DISTRICT COURT, WATER DIVISION NO. 4, COLORADO
Case Nos. 86-CW-226 and 88-CW-178

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FINDINGS, CONCLUSIONS AND DECREE ON WATER AVAILABILITY

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In the Matter of the Applications for Conditional Water Rights of

THE BOARD OF COUNTY COMMISSIONERS OF ARAPAHOE COUNTY, COLORADO,

for the UNION PARK PROJECT in Gunnison County, Colorado.

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## I. INTRODUCTION

### A. INTRODUCTION OF ISSUES, TRIAL DATA, PARTIES & COUNSEL:

This Decree addresses the threshold issue of "Water Availability" with respect to two applications and an amended application for conditional water rights pursued by the Board of County Commissioners of Arapahoe County, Colorado ["Arapahoe" or the "Applicant"] with respect to the Union Park Project in Gunnison County, Colorado.

Following extensive pretrial activity over a period of five years, the Court conducted a trial to the Court in Gunnison, Colorado, from June 3, 1991, through July 3, 1991. The Court viewed some areas relating to the subject water applications (i.e. Union Park, the Taylor River and the Taylor Park Reservoir) on July 1, 1991, and heard closing argument on July 24, 1991. Written briefs regarding proposed forms of this Decree were filed thereafter. The last brief was received by the Court on August 15, 1991.

Counsel actively involved in the presentation of the case included the following:

| Party | Counsel |
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| Applicant: | |
| County of Arapahoe | Robert F. T. Krassa<br>John R. Henderson<br>William A. Hillhouse II<br>Paul J. Zilis |
| Opposers: | |

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| City of Gunnison<br>Colorado River Water Conservation District | Timothy J. Beaton<br><br>Donald H. Hamburg |
| Crystal Creek Homeowners Association, Perkins D. Sams and Ernest H. Cockrel | Charles B. White & Wayne B. Forman |
| National Wildlife Federation<br>Colo. Wildlife Federation, Gunnison Angling Society, Western Colo. Water Congress | Christopher H. Meyer |
| Rainbow Services, Inc. and<br>High Country Citizens Alliance | Bruce C. Driver |
| Trampe Ranches | L. Richard Bratton |
| United States of America | John R. Hill, Jr. and Michael A. Gheleta |
| Upper Gunnison River Water Conservancy District | Anthony W. Williams and L. Richard Bratton |
| Virgil & Lee Spann Ranches | Kenneth L. Spann |

Other Opposers' counsel who were present for portions of the trial proceedings but who did not actively participate included:

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| Cities of Delta & Montrose | John R. Kappa |
| County of Gunnison | David Baumgarten |
| East River at Almont Property Owners' Assn. Inc., Three Rivers Resort and Gordon & Elsie Ferguson | J. Steven Patrick |
| Gunnison County Electric Assn. | Charles Cliggett |

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| Colo. Water Conservation Bd.<br>Colo. Division of Wildlife<br>State Engineer of Colorado | Colorado Attorney General<br>by AAG Steven O. Sims |
| Uncompahgre Valley<br>Water Users Association | John E. Kreidler |

B. JURISDICTION AND BACKGROUND

1. The Applications and the Amended Application in the two captioned cases constitute "water matters" within the exclusive jurisdiction of the Water Judge under §37-92-203 (1), C.R.S. 15. Said applications and the amendment were duly published as required by law and this Court has jurisdiction of the subject matter of these proceedings and of all parties affected hereby, whether they have appeared or not.

2. None of the land or water rights involved herein is located within the boundaries of a designated ground water basin.

3. Statements of Opposition were duly and timely filed by a number of opposers, including those listed in the introduction above. Those who filed Statements of Opposition, but who did not participate in the trial include:

a. In case 86-CW-226: the City of Aurora, Elsinore Cattle Co., Murdie Homeowners Assn., Inc., Roy C. Cranor, et al., W. A. Moncrief, Jr., Henry Berryhill, Jr., Vincent and Wanda Norman, and Colorado Ute Electric Assn.

b. In case 88-CW-178: Mr. and Mrs. Charles Reeder, Wapiti Canyon Ranch, Ltd., Joe Vader, et al., Rocky Mountain Biological Laboratory, and the City of Grand Junction.

4. Because of their complexity and the issues involved, the two cases (86-CW-226 and 88-CW-178) were re-referred to the water Judge by the Referee pursuant to §37-92-303 (2), C.R.S. 15. Thus, no Ruling was issued by the Referee, and the issues on water availability in said cases were eventually consolidated for the trial.

5. As an overview, the conditional water rights sought in these cases comprise a large water development known as the Union Park Project. The Project seeks the trans-mountain diversion of water by which water is taken from the Upper Gunnison River Basin located west of the Continental Divide in Gunnison County, thence moved

through a tunnel to the Antero Reservoir located on Colorado's Eastern Slope in Park County, and thence piped to the County of Arapahoe for ultimate use by its inhabitants. The Project anticipates diverting water from the East River and the Taylor River (and certain of their respective tributaries) which two rivers join at the Town of Almont in Gunnison County, Colorado, to form the Gunnison River.

6. THE APPLICATION IN 86-CW-226: The original application was filed in 86-CW-226 by Natural Energy Resources Company (NECO) making claim for conditional water rights for the Union Park Project. Said Project contemplated two principal structures:

a. The primary structure was Union Park Reservoir which would be constructed on Lottis Creek, a tributary to the Taylor River, with a capacity of 900,000 acre feet. In a prior case, 82-CW-340 in this court, the Union Park Reservoir had already obtained a conditional decree for the storage of 325,000 acre feet to be used as part of the Union Park hydroelectric project. The 900,000 acre feet capacity contemplated by the application in 86-CW-226 included the 325,000 acre feet capacity in 82-CW-340, less 4,450 acre feet which had been transferred to another point of storage in case 85-CW-96.

b. The sources of supply for Union Park Reservoir included:

1) Lottis Creek, the creek upon which the reservoir was to be constructed;

2) Taylor Park Pumping Plant which would divert water from the Taylor River at Taylor Park Reservoir and pump it to Union Park Reservoir (for which a 1,000 c.f.s. conditional decree was requested); and

The Willow Creek Collection System and Bertha Gulch Tunnel which is a series of open channels and a tunnel carrying water from Bertha Gulch, three unnamed tributaries of Cow Creek and Willow Creek to Union Park Reservoir (for which 340 c.f.s. was claimed).

c. The other principal structure involved in the Project was the Union-Antero Conduit for which a decree for 450 c.f.s. was requested. The Union-Antero Conduit was described as a series of tunnels, pipelines, siphons and flumes approximately 41.84 miles in length which was to carry the water from Union Park through the Continental Divide to Antero Reservoir for eventual use and consumption in Arapahoe County.

d. The Application listed the following claimed beneficial uses: municipal

(including: fire protection, irrigation of lawns, gardens and parks, and water for private and municipal facilities); domestic, commercial and industrial uses; recreational purposes; fish and wildlife propagation; reservoir evaporation replacement and hydroelectric power.

d. In addition to the conditional decrees requested in 86-CW-226, the application asked to change the conditional decree in case 82-CW-340 which was adjudicated solely for power generation purposes by adding the uses of recreation, fish and wildlife propagation and evaporation replacement.

e. On August 29, 1988, NECO conveyed all of its interest in the Union Park Project to the Board of County Commissioners of the County of Arapahoe (Applicant), and the Court substituted Arapahoe County as the Applicant in place of NECO.

f. Following a hearing on October 31, 1988, on certain summary judgment motions filed by various Opposers, the Court entered an Order on December 29, 1988, dismissing with prejudice most of the application in 86-CW-226, on grounds that it described a speculative appropriation. [See: §37-92103(3)(a), C.R.S. 15] This was based upon the Court's findings and conclusions that NECO, as the original applicant, was private company without firm contracts for use of the water at the time that the application was filed in 1986. However, the Court allowed to stand that portion of the application which sought to change the conditional decree in case 82-CW-340 by adding the uses of recreation, fish and wildlife propagation and evaporation replacement to the non-consumptive hydropower generation purpose originally decreed to the reservoir.

7. THE APPLICATION IN 88-CW-178: On December 30, 1988, Arapahoe County filed a separate application in case 88-CW-178 to preserve the claims made in 86-CW-226. Basically, this new application was identical to the application in 86-CW-226, except for the claimed priority date, the identity of the Applicant, and it described the Union-Antero Conduit as being 43.14 miles in length (rather than 41.84 miles as stated in 86CW226).

8. THE AMENDED APPLICATIONS IN 86-CW-226 AND 88-CW-178: On November 30, 1990, the Applicant filed an Amendment to its Applications in cases 86-C-226 and 88-Cw-178. The Amended Application preserved the claims for the structures applied for in said cases, and asserted a claim for a plan of augmentation as a contingency in the event the Court found that there was insufficient unappropriated water available to permit diversion of water without injury to existing water rights This application asked for <u>conditional</u> water rights at alternate points of

diversion as follows:

a. Structures located on the East River drainage: 1) East River diversion structure, 80 c.f.s., 2) Copper Creek diversion structure, 40 c.f.s., 3) West Brush Creek diversion structure, 50 c.f.s. 4) Middle Brush Creek diversion structure, 65 c.f.s. 5) East Brush Creek diversion structure, 50 c.f.s. 6) Cement Creek diversion structure, 125 c.f.s.

b. Structures located on the Taylor River drainage: 1) Deadman Gulch Creek diversion structure, 40 c.f.s. 2) Spring Creek diversion structure, 225 c.f.s. 3) Taylor River diversion structure, 290 c.f.s 4) Texas Creek diversion structure, 100 c.f.s. 5) Willow Creek diversion structure, 140 c.f.s.

C. CAN AND WILL DOCTRINE

9. In seeking an award of conditional water rights for a very large scale project (estimated to cost nearly one-half billion dollars), the above applications require analysis and application of §37-92-305(9)(b), C.R.S. 15 (1990 Repl. Vol.), which adopts a "can and will" test for the issuance of conditional water rights, and which specifically provides as follows:

"No claim for a conditional water right may be recognized or a decree therefor granted except that it is established that the waters can be and will be diverted, stored, or otherwise captured, possessed, and controlled and will be beneficially used and that the project can and will be completed with diligence and within a reasonable time.'

10. Prior to the adoption of this statute, an applicant was not required to demonstrate water availability as a prerequisite to obtaining a conditional decree. This was based upon a "wait and see' approach which theorized that through some future circumstance, such as a change in the stream, or some meteorological changes, the available supply of water might increase. See: Colorado River Water Conservation District v. Vidler Tunnel Water Co., 197 Polo. 413, 594 P.2d 566 (1979). But this "wait and see" approach was rejected by the Colorado General Assembly when it adopted §37-92-305~9)(b); and the current state of the law is than an applicant must prover"that water will be diverted and that the project will be completed with diligence before the issuance of a decree for a conditional right." Southeastern Colorado water Conservancy District v. City of Florence, 688 P.2d 715, 718 (solo. 1984). The intent of the General Assembly in enacting this statute was "to reduce speculation associated with conditional decrees and to increase the certainty of the administration of water rights in Colorado." FWS Land and Cattle Company v. State of Colorado Division of Wildlife, 795 P.2d 837 (Colo. 1990).

11. "Can and Will" Doctrine. The "can and will" doctrine had it origin in the so called "Huston" and "Vidler" cases and the perceived need to prevent the issuance of conditional decrees to speculators`.

a. Those antecedents of the "can and will" doctrine were focused on "speculation" in the commercial sense--persons seeking to acquire water rights for which they themselves had no use and for which they had no firm contracts with actual end users who could place such water to beneficial use. There is no evidence so far in this case (although it may become an issue in Phase 2) that there is any aspect of this type of speculation by Arapahoe County in this case.

b. The other aspect of the "can and will" doctrine, which has also, perhaps loosely, been referred to as speculation, is the likelihood that water will or will not be available in reasonable amounts to the proposed project. This aspect of the doctrine has its roots in the case Southeastern Colorado Water Conservancy District v. City of Florence, 688 P.2d 115 (Colo 1984). This case stands for the proposition that one of the prerequisites for issuing a conditional water right is a finding that water is available to satisfy the water right sought. The Court in the Florence case acknowledged that it was applying to conditional surface water diversions the same standards used for diversions of tributary ground water, is: "where injury to senior appropriators would result, a conditional surface decree should not issue absent a plan for augmentation." 688 P.2d 718.

12. Maximum Beneficial Use. The doctrine of maximum beneficial use of water first enunciated in Fellhauer v. People, 167 Colo 320, 447 P.2d 986 (1968), has been reaffirmed many times and remains a guiding principle of our water law. The need for development of Colorado's entitlements under the Colorado River Compact and Upper Colorado River Basin Compact is closely related to that doctrine, as it impinges upon considerations of conditional water rights. These considerations caution the Court against an over-application of the "can and will" doctrine beyond its actual purposes.

