January 13, 1936

Senator Tilman M Bishop
Chairman
Senate Natural Resources Committee
State Capitol Building
Denver, Colorado 80203

Representative Walt Younglund
Chairman
House Natural Resources Committee
State Capitol Building
Denver, Colorado 80203

THE PRESIDENT OF THE UNITED STATES:
States should not thwart projects beneficial to the Nation simply for parochial purposes.

THE GOVERNOR OF CALIFORNIA (ca 1960):
Don't worry, Colorado does not know what it is doing.

SENATOR SCOOP JACKSON:
I will not be party to any water diversion from the Columbia River to ease demands on the Colorado River, which has been ruined.

1.0 To complete the preliminary analysis of our state's western surface water resources based on the Colorado River Basin I attach the following charts:

1.1 Colorado State Outflows into Colorado River Basin, % of total annual virgin outflow for each River Basin.

1.2 Colorado and Gunnison River Basins; Possible Result of Pooling Virgin Streamflows.

1.3 Colorado and San Juan River Basins; Possible Result of Pooling Virgin Streamflows.

These charts should be examined together with those I sent the Committee previously, namely:
1.4 Annual Streamflows of Each of the Six Colorado River Sub-Basins.

1.5 Colorado River and Tributaries Annual Virgin Outflows from State.

1.6 Colorado River and Tributaries - Virgin Streamflows left for State Use.

1.7 Colorado State Virgin Outflows as a Percentage of Lees Ferry Flows.

2.0 All these charts are based on official data, and examination shows:

2.1 The critical period for each of the six basins is about 80/90 years (Gleissberg Cycle), and calls for serious analysis for any long-term storage.

2.2 All six river basins display strong correlation with the solar cycle, 20-23 years (the Hale Cycle).

2.3 Over this long-term period the annual virgin streamflow variations can be as high as 1 to 9 as is the case with the Dolores.

2.4 Colorado State outflow as a percentage of Lees Ferry virgin flows over a 79 year period varies from 57.0-89.8 percent.

2.5 In ten separate years of a 79 year period the virgin flow out of state is LESS than Compact commitment, Mexico Treaty requirements plus all losses to Lees Ferry.

2.6 Average annual virgin streamflows left to Colorado State under the Compacts and Mexico Treaty including losses to Lees Ferry are listed below:-

2.6.1 79 year average (1906-1984) - 2,985,000 acre-feet.
2.6.2 Highest solar cycle average (1913-1934) - 3,650,000 AF.
2.6.3 Lowest solar cycle average (1954-1977) - 2,315,000 AF.
2.6.4 Lowest ten-year period (1931-1940 and 1953-1964) average - 1,313,250 acre-feet.
2.6.5 There is no 700,000 acre-feet uncommitted water unless major storage is created based on an 80/90 year cycle, and certainly NONE during the two ten-year periods.

NOTE: By comparison, the engineers in Arizona have assured for the state over 4,500,000 acre-feet annually of firm surface water by pooling the Salt and Gila River Basins (augmented by upstream storage) and by interconnection with the Central Arizona Project with its ten year CRSP allocation.
2.7 The relative contribution of each river basin to the total annual outflow varies from year to year, and is particularly evident for the Colorado-San Juan Basins.

3.0 To save our entitlement with 71 to 75 percent of Colorado's water in a 79 year period having been given away and lost, the following is essential:

3.1 Historic virgin hydrology for each of the six basins going back at least to 1906.

3.2 For the same historic period, a study to ensure that the annual and ten year statutory releases to the Lower Basin including all losses are attained with Colorado assured that the maximum entitlement is retained within the state.

3.3 Distribution of the above annual releases between each of the six river basins, including pooling of streamflows and river basin interconnection possibly by LINK AQUEDUCTS (interconnection and pooling has been practised for hundreds of years in Europe, Russia, Iraq, Iran, Pakistan, etc).

3.4 A study of the long term storage required in each river basin to secure retention of the maximum permissible entitlement with minimum losses.

3.5 A review and analysis of all present (including augmentation) and possible new reservoir sites to secure the required capacity.

3.6 The proponents who claim that all this can be achieved under our present water laws and small individual water right owners except for Denver Water Board, should come up with their own technologically supported plan, and not just eloquence.

4.1 The California Administration with its Department of Water, Los Angeles Department of Water and Power, Salt River Project and Arizona Department of Water all have highly experienced and qualified technical departments and are well aware that apart from the Denver Water Board and the grossly overloaded but highly competent State Engineer who administers the water laws - Colorado has no comparable technically experienced and qualified direction or department and consequently has no study or plan for the retention of the entitlement; although both the Administration and the River District engage consultants on an ad hoc basis for specific individual projects.

4.2 The Lower Basin, while highly critical, hopes that Colorado will continue with the Administration's pontifical statements of the sanctity and effectiveness of Colorado's Water Rights laws and the eloquent oracular pronouncements from Glenwood Springs in support of projected litigation; but in either case any kind of state wide or Western Slope technologically supported plan is absent and is replaced by slogans such as
"the willing buyer/willing seller approach - does not lend itself to a comprehensive statewide development plan."

and neologisms designed to impress the lay person, such as "transvert" in place of transfer or basin interconnection.

4.3 California voters are convinced that the annual surplus of 1,000,000 acre-feet or more in a ten year period will persist and that they are legally entitled to this water, and therefore voters need not commit themselves to the $4 billion water bond issue which would cost them $240,000,000 in annual interest at six percent - thanks to Colorado's incompetence.

4.4 The California Administration insisted to me that their water laws are similar in many respects to those in Colorado but with the difference that a right to use water is not issued in perpetuity but, as I recall, for a maximum of 45 years (?) when one must re-apply. Is this correct?

4.5 Colorado should expect and anticipate a demand for this 1,000,000 acre-feet on legal grounds. In this event the case will end up in the U.S. Supreme Court and it is UNLIKELY that Colorado's contention of 'Perpetuity' would prevail.

5.0 Finally, following the practice of the water management and conservation agencies of the rest of the U.S.A. and the World an analysis is essential:-

5.1 of augmentation and firming of the State's SURFACE WATER SUPPLIES by pooling, by storage, and by interconnection of river basins including the eastern slope water resources with those in the western counties;

5.2 of potential hydro power generation from present and future reservoirs to make financing possible for the water conservation requirements of Colorado.

THE LATE U.S. SENATOR SCOOP JACKSON WAS RIGHT, AND SO ARE THE GOVERNOR OF CALIFORNIA AND THE LOWER BASIN WATER AGENCIES.

Sincerely,

Ralph L. Chantrill

Copies to: Representative Ed Carpenter
Colorado Congressional Delegation
The Press