved, and this is the small half, by downstream reservoirs.

It is our feeling that the present Bill should make provision for the small upstream reservoir so that the planning will cover the full problem rather than only half of the problem confronting the areas where the waters rise.

Frankly, we have been and are of the opinion that the Reclamation officials have been so engrossed with their large downstream reservoirs and power plants that they have seriously neglected plans to make the water involved available for consumptive use. That this is particularly true on the Western Slope of Colorado. We further feel that now is the
time when we should insist upon the full plan being incorporated into the present Bill.

The Bureau of Reclamation cannot say that interested parties on the Western Slope have not urged for many years complete and detailed surveys so that the waters in question can be made available for consumptive use. Our area has been under the jurisdiction of the Salt Lake office. Numerous and repeated requests have been made along the line that they make surveys and include as a part and parcel of the present plan works which would make the waters in question available for our use. Our requests and urging have received little response.

We bring this matter to the attention of this Committee so that, if possible, due consideration, when the final Bill is finally drafted, can be given to adequate surveys and the construction of works to make the waters allocated to us available for use.

We are attempting to follow out the policy established in the State of Colorado in the past. Briefly, this policy was that waters originating on the Western Slope were to be available for the development of the Western Slope and none was to be exported to the Eastern Slope except it be established that such waters are available in excess of that needed for present and future development on the Western Slope.

This policy was first recognized by a statewide group who met at the call of Colorado's then Governor, the Honorable Edwin C. Johnson, now United States Senator from Colorado, in 1935.

At this meeting Mr. Malcolm Lindsay, then the City Attorney for Denver, introduced a resolution in connection with the request for Federal
moneys for the Blue River transmountain project, which moneys were to finance a survey..."to secure the necessary data to determine all pertinent questions relating thereto, including adequate protection of present rights and future needs on the Western Slope."

In 1943 this policy was recognized by an act of the Colorado legislature which, in substance, provided that any plans for the exportation of Western Slope water to the Eastern Slope shall be "designed, constructed and operated in such a manner that the present appropriations of water, and in addition thereto, prospective uses of water for irrigation and other beneficial consumptive use purposes . . . within the natural basin of the Colorado River in the State of Colorado, will not be impaired or increased in cost." This policy was restated by the Colorado Water Conservancy Board in 1952. So we can see that the record is clear on Colorado policy.

The same policy was recognized in Senate Document No. 106 of the 82nd Congress, Second Session, in connection with the Frying Pan Arkansas diversion as a part of the operating principles. The same policy is recognized in Senate Document No. 80 of the 80th Congress, Second Session. In this document provision is made for the construction of the Green Mountain dam to create the Green Mountain reservoir, waters from which would be used and the project would be operated to effect the following primary purposes:

"1. To preserve the vested and future rights in irrigation.
2. To preserve fishing.
3. To conserve and make use of these waters for irrigation, power, industrial development, and other purposes.
5. To maintain the conditions of river flow for the benefit of domestic and sanitary uses."

All of these things were to be done in Western Colorado.

The document further provides "that water released shall be available without charge to supply existing irrigation and domestic appropriations of water including the Grand Valley Reclamation Project ... and for future use for domestic purposes and for irrigation of lands thereafter to be brought under cultivation in Western Colorado.

In spite of this policy we have not been able to obtain the assistance of the Bureau of Reclamation along the line of adequate surveys to determine projects necessary to permit the Western Slope to make full and adequate beneficial use of the waters available.

On the other hand, the Bureau's efforts have been and are directed toward the construction of works for the exportation of water, and we believe at a much higher cost per unit irrigated than the cost of constructing works on the Western Slope so that we might utilize the water.

The question might be asked, "Are we over-estimating our needs?"

Quite recently the Research staff of the University of Colorado estimated a population of two million people in the area involved in the near future.

This estimate is based upon the facts set up in their survey. Oil shale operation would mean a city of five hundred thousand people; mining and treatment of uranium ore is expanding each day. When oil shale operations begin, and all the experts agree they will have to begin by 1975, we must prepare for a tremendous increase in our population and in our industries.
I wish to quote from Tell Ertl, formerly engineer with the United States Bureau of Mines, now Dean of Engineers at the University of Ohio, who holds a degree of Bachelor of Science in Mining Engineering, a Master's Degree and the degree of Doctor of Philosophy, and who was formerly Chief of the Oil Shale Mining Section of Rifle, Colorado. Quoting:

"Numerous industries subsidiary to the oil shale, power, chemical, fertilizer and aluminum industries will be required. As one example, the oil shale mines will need 1,000,000 pounds of explosives daily. To supply the mines, an explosive manufacturing plant will be set up in the oil shale areas. Foundries, fabricating plants, specialty manufacturing plants and perhaps even a steel plant will be built to supply the primary industries."

"... New consumer industries will arise and present ones expanded throughout Colorado. The taxes and other economic returns derived from the oil shale and allied industries will be of tremendous benefit to the entire State of Colorado. But this industrial development will take place only if the State of Colorado reserves water in the Colorado River."

Mr. Ertl, in a pamphlet published in 1953, states that all engineers who have studied the availability of liquid fuel to supply future domestic demand are confident that within a decade a portion of our domestic demand must come from synthetic fuel from oil shale; that these fuels cannot be made available unless water for this vast industrial development is retained in the Colorado River.

At a recent meeting at Glenwood Springs, eight of the major oil companies had experts present. They fixed the latest date that oil
production from shale must begin in 1975. The earliest date was fixed at 1965. They estimated the minimum production as being from one to two million barrels per day. All of these engineers recognize that water might be a limiting factor of the oil shale industry.

To us it seems a wise course for the Federal government would be to immediately plan works and construct the same as soon as possible which would make the waters now available on the Western Slope usable for the development of the Western Slope. Such works would be far less expensive than those now contemplated and would follow out the long-time policy adopted by the State of Colorado and which we think is essentially reasonable and just. That is, the area which produces the water, which is a part of its natural resources, should be permitted to use it to its full extent needed.

We, of course, admit the necessity of constructing large hold-over storage reservoirs. We recognize the wisdom of making such stored waters available for the production of electric energy. It must be recognized, however, that the reason for constructing these reservoirs is to assure the Upper Basin States of their allocated waters in dry years as well as in wet years. There is little use of making water available for use and not constructing works to use the water. So, we say, "Let's put the whole plan into the present Bill and where there has not been sufficient surveys to determine proper works to utilize the water so made available, that the Bill provide for such surveys."

We know that all construction cannot start at one time and that the total overall plan will take years. On the other hand we see no
reason why in the initial Bill the whole plan cannot be incorporated and all surveys and construction treated as one unit and necessary filings or claims to the water be made so that even if there is a delay in construction the water will be made available when the works are constructed.