D. PRE-TRIAL HISTORY AND RULINGS

13. The pre-trial history of the case over the last three to five years is replete with a variety of Rule 56(h) motions on legal issues, many of which pertain to implementation of the "can and will" aspects of §37-92-305(9)(b), C.R.S. 15 (1990 Repl. Vol.). Because there is a dearth of case law interpreting said statute, the motions raised a number of matters of first impression regarding interpretation of said "can and will" statute. In addition, said motions required the Court:

a. to apply the "Law of the Colorado River" which includes certain interstate compacts,

b. to recognize certain federal rights and agreements associated with the Aspinall Unit on the Gunnison River (which is comprised of three reservoirs--Blue Mesa, Morrow Point and Crystal), the Taylor Park Reservoir and the Gunnison Tunnel (features of a federal reclamation project which supplies irrigation water to the Uncompahgre Valley Water Users Association) and an unquantified federal reserved right for the Black Canyon, and

c. to consider minimum in-stream flow rights of the Colorado Water Conservation Board, as well as certain private minimum instream flow rights in the Taylor River and its tributaries.

14. As a result of the pre-trial motions mentioned above, the Court entered a number of orders which established a framework within which evidence was to be presented regarding the modelling of water availability and regarding the extent to which the Applicant would have to demonstrate compliance with permitting requirements as prerequisites to the issuance of the conditional decrees sought.

15. Because of the complexity of the issues and the lack of precedent, the Court, on the basis of certain motions for reconsideration, modified and refined some of said Orders, so that the most recent amendments to said Orders, together with the Court's Case Management and Pretrial Orders, became the law of the case. Because of the sheer volume of data and materials bearing on the many issues in these cases, the issues were bifurcated for trial. As a result, the threshold issue of "water availability" was tried first. This Decree addresses that issue and some closely related "permitting" issues regarding the Applicant's legal eligibility to obtain three federal approvals which concern water availability (i.e. the impact of the need for special use permits from the United States Forest Service and the Bureau of Reclamation, and the impact of the Endangered Species Act).

16. Some of the significant holdings by the Court in its pretrial orders which were to guide counsel in their preparation for trial included the following:

a. "(T)he operative facts of the case must be determined as of April 15, 1991, or earlier." (1/8/91 Order)

b. The Applicant may not establish water availability by relying on the prospect of purchasing water or water rights owned by senior appropriators in order to

eliminate the call of those rights. (9/14/90 Order, p. 12)

c. "Federal approval will be required before the Applicant can utilize Taylor Park Reservoir as a forebay to serve the Applicant's pumping facilities." (9/14/90 Order, p. 14)

d. The Applicant cannot premise water availability on an assumption that it can obtain federal approval to maintain Taylor Park Reservoir at a full or nearly full level or to install pumping plants in the reservoir. (9/14/90 Order, p. 15)

e. The Bureau of Reclamation cannot dispose of water in the Aspinall Unit except through a written contract. A subordination of water rights is tantamount to a disposition and therefore a formal written contract for subordination is necessary before the Applicant can premise water availability on subordination. (9/14/90 Order, p. 18) In connection with this principle, the Court also ruled on 4/4/91 that to the extent Arapahoe was relying on the Aspinall Unit for augmentation water, the plan could not be successfully pursued unless Arapahoe established its right to rise Aspinall Unit water by written contract.

f. In analyzing water availability, the Court directed that the parties were to consider existing water rights, both absolute and major conditional decrees (which upon being made absolute would materially impact the Gunnison River Basin). Major conditional decrees were defined as those involving at least 10 c.f.s. for direct flow or at least 1,000 acre feet for storage rights. While the Court indicated that it expected the existing rights to be quantified based upon reasonable application and use of their decreed amounts, the Court also recognized that the parties had divergent views in modelling existing rights. Because this was a matter of first impression for this court, it also authorized each party to present its theory of quantifying existing water rights with the understanding that the Court would base its decision on water availability on the approach which seemed to be most reasonable after the evidence was presented.

g. After entering at least two conflicting orders on how the hydropower generation rights of the Aspinall Unit should be modelled, the Court indicated that it would reconsider the issue, and enter its final ruling as a part of this Decree.

h. During the course of the pretrial proceedings in these two cases, the Court also made rulings in certain other cases which impact to some extent the issues herein. Briefly those cases are:

1) The Court's 9/18/90 Decrees in cases 86-CW-202 and 86-CW-203 which

awarded to the Upper Gunnison River Water Conservancy District a decree to refill the Taylor Park Reservoir to the extent of 106,230 acre feet with an appropriation date of August 28, 1975. (This case is now on appeal, but the Court held in it 4/11/91 Order that the decree in 86-CW-203 is "entitled to full recognition and enforcement unless reserved or modified by the Colorado Supreme Court.")

2) The Court's March 25, 1991, Decrees in 90-CW-92 and 90-CW-110 upholding the validity of certain private minimum instream flow decrees issued in 1975 in cases: W-1985, W-1986 and W-1991 (addressed in the order in 90-CW-92) and W-1987 (addressed in the order in 90-CW-110).

3) The Court's Decree issued in May 1991 in 88-CW-183 wherein it found reasonable diligence with respect to certain conditional decrees for the Upper Gunnison River Project (owned by the Colorado River Water Conservation District), but significantly, the Court cancelled certain conditional decrees in said project, including decrees for the East River Canal and the Taylor River Canal.

17. Premises for Analysis of Existing Rights: As part of the law of the case, the Court informed counsel that it defined existing water rights as including all absolute decrees and "major conditional water rights" which had priority over the Applicant's proposed project. (See the Court's pretrial orders of April 4 and May 6, 1991, regarding existing water rights.) The Court recognized that in some ways a basin-wide analysis of water availability was a matter of first impression without statutory or case law to provide well-defined guidelines. Thus the Court indicated a willingness to let each party present its theory of the case regarding water availability, ". . . so long as the theory reflects the 'present condition of the river' and not some future condition of the river." [Paragraph 4(g) of Order of 5/6/91 on Existing Rights.] However, while permitting some flexibility of approach, the Court also indicated that in the absence of persuasive evidence to the contrary it expected the parties to model water availability on the basis of the following principles:

a. The model was to reflect the impact of existing water rights senior to the priority dates claimed by Arapahoe.

b. The Court utilized April 15, 1991, as the date to determine the quantity of a given right.

c. As a general rule, the Court expected the parties to model existing senior rights on the basis of the face amount of the decrees for said rights, while taking into account the decreed purpose of the right -- i.e., taking into account for example, that

a direct flow irrigation right is not diverted continuously 365 days per year, but rather is utilized only during the Irrigation season (commonly from April through October), and that it is diverted only as needed to maintain a given crop. To permit reliable analysis in this regard, the Court authorized the parties to utilized historic data as a guide to the actual use of a given right. Further, the Court established the following guidelines:

1) In quantifying an absolute night, the Court recognized that the original decreed amount of an absolute night could be altered by a formal abandonment proceeding or by being re-quantified through a change proceeding or by modification by the Division Engineer pursuant to §37-92502(2). Thus, the April 15, 1991, date fixed the time after which such alterations could not be considered.

2) In quantifying a conditional right, the Court indicated that the parties could properly consider said right's "contemplated draft on the stream." And in this regard the Court indicated that accepted rules of thumb should be employed with respect to water usage based upon the amount of water decreed, but that in the absence of accepted formulas, the Court would consider expert opinion regarding the "quantity which is reasonable to satisfy the amount claimed for the decreed purpose." {p.3 of Order of 5/6/91 on Existing Rights.} However, in adopting this concept, the Court did not anticipate reevaluating the conditional right and reducing its decreed quantity based upon a belief that future demand for water would be less than reasonably estimated when the decree was granted.

18. The Court hereby states that the guidelines and summaries of principles and holdings in ¶¶ 16 & 17 above are listed for convenience and illustration only and are not intended in any way to be exclusive nor to revise, restrict, expand or in any other way modify the terms and provisions of the actual orders themselves.

19. STIPULATIONS. The following stipulations have been entered into between Arapahoe and the following parties on the dates stated:

a. City of Aurora, November 27, 1989.

b. The corporation of the Rocky Mountain Biological Laboratory, April 30, 1991.

c. State Board of Land Commissioners, May 21, 1991.

d. City of Gunnison, May 31, 1991.

e. City of Grand Junction, June 10, 1991.

f. Colorado Water Conservation Board, June 19, 1991, superseded by a revised stipulation dated July 10, 1991.

g. Colorado Division of Wildlife, June 20, 1991.

## E. GENERAL DESCRIPTION OF AREA AND WATER HISTORY

20. By way of background, some understanding of the geography of the area and the history of the existing senior water rights is necessary to an understanding of this decree.

a. The sources of water for the rights discussed in this decree are tributary to the Gunnison River which itself is a major tributary of the Colorado River. The Gunnison River joins the Colorado River (formerly known as the Grand River) at the City of Grand Junction. The Gunnison River Basin is about 8,000 square miles. Within said Basin, the East River and the Taylor River join at the Town of Almont in Gunnison County, Colorado, to form the Gunnison River. The East River Basin comprises about 300 square miles and the Taylor River Basin contains about 500 square miles.

b. Among the most senior water rights in the Gunnison River Basin are those attributed to the Uncompahgre Valley Water Users Project -- ie. the Gunnison Tunnel and the Taylor Park Reservoir. This water development, authorized by the United States Congress in 1902, was the first Reclamation Project constructed by the United States Bureau of Reclamation, and it was developed to provide irrigation water to about 76,000 acres of land in the Uncompahgre Valley. The project includes a direct flow right in the total amount of 1,300 c.f.s. for water to be diverted directly from the Gunnison River through the Gunnison Tunnel to the Uncompahgre Valley. The tunnel was completed in 1912, and the direct flow right has a priority date of 1901. Another important feature of the Uncompahgre Project is the Taylor~`Park Dam and Reservoir, located on the Taylor River. Said reservoir was constructed in the mid-1930's to provide a supplemental supply of water for the UVWUA when water was no longer available for diversion through the Gunnison Tunnel under the direct flow right. The reservoir is decreed for 111,260 acre feet (its capacity when it spills), and has a total capacity of 106,230 acre feet when it is full without spilling. Said water is directed for irrigation purposes.

c. Another significant, though more recent, facility located on the Gunnison

River is the Aspinall Unit (formerly known as the Curecanti Unit) which is comprised of three reservoirs: Blue Mesa, Morrow Point and Crystal. The construction of this Unit was authorized by Congress through the Colorado River Storage Project Act (CRSPA which was adopted in 1956.

1) CRSPA was adopted in recognition of the need of certain Upper Basin States (Colorado, New Mexico, Utah and Wyoming -- where the headwaters of the Colorado River and its tributaries arise) to provide water to Lower Basin states (Arizona, California, and Nevada) under the 1922 Colorado River Compact [see: Title 37, Article 61 of C.R.S. 15 (1990 Repl.Vol.)] and to provide water to the Country of Mexico under a 1944 Treaty between the United States and Mexico. Under the 1922 Compact, the Upper Basin states must provide 75 million acre feet of water to the Lower Basin states in any 10 year period (or an average of 7.5 million acre feet per year) and the Mexico Treaty requires the United States to provide 1.5 million acre feet of water to Mexico annually from the Colorado River (and the Upper Basin shares said obligation about equally). As a result, the Upper Basin must supply about 8.23 million acre feet of water at Lee Ferry (the dividing line between the Upper and Lower Basin states) on an annual basis. Unfortunately for the Upper Basin, the allocation of water between the two basins was based upon inaccurate data which calculated that at least 15 million acre feet of water was produced in the Upper Basin states each year, but in fact the figure is closer to 13 or 14 million acre feet. (see: testimony of U. S. Senator Edwin Johnson from Colorado in Exhibit 171, pages 23-30)

2) Given the foregoing background, the concept of constructing a series of reservoirs on the Colorado River was conceived to store water in wet years so as to see the Upper Basin through dry years. In the CRSPA legislation, Congress authorized the construction of four Units: Glen Canyon Dam, Flaming Gorge Dam, Navajo Dam, and the Curecanti Unit (now the Aspinall Unit). The latter is located on the Gunnison River about 30 miles downstream of the City of Gunnison. In addition said legislation contemplated approval of certain "participating units" which included the Upper Gunnison Project (in which 6 reservoirs and 10 canals were to be utilized to develop the waters of the Upper Gunnison Basin).

d. Other important features entitled to the exercise of absolute and conditional rights and impacting water availability in the Gunnison River Basin will be discussed throughout the balance of this Decree.

## II. APPROACHES TO MODELLING AND METHODOLOGY

### A. Modelling Systems, Study Period and Regression Analysis

21. (Modelling Systems) The experts who testified for the respective parties in this action used somewhat varied approaches in their modelling and methodology. Arapahoe's expert, WRC Engineering, Inc., developed a sophisticated network model of the Gunnison River Basin. A network model is, characterized by nodes which can represent actual stream flows, calculated flows based on gauged flows at other locations, diversion of water or inflows from return flow or reservoir releases. WRC's network model allowed the use of loops to curtail diversions by the Union Park Reservoir project at times when other water rights were not being satisfied. When the constraint is satisfied, the model moves on downstream. The WRC model uses 49 design points to model, calculate or check flows. Arapahoe's model did not reflect the flow of water from one flow point to another, but rather independently calculated physical and legal availability of water at given flow points to represent separate sub-basins. The model is flexible and adaptable to revisions in logic or to the addition of further nodes of various kinds. Network modelling is a recognized approach in water resource development and is used by the Bureau of Reclamation in its CRSS (Colorado River Stream Simulation) model and was used in a model of the Gunnison River Basin previously developed by the Colorado Water Resources and Power Development Authority (CWRPDA). In implementing its model, WRC Engineering recognized the Priority system by assuming that all existing absolute and conditional water rights which it did model were senior to the Union Park Project. Opposers' experts, Mr. Helton and Mr. Spronk, used spreadsheet approaches which are somewhat less sophisticated and perhaps more cumbersome to use, but the Court finds said modelling approaches to be as reliable as the modelling used by Applicant's experts.

22. The more important considerations in determining the reliability of the results reached by a given expert depend more upon the assumptions utilized by the expert and in this regard the Court makes the following comparisons regarding various assumptions:

a. Study Period: Arapahoe's consultants used a period of record from 1950 through 1988 as the basis for their modelling effort for the reason that a period of record should be long enough to include several dry, as well as several wet, periods. In the belief that the modelling needed to recognize more current situations on the river system, Mr. Spronk, expert for Crystal Creek, utilized a period of analysis from 1975, after the Blue Mesa Reservoir of the Aspinall Unit was completed, through 1988, but Mr. Helton, expert for the River District, studied a period from 1950 to 1989. Experts for the opposers did give somewhat greater emphasis to the more recent years, because they believed (and the evidence supported their conclusion) that there was some increase in diversions through the Gunnison Tunnel in more recent years. The Court concludes that this approach utilized by the Opposers is more reliable than that

used by the Applicant.

b. Regression Analysis: Because stream gauges did not exist at each point of diversion contemplated by the Applicant's collection system, all of the experts found it necessary to utilize regression analyses in an attempt to predict (on the basis of known stream gauge records) the amount OI water available at a given point of diversion in a given month. In its regression analysis, WRC carefully considered the effect of altitude and precipitation upon runoff, concluding that higher sub-basins produce more runoff per unit area than lower sub-basins due to greater winter precipitation. Then WRC allocated the actual gauged stream flows at long term stream gauge stations to sub-basins, based upon the equation it had developed which considers average sub-basin precipitation as well as area. In certain instances, such as Willow Creek, where Arapahoe's method gave lower basin runoff than short term gauging stations, the calculated results were used. Experts for the Opposers also estimated stream flow at Arapahoe's points of diversion, but allocated actual stream gauge records solely on the basis of sub-basin area, without taking the increase of precipitation with altitude into effect. WRC's analysis demonstrated that the virgin average annual flow of water (before any constraints were imposed) at the Applicant's proposed points of diversion totalled 295,000 acre feet per year, while Opposers' experts estimated said total to be 278,000 acre feet per year. While it is difficult to say which of these alternatives is more reliable, it would seem reasonable that there would be an increase in precipitation as elevation increases because of greater snow fall and snow pack. However, Arapahoe's experts testified that estimates of physical water availability can normally be expected to vary between 10% and 20\ (Andrews, 6/12/91) or at least between 5% and 15% (Leak, 7/2/91). Further, Opposers pointed out the following shortcomings with respect to the Applicant's regression analysis:

1) The Applicant's regression analysis depended on precipitation isohyetals (contours) taken from a data map published by the U. S. Weather Bureau. The isohyetal-data was extrapolated from a very limited data source, and thus said data is not necessarily highly reliable. No precipitation measurement stations or other actual data points exist in any of the sub-basins in which the Applicant's diversion points are to be located. The National Weather Service Climatological Report used by Applicant (Exhibit 6S) cautioned against the reliance on data for points above elevation 8,000 feet because of a lack of reliable data sources. The vast majority of the Taylor River and East River Basins lie above 8,000 feet. Stream gauges will provide a more reliable predictor of runoff than will precipitation stations which are only a very general predictor of seasonal runoff.

2) Applicant's model contains a significant error in the estimates of precipitation

for basins H-3 and J. The model estimated precipitation in these basins at 31.3 inches and 32.5 inches respectively, but Mr. Leak admitted (in testimony on 6/10/91) that in reality, precipitation in both these basins was less than 20 inches. Considered alone this made less than a 1% difference in the total yield of water for the Union Park Project, but it was a significant difference for the projected yield at the point modelled.

3) The use of the Almont gauge in Applicant's regression analysis has the effect of distributing historic irrigation and domestic water depletions pro rata throughout the East River Basin. In fact, those depletions are concentrated in the lower portions of the basin, and this disperses depletions from the areas of actual water use to other portions of the basin, thereby reducing the potential for calls on the Union Park Project from existing water rights in critical reaches of the East River and its tributaries. Thus, Applicant's model fails to consider critical reaches of the stream where physical supply is insufficient to satisfy existing water demands.

4) Applicant's use of a single ratio to estimate the contribution of each sub-basin to the Almont gauge for each month of every year during the study period does not reflect actual hydrologic conditions, in which the contribution from each sub-basin may vary throughout the year. Mr. Spronk's use of three separate regression equations for three different periods of the year more accurately reflects physical water availability.

5) The errors in Applicant's East River hydrology are illustrated by the data shown for flow points 116 and 120. Applicant's hydrology resulted in an excess of 35,000 acre feet of water flowing out of point 116, which could not be accounted for as inflow to point 120. Table III-3 of Applicant's report illustrates other discrepancies between actual gauged data and the runoff predicted by the regression analysis. (Exhibit 438)

6) In an effort to minimize these errors Applicant's model independently calculates physical and legal availability at many of the flow points which are represented on the flow network diagrams by an oval with a sub-basin designation. As a result Applicant's model does not reflect the flow of water from one flow point to another, but rather statistically calculates water availability at the sub-basin boundaries. This methodology allows errors in the prediction of physical availability above these flow points to be used, rather than reconciled with the estimates of physical availability at downstream flow points. For example, the overestimation of physical availability at and upstream of flow point 116 `'as not itself corrected by the independent calculation which was made at the downstream point 120.

7) As Mr. Leak testified (on 7/3/91), an overestimate of physical water availability would result in an even greater overestimate of legal availability when legal constraints, such as minimum stream flows, are applied to the model. See Exhibit 493.V. The use of Applicant's hydrology would therefore result in an overestimate of water legally available to the proposed project.

8) The Court finds by a preponderance of the evidence, that the estimates of physical water availability by Opposers' experts properly account for the increased precipitation which occurs at higher elevations within the basin. Both Mr. Spronk and Mr. Helton used the gauged data available at the highest elevations and performed appropriate regression analyses in order to estimate runoff at the upper gauges, such as the East River near Crested Butte, for years in which no data were available. These estimates are conservative, in that they may overestimate the water available to the Applicant. For example, Mr. Spronk used the East River near Crested Butte gauge to predict physical availability on Cement Creek even though the Cement Creek basin is at a lower elevation than the Crested Butte gauge.

B. ASSUMPTIONS RE ABSOLUTE AND CONDITIONAL WATER RIGHTS

23. The parties' experts also varied significantly as to which of the existing absolute decrees and which existing conditional decrees they actually modelled and in the manner in which they modelled the same.

a. Absolute Rights: For the most part, Arapahoe modelled present conditions under various assumptions in its computer modelling scenarios. Those assumptions analyzed absolute water rights based upon both diversions in the full decreed amounts and historic diversions. Usually depletions were modelled based upon historic depletions rather than project future depletions. Under the full decreed amount condition, irrigation water rights were assumed to divert during a typical irrigation season from May 1 through October 31, while municipal and domestic rights were assumed to divert year around. Certain absolute water rights above Almont were separately modelled. In addition, a total of 747.0 cfs of absolute water rights located below Almont on the Gunnison River were also included. In modelling absolute rights, the differing approaches between the parties were based primarily upon which rights were chosen to be modelled and legal interpretations as to the rights of the respective owners to call said decrees and in what amounts.

b. Conditional Rights: The parties differed significantly in their approach to an analysis of existing conditional water rights. As a general proposition, the Applicant's engineers used a "basin-wide demand" analysis, while the Opposers' experts considered

the impact of individual conditional water rights.

1) Arapahoe's engineers considered that the effect of the future development of existing conditional water rights would best be estimated by considering the future demand for water in the Gunnison River Basin as a whole, rather than considering demand for water by each water right one by one. This is similar to the approach adopted by CWRPDA in its recent study of the Upper Gunnison River Basin, a study sponsored or supported by Opposers' River District, Upper Gunnison and the United States. This approach was used instead of simply adding all of the water claimed by all existing water rights, the sum of which substantially exceeds both the present uses and the water yield of the Gunnison River Basin.

2) Arapahoe did not use this simple addition approach because:

a) it believed that the actual application of all of the water now conditionally decreed would require a tremendous and unwarranted expansion of the irrigated, agriculture, municipal populations and industrial activities in the Gunnison River Basin.

b) Also, the simple addition of all decreed amounts does not account for the use and re-use of return flows. and several conditional water rights compete for the same water, at conflicting physical locations and thus these rights would not all be constructed.

3) Arapahoe's engineers in various scenarios considered the future demand of both the high and moderate or average growth of the Upper Gunnison Basin, in a manner substantially similar to that used by CWRPDA. This approach utilizes representative conditional water rights to simulate the future demand for water in the basin. Under present conditions, considering only the water rights which are actually in operation at the time of trial, (and not conditional decrees which have not yet been made absolute), there would appear to be a substantial amount of unappropriated water in the Gunnison River Basin. This is supported by the fact that on the average, 1.8 million acre feet of water per year from the Gunnison River Basin are delivered to the Colorado River near Grand Junction.

4) However, the Applicant's approach is at variance with the approach recommended by the Court which was to analyze individually the major conditional water rights defined as being a direct flow right of 10 cfs or greater or a storage right of 1,000 acre feet or greater. The Court continues to believe that its recommended approach is legally necessary in spite of the Applicant's representations that a "basin-

wide demand" approach is preferable. The reason for this is that each "major conditional water right" represents a specific legal interest of the water user who owns it, and this present litigation is not the appropriate forum in which to question the likelihood that eventually the conditional water right will or will not be made absolute, except in the situation where two or more conditional rights seek diversion in essentially the same location, and then the most senior should be recognized to the exclusion of the others.

5) The Court generally concludes that the Opposers' experts more faithfully adhered to the modelling of the conditional water rights as recommended by the court.

## III. ANALYSIS OF EXISTING ABSOLUTE AND CONDITIONAL RIGHTS BEARING ON WATER AVAILABILITY

(ABSOLUTE RIGHTS)

### A. THE ASPINALL UNIT

24. The water rights of the Aspinall Unit taken as a whole have the greatest impact on the availability of water in the Gunnison River Basin. Thus it is necessary to review the Unit's history and the provisions of the Colorado River Storage Project Act (CRSPA), the federal law which created it.

The Colorado River Storage Project Act (CRSPA)

25. In 1956, Congress authorized the Colorado River Storage Project (CRSP) [43 U.S.C. §620] in order to initiate the comprehensive development of the water resources in the Upper Colorado River Basin for the following purposes [see 70 Stat. 105, 43 U.S.C. 620]:

-regulating the flow of the Colorado River,

-storing water for beneficial consumptive use,

-making it possible for the States of the Upper Basin to utilize (consistently with the provisions of the Colorado River Compact), the apportionments made to and among them in the Colorado River Compact and the Upper Colorado River Basin Compact, respectively,

-providing for the reclamation of arid and semiarid land,

-for the control of floods, and

-for the generation of hydroelectric power, as an incident of the foregoing purposes

26. As indicated earlier herein, Congress authorized construction of four initial units for the Colorado River Storage Project: Curecanti (later renamed the Wayne N. Aspinall Unit), Flaming Gorge, Glen Canyon, and Navajo--which together have a total storage capacity in excess of 30 million acre feet.

a. Curecanti (now Aspinall) Unit is located on the Gunnison River about 30 miles downstream from the City of Gunnison in Gunnison County, Colorado, and impounds three reservoirs (Blue Mesa, Morrow Point and Crystal) which together hold about 1,090,000 acre feet.

b. Flaming Gorge Dam is located on the Green River in Utah near the Wyoming-Utah border and impounds a reservoir of approximately 3,749,000 acre feet which extends into Wyoming.

c. Glen Canyon Dam is located on the main stem of the Colorado River in Arizona just above Lee Ferry and impounds approximately 25,000,000 acre feet, in Lake Powell which is located in Utah.

d. Navajo Dam is located on the San Juan River in New Mexico and impounds a reservoir of approximately 1,696,400 acre feet.

27. Further, construction of additional reclamation projects, called "participating projects" was authorized, and these included: Bostwick Park and Fruitland Mesa [43 U.S.C. §620]. Also, investigation of projects under the Federal reclamation laws was authorized for other projects (also known as "participating projects"), and those material to this litigation included: the Upper Gunnison (which included: East River, Ohio Creek and Tomichi Creek) [see: 43 U.S.C. §620a].

28. The Aspinall Unit was authorized subject to the proviso that the dam for Blue Mesa Reservoir was to be constructed to a height which will impound no less than 940,000 acre feet of water and that construction should not be undertaken until the Secretary of the Interior "on the basis of further engineering and economic investigations," reexamined the economic justification of the Aspinall Unit and certified to Congress and the President that the benefits of the Aspinall Unit exceeded its costs. 70 stat. 105, 43 U.S.C. 620.

29. The 1959 Economic Justification Report: The additional engineering and economic investigations were performed and the Aspinall Unit was "found to be engineeringly feasible and economically justified." (Exhibit 182, Letter of Transmittal, Page III.) The "Economic Justification Report of February 1959" [the "1959 Report"] (see: Exhibit 182, begin at p. XXI) to Congress states the assumptions under which the Aspinall Unit was found by the Secretary to be economically justified. Said report and correspondence relating to it demonstrate the following assumptions and bases for approval of the Aspinall Unit:

a. That the Aspinall Unit would be developed to achieve the following purposes: power generation, flood control, irrigation, and extensive recreational benefits. (Exhibit 182, p. XXIII). In fact the opening sentence of the Purpose and Scope section of the Report stated:

"The object of the Curecanti (Aspinall) unit is primarily to develop the water storage and hydroelectric power generating potentialities along a 40-mile section of the Gunnison River in Colorado. Other purposes of the unit are irrigation, recreation, and flood control." (Exhibit 182, p. 1)

b. With respect to water availability for the Aspinall Project, the 1959 Report stated:

> "For this study it was assumed that no additional water use developments upstream from the Gunnison tunnel would occur prior to 1970 since none of the authorized participating projects of the Colorado River storage project are located in the upper Gunnison River Basin. Five potential participating projects in that basin, however, were mentioned in the legislation authorizing the storage project as being among the projects to be given priority in future investigations and planning reports. These are the Tomichi Creek, East River, Ohio Creek, Fruitland Mesa and Bostwick Park projects. Depletions from these projects were assumed to begin in 1971 and increase uniformly until full depletion is reached in 2020. It was estimated that between 1970 and 2020 average annual depletions would increase by 40,000 acre-feet above the Blue Mesa Dam site, by 50,000 acre-feet above the Morrow Point Dam site, and by 60,000 acre-feet above the Crystal Dam site. After year 2020 no further additional depletions were anticipated. The annual depletions were assumed to vary slightly from year to year in accordance with the available water supply. A maximum average annual shortage of about 10 percent was assumed during the 10-year drought period, 1931-40."

[Emphasis supplied] (Exh. 182, p.15)

c. The 1959 Report analyzed operations for the Blue Mesa and Morrow Point reservoirs of the Aspinall unit on the following assumptions (see: Exhibit 182, p. 17):

"1. A minimum annual release of 756,000 acre-feet.

"2. Sufficient water to permit diversions through the Gunnison tunnel in any month that are equal to or greater than the maximum recorded diversions for that month since completion of the Taylor Park Reservoir in 1937.

"3. Sufficient water to permit peaking power generation of 40,000 kilowatts at the Morrow Point powerplant for 217 hours a month.

"4. Sufficient water to provide a minimum flow of 100 second-feet in the Gunnison River through the Black Canyon of the Gunnison National Monument."

d. The Applicant argues that the reference to 60,000 acre feet is simply a "study assumption," and is not an established maximum of the amount of water available for appropriation and depletion in the Upper Gunnison Basin. The Court agrees with this argument to the extent that the 60,000 acre-foot figure was not adopted in the 1959 Economic Report as an absolute cap on the amount of depletions which would be made in the Basin over and above the water rights awarded to the Aspinall Unit. Said 60,000 acre-foot figure was in fact the amount of water which the economic study assumed would be depleted through use of the various facilities constructed as a part of the Upper Gunnison Project. This Court does acknowledge as an underlying assumption of the study that the Upper Gunnison Project would develop most (if not all) of any remaining unappropriated water in the Upper Gunnison Basin, and the Court accepts this assumption as a reasonable conclusion, albeit not a conclusive one. Thus, the Court further acknowledges that while the study's conclusions in this regard are not binding on the parties herein, nevertheless, the quantity of unappropriated water available for appropriation over and above the 60,000 acre-foot figure referred to above would not be substantial (ie. unlikely in the East River and Taylor River basins to be adequate to supply a major project such as that proposed by the Applicant).

30. Section 620f: Section 7 of CRSPA, 43 U.S.C. 620f, directs the Secretary to operate all of the CRSP power plants to produce "the greatest practicable amount of power and energy" but that by doing so, the Secretary Novas not to interfere with the compacts and legislation relating to the Colorado River nor should '.the use of water

for the generation of power and energy at the plants of the Colorado River storage project . . . preclude or impair the appropriation of water for domestic or agricultural purposes pursuant to applicable State law.' It is the existence of this section in the legislation which has focused the issue as to whether or not, in determining water availability, the Applicant can ignore the power decrees awarded to the Aspinall Unit. This issue will be discussed in depth later in this Decree.

31. Section 620g: Section 8 of CRSPA, 43 U.S.C. 620g, authorizes and directs the Secretary of the Interior to operate and maintain facilities to mitigate losses of and improve conditions for the propagation of fish and wildlife. Section 8 also authorizes and directs the Secretary to operate and maintain public recreational facilities, and to provide for public use of water areas created by authorized projects, by such means as are consistent with the primary purposes of said projects.

2. The River District's Application for Water Rights for the Aspinall Unit on behalf of the United States

32. On October 15, 1957, the Colorado River Water Conservation District (herein: "CRWCD" or the "River District") adopted a resolution (Exhibit 2200) to file maps and statements with the State Engineer and statements of claim "for all water to be impounded and utilized by or in connection with [the Aspinall Unit]."

33. The resolution indicated, inter alla, the following:

a. that the River District intended to secure "firmly established and decreed rights to the use of water for all beneficial purposes to which the water may be put in connection with [the Aspinall Unit]"

b. that the River District did not intend to interfere in any way with the basin-wide primary functions of the reservoir which the resolution characterizes as "to provide holdover storage capacity to enable the Upper Basin States to comply with the requirements of the Colorado River Compact not to cause the flow of the Colorado River at Lee Ferry to be depleted below an aggregate of 75,000,000 acre feet for any period of ten consecutive years and to generate electric energy, but on the contrary, can be coordinated completely with such primary uses, and thus enhance the feasibility of said project."

c. that any decrees obtained by the River District would be held by it, as trustee, for the following purposes:

"1. As to such decrees for holdover storage and power production, for the primary use and benefit of the States of Utah, Wyoming, New Mexico, and Colorado, to serve the purposes and perform the functions assigned to said Curecanti Project by Public Law 485."

"2. As to the use of the water diverted and stored by said Curecanti Project for irrigation and allied purposes, by exchange or otherwise, for the use and benefit of the persons, parties or entities within the Gunnison River Basin who may, under the laws of Colorado, make beneficial use thereof."

[Page 2 of the Resolution, Exhibit 2200.]

34. In advising the Bureau of Reclamation of the adoption of the resolution, the River District assured "[the Bureau] and the States of the Upper Colorado River Basin that any decree obtained under the filing would not be used to interfere with the basin-wide aspects of the [Aspinall Unit] of the Storage Project." [Transmittal letter of 10-28-57, Exhibit 2200.]

35. The River District filed applications for water rights for the three Aspinall Unit reservoirs and power plants and also for four units of the Upper Gunnison Project, to wit, Ohio Creek Unit, East River Unit, Tomichi Unit and Cochetopa Unit. Applications were filed in old Water Districts 28, 59 and 62 and resulted in the issuance of decrees in Case No. 5591 (Exhibit 2044), Case No. 5590 (Exhibit 5) and Case No. 6981 (Exhibit 1024). The decrees were issued for the following beneficial purposes: domestic and municipal, irrigation and stockwatering, industrial, development of electrical energy, flood control, piscatorial, wildlife protection and preservation and recreational purposes. Although the decrees provide different and successive priority numbers to the individual features of the various units, each and every unit was declared to of equal priority and each was awarded the same priority date of November 13, 1957.

36. On December 11, 1980, Case No. 80CW156, this Court entered absolute decrees for the Aspinall Unit as follows:

| | |
|---|---|
| Crystal Reservoir | 30,000 acre feet |
| Crystal Power Plant | 3,000 acre feet |
| Blue Mesa Reservoir | 940,755 acre feet |
| (Refill decree for Blue Mesa Reservoir) | 122,702 acre feet |
| Blue Mesa Power Plant | 2,500 c.f.s. (originally 3,500 cfs) |

| | |
|---|---|
| Morrow Point Reservoir | 119,053 acre feet |
| Morrow Point Power Plant | 5,450 c.f.s. |

The water rights (prior to being made absolute) were assigned by the River District to the United States by Assignment dated January 26, 1962. (The Assignment is found in Exhibit 200)

37. The United States is entitled to use the full decreed amounts of its water rights for the authorized purposes of the project, which include providing water, by contract, to domestic, municipal, industrial, and agricultural users. Said rights are senior to any and all rights claimed by the Applicant in its respective applications in these cases. To the extent the Applicant actually seeks to utilize the water represented by the decrees held by the United States for the Aspinall Unit, Applicant must seek to contract with the United States for the use of water which has been appropriated for these purposes. The Applicant admitted on February 8, 1990, that it would require a contract from the United States for the use of this water. (Exhibit 1089). And this Court held in a pretrial order that it would not recognize "purchased water" as available unappropriated water to satisfy the Applicant's claims for water under the subject applications. (Court's Pre-trial Order of 9/14/90, page 12)

38. The Opposers have urged the Court to find that all the waters of the Upper Gunnison River Basin have now been appropriated under decrees awarded to the Aspinall unit and the Upper Gunnison Project. However, this Court concludes that the evidence does not support this proposition. On the other hand, as will be seen at the conclusion of this Decree, the Court is satisfied that the evidence does not support a finding that there is any more than 20,000 acre feet of unappropriated water available for appropriation at the points of diversion claimed by the Applicant.* To make up the difference which the Applicant would need to provide an adequate supply of water for its project, it appears that the Applicant would have to contract with the United States for water appropriated by, and stored in, the Aspinall Unit reservoirs, but purchased water cannot be used by the Applicant to support its applications in these cases which seek decrees for unappropriated waters.

39. All water which is released from Blue Mesa and Morrow Point Reservoirs will be discharged through the hydroelectric power generating plant at Morrow Point Dam, up to the capacity of that plant. Morrow Point Reservoir has a decreed direct flow hydropower water right in the amount of 5,450 cubic, feet per second. During the 1975-1988 study period, the maximum rate of flow at which water was discharged through the Morrow Point power plant was 4,580 c.f.s. Issues regarding the right of the United States to place a call for hydropower purposes are discussed later herein.

(¶¶ 59-68 below)

3. The 1968 Colorado River Basin Project Act:

40. In 1968, Congress enacted the Colorado River Basin Project Act to provide a "program for the further comprehensive development of the water resources of the Colorado River Basin and for the provision of additional and adequate water supplies for use in the upper as well as in the lower Colorado River Basin." Pub. L. 90537, 82 Stat. 885, 43 U.S.C. 1501. The Act clarified and supplemented the purposes set forth in CRSPA. In particular, the 1968 Act made recreation and fish and wildlife uses Primary purposes of CRSP reservoirs. The authorized purposes listed by the 1968 Act are as follows: (see top of next page)

* [This finding is limited to the availability of water at the Points of diversion claimed by the Applicant, and does not attempt to make findings regarding the quantity of other unappropriated water, if any, in the Upper Gunnison River Basin.]

regulating the flow of the Colorado River; controlling floods; improving navigation; providing for the storage and delivery of the waters of the Colorado River for reclamation of lands, including supplemental water supplies, and for municipal, industrial, and other beneficial purposes; improving water quality; providing for basic public outdoor recreation facilities; improving conditions for fish and wildlife, and the generation and sale of electrical power as an incident of the foregoing purposes." (43 U.S.C. §1501)

4. The coordinated long range operation plan:

41. In addition, the 1968 Act directed the Secretary of the Interior to propose a plan for the coordinated long range operation of the CRSP reservoirs and the reservoirs in the Lower Basin and imposed requirements for maintenance of parity in storage in Lakes Powell and Mead and established priorities for the release of water to the Lower Basin. (43 U.S.C. 1552.) The criteria to be developed by the Secretary were to be provided to the Governors of the seven Colorado River Basin States for review and comment. After receipt of the comments, the Secretary was directed to finalize the criteria and publish them in the Federal Register. Id. The 1968 Act also provides for an annual report describing the actual operation under the adopted criteria for the preceding compact water year and the projected operation for the current year. Id.

42. Section 1552(c) of the 1968 Act specifically provides: "Power Plant

Operations. Section 7 of the Colorado River Storage Project Act (43 U.S.C.S. §620f) shall be administered in accordance with the foregoing criteria." The foregoing criteria referred to were those to be developed by the Secretary in accordance with Paragraph 39'~above. In other words, the production of power was to be a part of the long-range operating criteria notwithstanding the wording of 43 U.S.C. 620f.

43. The statement of the Coordinated Long-Range Operation is .set out in Exhibit 2201. It provides for an annual plan of operation of the reservoirs for all purposes including the following purposes:

"flood control, river regulation, beneficial consumptive uses, power production, water quality control, recreation, enhancement of fish and wildlife, and other environmental factors. The projected plan of operation may be revised to reflect the current hydrologic conditions, and Congress and the Governors of the Colorado River Basin States shall be advised of any changes by June of each year." (Exhibit 2201, p. 1)

44. The Bureau of Reclamation consults with the states, the upper Colorado River Commission and other interested agencies in developing its annual operating plan. In addition, the annual report which is mandated by §1552 of the 1968 Act is coordinated with the States of the Upper Basin and the Upper Colorado River Commission. The annual operating plan maps out a strategy of operation under varying runoff conditions.

45. (The role of the Upper Colorado River Commission:) In its Order Re: Arapahoe's Rule 56(h) Motions entered on April 11, 1991, the Court concluded that a finding by the Upper Colorado River Commission determining an apportionment of the capacity of the Aspinall Unit to assure deliveries to Lee Ferry must be made before the Court could be in a position to recognize that a certain quantity of water stored in the Aspinall Unit for deliveries to Lee Ferry can be called. In view of the comprehensive treatment of the operation of the Colorado River Storage Project by Congress in CRSPA, the 1968 Colorado River Basin Project Act and the promulgation of the long range operating criteria and having heard the evidence on how the operations of CRSP are planned and executed in consultation with the states and the Upper Colorado River Commission, the Court now concludes that no specific finding by the Upper Colorado River Commission is required. To the extent the Upper Colorado River Commission ever had a role in apportioning the capacity of the Aspinall Unit for the delivery of water to Lee Ferry, the Court now finds that the 1968 Act displaced said role. Thus, the Court hereby modifies its Order of April 11 accordingly.

46. The Coordinated Long-Range Operation provides for the operation of the

reservoirs in the upper and lower basins in a coordinated fashion to assure that the purposes of the compacts, treaties and laws authorizing the projects are accomplished.

47. In addition to the annual operating plan, the Bureau of Reclamation prepares an annual report of the operation of the Colorado River Basin and the projected operations for each year. The report contains the actual operations of the current year and a projection of the operations for the next year. The report is submitted to Congress and the governors Lithe Colorado River Basin States by the Secretary of the Interior.

48. The operation of the CRSP reservoirs is, thus, governed by the law of the river, the long-range operating criteria promulgated by the Secretary of the Interior on June 4, 1970, and the annual operating plan.

49. In operating the CRSP for the aforementioned purposes, the Bureau of Reclamation has the following operational objectives: maintain the reservoirs full and operate to avoid spills, bypass minimum flows for recreation and fish and wildlife, maintain pool levels for recreation, match releases with firm electrical power load demands of PAPA, and flood control.

50. In January of each year the Bureau of Reclamation gets the forecast of runoff for the April-July period from the National Weather Service and, in coordination with the Corps of Engineers, determines how much storage must be evacuated for flood control and the scheduling or the required releases for power production and fish and wildlife benefits. Once the draw down is achieved, the reservoirs are allowed to fill again to achieve the conservation storage purpose. The Bureau holds the storage units relatively full in the summer to maximize recreation benefits and drain the reservoirs down slightly in the fall in anticipation of the runoff forecast. The operating plan is updated each month.

5. Analysis of the Various Purposes of the Aspinall Unit:

51. The CRSP regulates the flow of the Colorado River by storing water in the storage reservoirs in times of plenty and releasing only enough water annually at Lee Ferry to satisfy the lower basin entitlements and the Mexican Water Treaty. The Bureau of Reclamation's objective is to maintain a minimum annual release from Lake Powell of 8.23 million acre feet. This assures the availability of water for release at Lee Ferry during prolonged dry periods which in turn permits water use in the upper basin to expand without diminishing the flows at Lee Ferry below the requirements

of the Colorado River Compact of 1922 and the Mexican Water Treaty of 1944.

52. The CRSP accomplishes its purpose of "storing water for beneficial use's by having developed a marketable yield that is available for sale within the upper basin for irrigation, domestic, municipal or industrial use or for release to the lower basin for beneficial consumptive use within that basin. The Aspinall Unit is operated as a component of the CRSP system for this purpose. The Aspinall Unit provides a marketable yield of 240,000 acre feet for use directly or by exchange through contract pursuant to Reclamation law. The Court recognizes that only 78 acre feet of said water is presently under contract. But, Aspinall has an absolute decree for the entire 240,000 acre feet, and to the extent there is no unappropriated water available in the Gunnison River Basin after accounting for said 240,000 acre-feet, it would defeat the intent of Congress and the CRSPA to conclude that any portion of said 240,000 acre feet of water which is not under contract is available for appropriation.

53. The CRSP enables the States of the Upper Basin to utilize their compact apportionments by actual development of water supplies in the Upper Basin and by delivery of the required amounts to the Lower Basin pursuant to the compacts and the Mexican Water Treaty. As specific examples of use of the Aspinall unit to make possible the development of water within the State of Colorado, the Dallas Creek Project and Dolores Project were recently completed because of a commitment by the Bureau of Reclamation to release waters from Blue Mesa Reservoir to address endangered species problems encountered in the biological consultation. If those releases are not made, the diversions for those two projects could be curtailed.

54. If the Bureau of Reclamation were unable to make the required deliveries to the Lower Basin, the Upper Basin States would be unable to continue to divert the water appropriated for beneficial use in the Upper Basin. For example, during the past five years of drought, the storage system which was essentially full at the beginning of the period has been drawn down about 10-12 million acre feet in order to make the minimum required releases of 8.23 million acre-feet annually to the lower basin. The fact that the CRSP reservoirs were full at the beginning of the period enabled the Bureau of Reclamation to release water to satisfy the compact obligation to the lower basin thus allowing water users in the upper basin to continue to divert.

55. The CRSP accomplishes its flood control purpose by utilizing runoff forecasts from the National Weather Service and drawing down the CRSP reservoirs during the January through April period each year so that the peak of the spring runoff can be stored and flood protection provided.

a. An additional benefit under the flood control use is the avoidance of ice jams in the Gunnison River upstream of Blue Mesa Reservoir. To accomplish this purpose, the United States releases large quantities of water from Blue Mesa Reservoir each year. The Union Park Project will not alter the need to operate Blue Mesa Reservoir for these purposes. Once this water is released, the Reservoir may be refilled in order to accomplish the other decreed purposes and the United States may place a senior call on the Union Par]: Project to accomplish this filling.

b. In 1983, 1984 and 1986, the Aspinall Unit provided significant flood control benefits through storage of flood flows. In 1983, draw down and subsequent storage of flood flows in the Aspinall Unit reduced flows near the City of Delta from an estimated 29,000 c.f.s. to 20,000 c.f.s., a reduction of 9,000 c.f.s. for which the Corps of Engineers estimated flood damage reduction of $1,000,000. In 1984, operation of the Aspinall Unit for flood control reduced peak flows at Delta by an estimated 14,000 c.f.s. for $5,000,000 in damage reduction. In 1986, operation of the Aspinall Unit provided damage reduction of approximately $800,000.

56. The CRSP provides recreation through the investment of millions of dollars in facilities around the CRSP reservoirs in operation by providing conservation storage which in turn provides large water surfaces which are ideal for recreation purposes. In addition, the sustained releases from the reservoirs in the summer and fall provide rafting, canoeing and recreation opportunities in the rivers below the reservoirs. The Aspinall Unit serves its recreation purpose by providing a pool of water in Blue Mesa Reservoir which is heavily used by visitors to the Curecanti National Recreation Area.

57. The Court recognizes that it previously held that recreation was not a primary purpose, and thus concluded that the United States could not make a call for the use of water solely for recreational purposes. In making said ruling on recreation, the Court relied on Jicarilla Apache Tribe v. United States, 657 F.2d 1126 (lOth Cir. 1981). Having now heard the evidence in this case, the Court finds that the waters impounded in the reservoirs of the Aspinall Unit are not used solely for the purposes of recreation, and thus the Jicarilla holding is inapposite here. However, even if the water were used solely for recreation at the Aspinall unit, the Court is now satisfied, for the following reasons, that the United States could place a refill call for the sole purpose of recreational use:

a. In making its original ruling proscribing a call solely for recreational use, this Court overlooked the importance of the 1968 Act (ie. 43 U.S.C. §1501, see ¶40 above) which expressly makes recreation and fish and wildlife primary purposes of CRSP. Because said act makes recreation a primary purpose, a call can be made for that

purpose alone.

b. Further, having heard the evidence, the Court now recognizes the importance of the fact that Congress has established the Curecanti National Recreation Area for the public's enjoyment of the Aspinall Unit as a major recreational area (with an investment of over $29 million and having 1.1 million visitors annually); and for the public to recreate at the Aspinall unit reservoirs, an adequate level of water must be maintained in said reservoirs. The existence of the Curecanti National Recreation Area is an important distinguishing factor which was not present in the Jicarilla case, sierra. (where no congressionally recognized recreation area existed).

58. The CRSP accomplishes its fish and wildlife purpose by providing habitat for fish and wildlife within and adjacent to the reservoir pools as well as through releases of water for fish and wildlife purposes and the modification of operations for endangered species. The Aspinall Unit serves its purpose of improving conditions for fish and wildlife by providing a fishery in the reservoir pool as well as enhancing the fishery in the Gunnison River downstream. In addition, as discussed more fully below, the enactment of CRSP and the operation of the Aspinall Unit has enabled the Bureau of Reclamation to operate Taylor Park Reservoir in conjunction with Blue Mesa Reservoir in order to optimize conditions on the Taylor River for fishery.

59. As previously recognized in this decree, the Court entered at least two conflicting pretrial orders on how the hydropower generation rights of the Aspinall Unit should be modelled, and whether a call can be placed by the United States against junior water rights to assure the full exercise of said hydropower rights. The Court now addresses said issue as a final determination of the question.

60. The threshold issue is whether the United States has the right to impose a call for water for hydropower generation purposes at all. The basic analysis is that-if "the generation of hydroelectric power" is a primary purpose of the Aspinall Unit, then a call can be made, but if it is not a primary purpose, then a call cannot be made.

61. The introductory language in 43 U.S.C. 620 regarding the purposes of the Units authorized finder CRSPA recognized "the generation of hydroelectric power, as an incident of (other listed purposes)." [Emphasis supplied] On the other hands a very important economic objective of the Curecanti unit from its inception was the development of hydroelectric power generating potentialities along a 40-mile section of the Gunnison River. (See: The 1959 Report, Exhibit 182, p. 1) [See: ¶29 of this decree, supra.]

62. For the following reasons the Court reaffirms its prior holding that the generation of hydroelectric power is in fact a primary purpose of the Aspinall unit.

a. Clearly power generation is a beneficial use, and once decreed, it would be entitled to call against junior decrees. Vranesh, Vol. 1, Colorado water Law, §3.2, Page 144; Sternberger v. Seaton Mountain Elec. Light, Heat & Power Co., 45 Colo. 401, 102. P. 168 (1909).

b. Arizona Power Authority v. Morton, 549 F.2d 1231 (9th Cir. 1977) clearly recognizes hydropower as a primary purpose under the provisions of 43 U.S.C. §620.

c. The 1959 Economic Justification Report (Exhibit 182, pages 1, 17 and 20-24) demonstrates the importance of hydroelectric power to the success of the Aspinall unit. The power feature of the Aspinall unit was an important aspect of the study which recognized rapidly increasing needs for energy and power throughout Colorado and other states in the Colorado River Basin. The study report acknowledged the importance of power as a revenue source, and concluded that the Aspinall unit (with only two reservoirs) would generate an power benefit of nearly $3.7 million annually over a 100 year period. (Exhibit 182, pages 20-24) The Court concludes that in the absence of the hydropower purpose, the Aspinall unit would probably not have been found to be economically feasible, and thus would not have been constructed. Thus, it must be concluded that the generation of hydropower was and is, in fact, a primary purpose of the Aspinall unit.

63. Having concluded that the use of water by the Aspinall unit for hydroelectric power generation is a primary purpose, and generally is entitled to impose a call against junior water rights, a question still remains with respect to the provisions of 43 U.S.C. §620(f) which states that:

"neither the impounding nor the use of water for the generation of power and energy at the plants of the Colorado River storage project shall preclude or impair the appropriation of water for domestic or agricultural purposes pursuant to applicable state law."

64. The question posed by this language is: even if hydropower is a primary purpose, did Congress nevertheless intend to preclude a call for the use of water for hydroelectric power generation as against junior water rights decreed for domestic and agricultural purposes? There are no reported court decisions which directly answer the issue.

65. In their proposed Decree and in a separate brief, the Opposers developed an elaborate argument to the effect that the United States can call its hydropower rights against all junior decrees for domestic and agricultural water rights. For the reasons stated in ,66 below, the Court finds it unnecessary to address the Opposers' analysis in this regard.

66. The issue here is whether the United States can exercise a call for hydropower purposes against any junior decree awarded to the Applicant herein. The Court finds and concludes as follows:

a. The language of the statute is limited to the "domestic and agricultural" rights of other users. The Applicant has attempted to equate the use of the word "domestic" in said §620(f) to "municipal" purposes claimed by the Applicant. However, this Court construes "municipal" purposes to be much broader than "domestic" use. In fact, the Applicant lists both "municipal" arid "domestic" uses in its applications, and defines them differently. It makes no claim for "agricultural" uses per se. The Court concludes that the Applicant may be entitled to avoid modelling the hydropower rights of the Aspinall unit but only to the extent that the Applicant intends to appropriate water for strictly domestic purposes. In this regard, the Court believes that for the Applicant to implement the provisions of said §620(f) in establishing water availability, the Applicant had the burden to demonstrate and quantify the extent to which the water rights it claims would be used for domestic and agricultural purposes. The Applicant failed to meet this burden, and thus, the Court concludes that it was proper for the Opposers to model calls by the United States in the full exercise of its hydropower water rights.

b. Also, it is clear under any interpretation of 43 U.S.C. § 620f, the United States may curtail diversions by the Union Park Hydroelectric project for hydropower generation purposes, including, but not limited to, diversions under the existing decree in Case No. 82-CW-340. This is true because the decree in 82-CW-340 does not entitle the Applicant to use water for domestic or agricultural purposes. The effect of this conclusion is to recognize the seniority of the Aspinall hydropower rights over the rights in 82-CW-340, and thus a call to exercise said Aspinall hydropower rights would prevent diversions by Applicant under the decree in Case No. 82-CW340.

67. An additional reason for treating the hydropower water rights of the Aspinall Unit as a primary purpose of the unit is based upon the testimony of Mr. J. Ronald Johnston, an employee of the Bureau of Reclamation for 26 years, who is presently responsible for the operation of federal dams in the western United States, and who was designated by the Bureau to state the official position of the United

States with respect to issues in this case. Based upon Mr. Johnston's testimony and certain exhibits, the Court makes the following findings and conclusions:

a. The Bureau of Reclamation does not release water from the CRSP units solely for the purpose of hydropower generation nor does the Bureau of Reclamation release water from the CRSP reservoirs for any single purpose. The releases serve multiple purposes. It is clear that the Aspinall unit has decreed water rights for the purposes of domestic, municipal, irrigation, stock watering, industrial, hydropower, flood control, piscatorial, wildlife protection and recreational purposes. (Exhibit 1105, Tabs 4 and 87.) There are times when releases are made from the Aspinall reservoirs in quantities exceeding the amount required by senior downstream users. But said releases often satisfy other purposes of the Aspinall unit: flood control, minimize ice jams, protect the Dolores and Dallas Creek reservoirs from calls otherwise required for the benefit of endangered fishes, regulation of river flow, as well as for wildlife, fish and recreational purposes (recognized under the 1968 Act as primary purposes), and hydroelectric power generation. These purposes are recognized in absolute decrees issued by this court, and the Court hereby recognizes them as senior rights entitled to call for water which the Applicant would otherwise utilize to supply its project.

b. The Bureau construes 43 U.S.C. §620(f) as not impeding a call of the River for the direct flow and storage power rights of the Aspinall Unit. No call has been made on the Gunnison River for the Aspinall unit in prior years, because the authorized purposes of the Unit were never in jeopardy. The Bureau now takes the position that power generation is not an incidental purpose but rather it is equal to other primary purposes. In the future, the Bureau intends to make calls on the River for its direct flow rights and its storage rights. The Court accepts this position, except to the extent that the plain meaning of the exception for "domestic and agricultural purposes" as stated in 43 U.S.C. §620(f) mandates otherwise.

c. The Court recognizes that Mr. Johnston's testimony was at variance with deposition testimony by Wayne Cook, who at the time of trial was retired from his position as Regional Supervisor in the Water and Land Resources Division of the Bureau of Reclamation. However, Mr. Johnston testified that after the taking of Mr. Cook's deposition, meetings were held which included the Bureau's Regional Director, the Regional Solicitor and the Department of Justice as well as Johnston. These meetings were held for the precise purpose of resolving the official position of the Bureau with respect to the use of direct flow rights and storage rights under the CRSP generally, and with respect to the Aspinall Unit specifically, and the applicability of 43 U.S.C. §620(f) vis-a-vis the Aspinall Unit. His testimony, as outlined above, was based upon said meetings, and therefore, the Court accepts Mr. Johnston's testimony,

rather than Mr. Cook's, as a correct statement of the Bureau's position on the issues addressed.

68. The Bureau is responsible for the administration of CRSPA and must apply the law of the river, including river compacts, the acts of Congress, the treaty with Mexico, and pertinent case law. It is a general rule that great weight should be accorded the construction given to a statute by the governmental officials charged with the administration of the statute. §2-4-203(1)(f), C.R.S. 2 (1990); Great Northern Railway Co. v. United States, 315 U.S. 262, 275, (1942); Davis v Conour , 497 P.2d 1015 (Colo. 1972). In summary, then, on the issues regarding hydropower rights of at the Aspinall unit, the Court accepts the Bureau's position that hydropower is a primary purpose of the Aspinall Unit, but, in the absence of federal precedent to the contrary, this Court continues to believe that the plain meaning of 43 U.S.C. §620(f) does require the Bureau to subordinate any call for hydropower uses to domestic and agricultural demands.

B. THE UNCOMPAHGRE PROJECT

69. The Uncompahgre Project was the first major federal reclamation and irrigation project constructed under the Reclamation Act of 1902 [see: 43 U.S.C. §371, et seq.] The Uncompahgre Project consists of the Taylor Park Reservoir, the Gunnison Diversion Dam, the Gunnison Tunnel, and a series of canals and laterals that are used to supply irrigation water to approximately 76,000 acres of land in the Uncompahgre Valley which is located in Ouray, Montrose and Delta Counties, and which valley lies to the west of the Aspinall Unit. The Uncompahgre Valley Water Users Association (UVWUA) operates the Uncompahgre Project and under a contract with the United States is obligated to pay for the cost of the project, including construction of Taylor Park Reservoir and the Gunnison tunnel. UVWUA and its members are the beneficiaries of Taylor Park Reservoir and the beneficial users of the water right decreed thereto in Civil Action No. 2021 (and as such are considered by the Court to be the "equitable owners" of said reservoir and said water right).

1. The Gunnison Tunnel:

70. A primary source of water for the Uncompahgre Project is the Gunnison Tunnel which diverts water from the Gunnison River to the Uncompahgre River Drainage (and return flow from said diversion eventually drains back into the Gunnison River). The tunnel is about 5.8 miles long, and was completed in 1912. Its decrees include the following:

a. On May 8, 1913, the tunnel was awarded a conditional direct flow right for 1,300 c.f.s. for irrigation purposes with a priority date of June 1, 1901. At present 1,135 c.f.s. Of the direct flow right has been decreed absolute.

b. The Gunnison Tunnel also holds a conditional decree for 165 c.f.s. for the balance of its original decree. The present capacity of the tunnel is 1,181 c.f.s. and it is expected that work on the tunnel will continue so that this conditional right will be made absolute so as to accommodate the full decreed amount of 1,300 c.f.s. to meet existing needs of the Uncompahgre Project.

c. Also associated with the Gunnison Tunnel and the Uncompahgre Project are two conditional decrees for hydropower rights: the Uncompahgre Valley Hydroelectric Project which has a decree for 900.0 c.f.s. with a priority date of 2/16/81, and the AB Lateral Hydroelectric Project which has a decree for 235.0 c.f.s. with a priority date of 10/31/84. [These will be addressed in more detail under "conditional rights."]

2. Taylor Park Reservoir:

71. Taylor Park Reservoir is owned by the United States of America and was constructed by the Bureau of Reclamation in the mid-1930's to provide a supplemental supply of water for the UVWUA when no water was available for diversion through the Gunnison Tunnel under the direct flow right. Taylor Park Reservoir is an "onstream" reservoir located on the main channel of the Taylor River which, at its confluence with the East River (at Almont, Colorado), forms the Gunnison River. Water stored in Taylor Park Reservoir is used to supplement the direct flow right which is decreed for the Gunnison Tunnel (see discussion below in ,,105106). The water right for the Reservoir was decreed in 1941 for 111,260 acre feet with a priority date of August 3, 1904 for irrigation and other purposes. The total capacity of Taylor Park Reservoir below the spillway level is 106,230 acre feet of water. The 5,000 acre feet difference between the decreed amount and the capacity stored below the spillway is due to the fact that under the design of the reservoir when there is sufficient head over the spillway to discharge the water, there will then be in the reservoir a total of 111,260 acre feet.

72. The original decree for Taylor Park Reservoir granted conditional rights, but in Civil Action No. 2021 of the District Court for Gunnison County on April 29, 1941, the irrigation purpose was declared absolute and the other purposes were continued on a conditional basis. In 1986 the conditional decree for non-irrigation uses of Taylor Park Reservoir was terminated for lack of diligence, with the exception of two (2) cubic feet per second (not to exceed four (4) acre feet per year) which was continued for

hydroelectric purposes. The 1941 decree for Taylor Park Reservoir, as modified in 1986, is for irrigation purposes only, with the sole exception of said hydroelectric power use. The original decree for Taylor Park Reservoir includes no decree for fishery or recreation purposes.

73. The average volume of water discharged by the Taylor River at Taylor Park Reservoir for the years 1952 through 1988 was approximately 154,000 acre feet per year.

3. The Operation of Taylor Park Reservoir in light of the 1975 Exchange Agreement and the 86-CW-203 Decree

74. In 1975 an Exchange Agreement was entered into by the United States of America, the UVWUA, the Upper Gunnison River Water Conservancy District (the "Gunnison District" or the "UGRWCD") and the Colorado Water Conservation District (the "CRWCD" or the "River District"). Its execution was authorized by Section 8 of the 1956 Colorado River Storage Project Act, the 1965 Recreation Act and the 1968 Act. The primary purposes of the agreement were to stabilize stream flows on the Taylor River for fishery and recreational purposes, to facilitate the management and exchange of storage water between the Taylor Park Reservoir and the Blue Mesa Reservoir of the Aspinall Unit, and to provide flood control and supplement irrigation uses. (Exhibit 247). This contract is called the "1975 Agreement".

75. The 1975 Agreement contemplated coordinated releases of water from Taylor Park Reservoir with regulation to occur at Blue Mesa Reservoir for the benefit of the Gunnison District, UVWUA, River District and the enhancement of recreation and fishery purposes of the Colorado River Storage Project. Any release in excess of waters needed by UVWUA was to be construed as a release made at the request of the United States to be accounted for as an exchange of storage. (Exhibit 247 at ¶1(c) on p. 3)

76. The Agreement recognized that UVWUA physically operated Taylor Park Reservoir but would make releases upon the request of the United States or the Gunnison District with the approval of the United States. To the extent water is released from Taylor Park Reservoir, credits are created for UVWUA in Blue Mesa Reservoir. (Exhibit 247 at ¶ 1(a) on p. 3)

77. The 1975 Agreement limits UVWUA's credit in Blue Mesa Reservoir so that the total of the credit and UVWUA's water stored in Taylor Park Reservoir cannot exceed the active capacity of the Reservoir (106,230 acre feet) after taking into account

storable inflow, storage releases for UVWUA uses, evaporation and other reservoir losses. (Id. at ~ 4 on p. 4) The Agreement requires the written consent of the Gunnison District and the United States before UVWUA or the United States can "sell, lease or exchange water from Taylor Park Reservoir." (Id. at ~ 10 on p. 6)

78. Before the Aspinall Unit was constructed and the 1975 Agreement was adopted, Taylor Park Reservoir was operated as a typical irrigation storage reservoir with heavy releases during the end of the irrigation season and then closing of the reservoir gates to achieve full storage as rapidly as possible. This resulted in extreme fluctuation in the flow of Taylor River. The Environmental Assessment (Exhibit 116) which was necessary before execution of the 1975 Agreement, reported winter flows at a minimum of 0 c.f.s. before the Aspinall Unit was constructed and about 19. c.f.s. after Blue Mesa Reservoir was constructed but before the 1975 Agreement was executed.

79. The use of the active storage capacity of Taylor Park Reservoir, in conjunction with the Aspinall Unit, has been essential in order to achieve the benefits listed in Paragraphs 74 and 75 above. The stabilization of flows under the 1975 Agreement has benefitted the following:

a. downstream irrigators by reason of easier headgate management and higher river flows;

b. fisheries, in that the spawn and fry life stages are not disrupted by changes in flow and flows are established within an optimum range for all life stages;

c. landowners, by virtue of the reduction in the frequency and severity of flooding; and

d. recreational users, in that river flows are more predictable, and useable boating flows occur more frequently.

80. The 1975 Agreement has resulted in legal benefit to third party owners of irrigation water rights between Taylor Park Reservoir and Blue Mesa Reservoir. Prior to the 1975 Agreement, those irrigation water rights could not lawfully divert water released from Taylor Park Reservoir since they were subject to curtailment by the Division Engineer. The operations under the 1975 Agreement have made water legally available to irrigation users which would not have been available in the absence of the 1975 Agreement.

4. Exchange Accounting:

81. After the execution of the 1975 Agreement, the United States (through the Bureau of Reclamation) has accounted for the exchange between Taylor Park Reservoir and the Aspinall Unit by means of a formula which gives credit to the UVWUA account in the Aspinall Unit for all water in excess of 20 c.f.s. which is measured at the U.S.G.S. stream gauge below Taylor Park Dam. The parties to the 1975 Agreement intended, and the Court finds, that the water in the UVWUA account in the Aspinall Unit was stored under the 1904 priority of the Taylor Park Reservoir water right.

a. The 20 c.f.s. exception to credits is based upon an assumption by the Bureau that 20 c.f.s is the minimum bypass of inflows into the Reservoir which is necessary to maintain at least some live flow in the river below the dam. This figure bears a reasonable relationship to the minimum river flows which were historically bypassed from storage by the UVWUA prior to the 1975 Agreement. The Bureau has determined to credit UVWUA for all measured flows in excess of this minimum bypass because this is water which is either released from storage or could have been stored in Taylor Park Reservoir in priority, but was not stored for the benefit of UVWUA until it reached the Aspinall Unit. The Court finds that this procedure facilitates the implementation of said Agreement which requires certain flows to maintain the beneficial uses for fishery and recreation described in the Agreement. [This procedure is also consistent with the provisions of §37-87-102(4), C.R.S. 15 (1990)]

b. The policy of the Bureau in charging all water measured at the Taylor Park gauge in excess of 20 c.f.s. against the 1904 storage right is consistent with Colorado water law and the intent of the parties to effect an exchange of storage under §37-80-120 and §37-83-104 and 105, C.R.S. 15.

c. The UVWUA exchange account has been adjusted to ensure that the total UVWUA water in the Aspinall account and in storage in Taylor Park Reservoir did not, at the end of any month, then exceed the active capacity of Taylor Park Reservoir, which is 106,230 acre-feet. The Bureau has assumed that all water in Taylor Park Reservoir should be credited to the UREA and adjusted the UVWUA Aspinall account accordingly.

d. Debits are posted to the UVWUA account at such time as the diversions through the Gunnison Tunnel are greater than the calculated inflows to the Aspinall Unit from all sources other than the Taylor River. This approach results in an estimate of water which would have been available to the UVWUA under the direct flow rights associated with the Gunnison Tunnel, and a resulting debit to the Aspinall

account for the balance, which is drawn from storage. The Taylor River flows are not included in the calculation of supplies to the Gunnison Tunnel because these flows contribute to water stored either in Taylor Reservoir or, by exchange, in the UVWUA account in the Aspinall Unit.

e. When the UVWUA account in the Aspinall Unit is overdrawn as a result of insufficient credits in relation to the calculated demand for supplemental storage, the United States has received and accounted for credits for an equivalent amount of water stored in Taylor Park Reservoir. This situation occurred in 1975, 1977, 1978 and 1979. The 1975 Agreement therefore involves exchanges of stored water both from Taylor Park Reservoir downstream to the Aspinall Unit and from the Aspinall Unit upstream to Taylor Park Reservoir.

f. Exhibit 98 represents the historic accounting of the exchange by the Bureau of Reclamation, and is consistent with this Court's decree in Case No. 86-CW-203. (See discussion in S. 84-85 below regarding 86-CW-203.) The cancellation of credits in the Aspinall Unit, except to the extent that such credits are properly attributed to the refill right, is also consistent with the decree in Case No. 86-Cw-203. See Exhibit 422, ,,31, 44, and 52, and Accounting Conditions 7 and 10.

**The Decree in Case No. 86-CW-203 contains specific findings that these accounting provisions would not result in injury to any other vested water rights. Exhibit 422, 537. Applicant may not collaterally attack any of the provisions of the 86CW-203 decree in the context of this case.**

82. From 1972 through the time of trial, neither the Taylor Park Reservoir storage rights nor the Aspinall unit storage or direct flow rights have ever been administered in priority. This lack of administration is the result of an absence of calls by or affecting either of these federal projects. The Division Engineer did not administer irrigation releases of water from Taylor Park Reservoir to the Gunnison Tunnel. The Court finds that there was no necessity for administration of storage or releases from Taylor Park Reservoir at any time from 1972 through 1988.

83. No claim of injury resulting from, or objections to, the exchanges of water between Taylor Park Reservoir and Blue Mesa Reservoir have been made at any time. The exchange of water between Taylor Park Reservoir and Blue Mesa Reservoir did not result in material injury to the owners of or persons entitled to use any water right, absolute or conditional.

5. The Decree in Case No. 86-CW-203:

84. The 1975 Agreement was the genesis of the decree entered by this Court in Case No. 86CW203 on September 18, 1990. (Exhibit 422) The application in that case was filed by the Gunnison District, and as the result of a nine-day trial, the Gunnison District was granted a refill right for Taylor Park Reservoir in the amount of 106,230 acre feet. The water is decreed for recreational purposes while impounded in Taylor Park Reservoir and is to be released in times and quantities calculated to enhance fishery and recreational uses in the Taylor and Gunnison Rivers above Blue Mesa Reservoir. A portion of the water right is also decreed for irrigation purposes. Of the 106,230 acre feet of water awarded to the refill right 44,700 acre feet is under an absolute decree and the remaining 61,530 acre feet is conditional.

85. One of the findings in Case No. 86CW203 (which is binding upon the Applicant because of common issues and parties) is that the following flow rates below Taylor Park Reservoir in the Taylor River are to be considered as optimum for fishery purposes:

| Period | Optimum Flow | Purpose |
|---|---|---|
| October 16-31 | 100-150 c.f.s. | Spawning and incubation |
| November | 100-150 c.f.s. | Spawning and incubation |
| December | 100-150 c.f.s. | Spawning and incubation |
| January | 100-150 c.f.s. | Spawning and incubation |
| February | 100-150 c.f.s. | Spawning and incubation |
| March | 100-150 c.f.s. | Spawning and incubation |
| April | 300-500 c.f.s. | Hatching and fry emergence |
| May | 300-500 c.f.s. | Hatching and fry emergence |
| June | 300-500 c.f.s. | Hatching and fry emergence |
| July | 500 c.f.s. | Adult habitat and flushing |
| August | 500 c.f.s. | Adult habitat and flushing |
| September | 500 c.f.s. | Adult habitat and flushing |
| October 1-15 | 500 c.f.s. | Adult habitat and flushing |

[By agreement between the United States, UVWUA, Gunnison District and River District, the ownership of the decree in 86CW203 will be assigned to the United States when the decree becomes a final judgment. Johnston testified that the United States would operate the reservoir faith these criteria.]

37

C. MINIMUM STREAM FLOWS

86. Three different kinds of minimum stream flows may affect the water availability to the Union Park Project.

a. Minimum stream flows adjudicated by the Colorado Water Conservation Board (CWCB) have been recognized by Arapahoe in its stipulation with the CWCB, whether those minimum stream flows are junior or senior to the Union Park Project. Arapahoe's modeling takes all of those CWCB minimum stream flows into account in its determination of water availability.

b. Private minimum stream flow decrees exist on certain reaches of the Taylor River and Texas Creek above Taylor Park Reservoir. A very small portion of those reaches lies between Arapahoe's proposed diversion points and the high-water line of Taylor Park Reservoir. Arapahoe asserts that it has the power of eminent domain to condemn those rights on the reach below its diversion points, to the extent those rights exceed the adjudicated CWCB minimum stream flows. This condemnation issue is addressed in [1225-227 of this Decree.

c. Private in-stream flow decrees also exist on the Taylor River below Taylor Park Reservoir and on Lottis Creek below Union Park Reservoir. The evidence was uncontradicted that no call has ever been placed by those rights. On the contrary, the owners of those rights entered into a stipulated decree in Case 82CW340 calling for minimum and maximum stream flows on the Taylor River below Taylor Park Reservoir. This matter is more fully addressed in t123 of this Decree.

D. OTHER EXISTING ABSOLUTE RIGHTS

87. While there are numerous existing absolute water rights in addition to those listed above which would be impacted to some extent by the Applicant's Union Park Project, the Court summarizes the following as among the more important which were recognized by one or more of the parties' experts in modelling water rights in the Gunnison River Basin:

a. The Black Canyon of the Gunnison Minimum Streamflow: This is a federal reserved right in the Gunnison River per se based upon the establishment of the Black Canyon of the Gunnison National Park. Said right has not been quantified, but the parties generally modelled it at 300 c.f.s. minimum streamflow below the Gunnison Tunnel because this represents current operations. As a federal reserved right, it has a priority date equivalent to the date the National Park was established. Cappaert v.

United States, 428 U.S. 128, 133 (1976). Said date is prior to the priority dates sought by the Applicant in these cases, and also pre-dates the creation and construction of the Aspinall Unit.

b. The Gunnison River at Gunnison: a recognized 150 c.f.s. minimum streamflow as the Gunnison River runs past the City of Gunnison.

c. The Redlands Canal Power Diversion: An absolute direct flow right in the quantity of 750 c.f.s. which is diverted from the Gunnison River near the City of Grand Junction, well downstream from the Aspinall Unit.

d. The City of Gunnison: The City of Gunnison has a variety of water rights to supply the needs of its inhabitants. A summary of the quantities of the absolute decrees in this regard include:

-in excess of 3.0 c.f.s. diverted by wells (with 1981 priority dates);

-64 c.f.s. for the Gunnison Town Ditch (1880 priority date under a 1906 adjudication);

-15 c.f.s. for the Gunnison Town Pipeline and Reservoir (1883 & 1913 priority; 1941 decree)

e. Spann Ranches: absolute direct flow irrigation rights in various ditches with decreed rights totalling in excess of 300 c.f.s. (including interests in ditches which divert more than 250 c.f.s. out of the East River).

f. Trampe Ranches: absolute direct flow irrigation rights in various ditches with decreed rights totalling in excess of 300 c.f.s. (including interests in ditches which divert more than 275 c.f.s. out of the East River).

(EXISTING CONDITIONAL WATER RIGHTS)

88. The Court authorized the parties to develop and present their respective theories in the modelling of conditional rights. Rather than to select and study individual conditional water rights, the Applicant's approach in modelling conditional decrees [as recognized earlier in f! 17 & 23(b)] was to examine the needs of the Upper Gunnison Basin for water over and above the amount already decreed absolute. On the other hand, the Opposers experts by and large selected a few critical individual conditional rights to perform their analysis.

89. In point of fact, there are a large number of conditional water rights in the Gunnison River Basin which affect the availability of water for the Union Park Project. The total amount of conditionally decreed rights in the entire Basin is 28,908 c.f.s. for direct flow rights and 2,528,893 acre feet for storage rights. (Exhibit 1132) The total amount appropriated by the major conditional rights (defined as "in excess of 10 c.f.s. or 1,000 acre feet of storage") is 15,625 c.f.s. for direct flow rights and 1,138,811 acre feet for storage rights. These totals represent water rights throughout the entire basin, and some reduction would be necessary to avoid duplication (where two rights seek the same site and the same water) and also adjustment for return flow water. The totals are not fully material except to answer the inference that there is a vast quantity of unappropriated water in the basin based upon the fact that 1.8 million acre feet of water are delivered at the confluence of the Gunnison River and the Colorado River near Grand Junction.

90. All existing conditional decrees senior to the water rights claimed by the Applicant which are legally valid clearly impact water availability because they have the potential for being made absolute. Therefore, the Court considers the following:

A. THE UNCOMPAHGRE PROJECT :

91. The Uncompahgre Valley Water Users Association has a conditional decree for 165 c.f.s. for the Gunnison Tunnel and South Canal, which represents the balance of its original direct flow right which has not yet been made absolute. Also associated with the Uncompahgre Project and the Gunnison Tunnel are two conditional decrees for hydropower rights: the Uncompahgre Valley Hydroelectric Project (case 82-CW-324) which has a decree for 900.0 c.f.s. with a priority date of 2/16/81, and the AB Lateral Hydroelectric Project (case 87-CW-273) which has a decree for 235.0 c.f.s. with a priority date of 10/31/84.

B. THE UPPER GUNNISON PROJECT :

92. In May 1991, this Court in case 88-CW-183 entered a Judgment finding reasonable diligence with respect to 12 of the 16 features which make up the Upper Gunnison Project; however, four of the features were cancelled (see "*" below). The features of the project are:

Name of the feature:

1) Castleton Reservoir 2) Ohio Creek Canal 3) Taylor River Canal* 4) East River Canal* 5) Ohio City Reservoir* 6) Monarch Reservoir 7) Quartz Creek Canal* 8) South

Crookton Canal 9) Banana Ranch Reservoir 10) Flying M Reservoir 11) Upper Cochetopa Reservoir 12) Cochetopa Meadows Ditch 13) Cochetopa Canal 14) Pass Creek Canal 15) Los Pinos Canal 16\ Stubbs Gulch Canal

Ouantity of the Right:
Direct Flow

277.0 cfs
302.0 cfs*
82.0 cfs*

277.0 cfs*
277.0 cfs

Enlgmt 11.0 cfs
240.0 cfs
45.0 cfs
51.0 cfs
_ 277.0 cfs

Totals: 1,839.0 cfs

*Less the quantities of
the cancelled rights: 661.0 cfs*

Net quantity after cancellation: 1,178.0 cfs

Storage

9,000 af

22,757 af* 29,200 af

21,733 af 15,457 af 12,693 af

110,840 af

22,757 af* 88,083 af

93. The Court recognizes that it ordered that operative facts material to water

availability would To be determined as of April 15, 1991. (Pretrial Order of January 8, 1991) The Court's Judgment in the above diligence case (88-CW-183) was entered after April 15, 1991, so technically the cancellations ordered by said Judgment should not be considered. However, the Court Concludes that it will recognize the cancellations for the purpose of the present decree. This is done to try to recognize what is actually the "present condition of the river" at the time of trial. (Pretrial Order of May 6, 1991) Also, it was the assessment of Opposer's expert, Mr. Spronk, that in view of other conditional rights which were modelled, the inclusion of the East River Canal and the Taylor River Canal would have no significant affect on the yield of the Union Park Project anyway. (See 1148 below) Further, even after cancelling the storage right for the Ohio City Reservoir, the Upper Gunnison Project still holds conditional storage rights for 88,083 acre feet, and this exceeds the 60,000 acre-foot capacity anticipated by the CRSPA legislation (even without considering the Fruitland Mesa Project and the Bostwick Park Project). (See ,, 29(b) and (d) above)

C. APPLICANT'S HYDROPOWER DECREE 82-CW-340:

94. A conditional decree which is very important to the analysis in the present cases is one granted for the Union Park Reservoir in case 82-CW-340. This decree was obtained by NECO, the predecessor in interest to the Applicant herein, and is now owned by the Applicant in this case. The decree approved a reservoir with a storage capacity of 325,000 acre feet of water to be used for hydropower purposes, and other non-consumptive purposes. (The Court recognizes that in case 85-CW-96,, 4450 acre feet of the decree obtained by NECO was transferred to another reservoir--see 16(a) above.) The reservoir claimed by the Applicant in the present cases (86-CW-226 and 88-CW-178) actually is an enlargement of the reservoir site claimed in 82-CW-340. The Decree in 82-CW-340 contemplates that sources of water for the Union Park Reservoir would be flows from Lottis Creek (on which it would be constructed) and Willow Creek, as well as water pumped from the Taylor Park Reservoir. The decree provides further that water will be released from Union Park Reservoir through its primary pumping/generating facilities and into Taylor Park Reservoir in generating mode, where said water shall again be diverted by the same facilities in pumping mode into Union Park Reservoir for reuse as part of the hydroelectric power project.

95. Based upon a stipulation between NECO and Opposer Perkins Sams, the Decree also provides for the owner of Union Park Reservoir to undertake an active and conscious effort to work zenith the United States Bureau of Reclamation to maintain minimum and maximum flows in Taylor River below Taylor Park Reservoir. These stream flows are to be maintained by virtue of releases from Union Park Reservoir into Taylor Park Reservoir. The owner of union Park Reservoir must also maintain

minimum and maximum flows in Lottis Creek directly through releases from union Park Reservoir. (See: S123 above re the effect of said stipulation.)

D. TRI-COUNTY HYDROPOWER PROJECT:

96. The Colorado Ute Electric Association holds a conditional storage right for a reservoir with a capacity of 72,850 acre feet of water (adjudicated in 1954) and two conditional direct flow decrees in the total amount of 6,060 c.f.s. (adjudicated in 1980) for hydroelectric power generation. These water rights comprise the Tri-County Hydro Project which is situated downstream of the confluence of the North Fork of the Gunnison River, near the USGS Lazear stream gauge.

E. CITY OF GUNNISON:

97. The O' Fallon Ditch owned by the City of Gunnison is a conditional decree which takes water directly from the Gunnison River and has a decreed right for 85.0 c.f.s. for municipal and irrigation purposes, with a priority date of 10/26/54.

98. The City of Gunnison also has conditional storage rights for four reservoirs with a common priority date of 12/23/81 based upon decrees in case 81-CW-306. Said rights authorize the use of water for municipal, domestic, commercial, industrial and irrigation purposes, and together the four reservoirs represent total storage rights of 84,000 acre feet. The four reservoirs are described as follows:

a. Gunnison Reservoir #1: on the East River with a storage right for 18,000 acre feet.

b. Gunnison Reservoir #2: on the Taylor River with a storage right for 8,800 acre feet.

c. Gunnison Reservoir #3: on the Taylor River with a storage right for 17,200 acre feet.

d. Gunnison Reservoir #4: on Gunnison River tributaries with a storage right for 40,000 acre feet.

F. INTERESTS OF SPANN AND TRAMPE:

99. Brush Creek Reservoir on Brush Creek a tributary of the East River. The

reservoir has a decreed storage right for 3,000 acre feet for irrigation and stockwater, and has priority date of 6/27/59. Objectors, Spann and Trampe, who own and operate ranches on the East River and its tributaries, each own an undivided one-third interest in this reservoir.

## IV. ANALYSIS OF THE MODELLING OF EXISTING WATER RIGHTS

### A. HYDROLOGY STUDIES:

100. As the principal means of meeting its burden of proof to establish water availability by a preponderance of the evidence, the Applicant relies on the numerical output of a network fortran-based computer model developed by WRC Engineering, Inc. (WRC) during the Spring of 1991. The operation, complexity, reliability and validity of the underlying assumptions used in developing and operating WRC's model were the subject of testimony extending over several days. (for additional background data see 121 above)

101. The model operates through a series of "flow points" at which independent numerical calculations were made based on projected inflows above that point, decreed diversions or historic depletions accumulated to that point, various Colorado Water Conservation Board (CWCB) instream flow demands and certain downstream constraints as applied through the network function of the model. The model output is expressed in terms of total yield to the Union Park Project based on a series of scenarios using different assumptions. The model was undergoing a continuing process of evolution and the final Scenario F was not completed until four days prior to trial. WRC had never before constructed a network Program for computer analysis of the magnitude and complexity of that developed for this case. At one point, the principal programmer in WRC worked nearly thirty hours trying to complete and debug the model. The debugging effort was not entirely successful as evidenced by the need for additional runs for correction purposes just prior to the commencement of trial.

### B. MODELLING OF THE ASPINALL UNIT AND DOWNSTREAM RIGHTS

102. The theory of the Applicant is that historical releases from the Aspinall Unit have not been made for beneficial uses recognized by the laws of this State and the applicable Federal statutes. For instance, Applicant contends that 43 U.S.C. 620f does not permit calls for water for power purposes as against upstream depletions for domestic and agricultural uses. (See 166 above) Further, Applicant theorizes that flood control, river regulation and protection against Lower Colorado River Basin Compact

calls are not beneficial uses under Colorado law. The theory continues that if releases are made for those purposes the United States cannot place a call to refill the vacancy in the reservoirs caused by such releases.

103. The exception to the foregoing theory of Applicant may be their treatment of water rights for the Gunnison Tunnel and the minimum stream flow for the Black Canyon. One of the undisputed issues in this case is that the United States holds an unquantified decree for a minimum stream flow through the Black Canyon to maintain in an unimpaired condition the scenic, aesthetic, natural and historical objects of the Black Canyon of the Gunnison Monument, as well as the wildlife therein, but that for purposes of these cases the flow shall be quantified at 300 c.f.s.

104. The unquantified minimum flow right in the Black Canyon National Monument is a right senior to the union Park Project, and it was modelled at 300 c.f.s. Nonetheless, the theory of the Applicant was that if the direct flow of the Gunnison River through the Black Canyon. is less than 300 c.f.s. the shortage must be made up from storage in the Aspinall Unit and could not call out or impair the storage of water in the Union Park Project. However, the Black. Canyon right and the Aspinall Unit rights are separate and distinct water rights. Thus, this theory is inconsistent with the priority system as established by the Colorado Constitution and statutes. (See ,87(a) above and ,127 below)

105. The Gunnison Tunnel decree was referenced in Paragraph 70 herein. The direct flow water right for the Gunnison Tunnel was first made absolute in 1985 in Case No. 84CW142, in the amount of 1061 c.f.s. In 1986, in Case No. 86CW1, an additional 161 c.f.s. was made absolute. In 1988, in Case No. 87CW231, an additional 13 c.f.s. was made absolute, for the present total of 1,135 c.f.s. (Exhibit 1105, p. 6). It also has a valid conditional decree for 165 c.f.s., for a full decreed capacity of 1,300 c.f.s. The present physical capacity of the Gunnison Tunnel is 1,181 c.f.s. (Exhibit 1092). The Court concludes that the conditional portion of the water right must be given full efficacy for the purposes of determining water availability herein, and thus the right should be modelled to its full decreed capacity of 1,300 c.f.s.

106. The theory of Applicant is that if the Gunnison Tunnel does not have sufficient water available to it to fill its direct flow right, it should first satisfy its shortage from water stored to its credit under the 1975 Agreement in Blue Mesa Reservoir. Further, that all water passing the Gunnison Tunnel in excess of 300 c.f.s. must be deemed to be available under the Gunnison Tunnel water right regardless of whether the water has been released from storage in the Aspinall Unit and regardless of the purposes for the release. No call against the River was ever imposed under the

modeling of WRC which would restrict the diversions to Union Park by reason of a shortage for the direct flow Gunnison Tunnel water right, except when the Uncompahgre Valley Water Users had no storage credit in Blue Mesa Reservoir. **The Court concludes that the Applicant's approach in this regard violates Colorado's priority system for the administration of water rights. The water right for the Gunnison Tunnel, as a senior right, is entitled to call out the Union Park Project to satisfy its 1901 direct flow water right whenever the natural flow of the Gunnison River is less than the physical demand for water through the Gunnison Tunnel, even though water is being held in storage to supplement said direct flow. The reason for this is that any senior user in this situation has the right to save the stored water for the day when no other water (except that in storage) is available (by physical flow or by call against juniors) to satisfy the direct flow right.**

107. Further, Applicant's argument in the foregoing paragraph fails to recognize the terms of the 1975 Agreement (see S! 74-83 above and f116 below). The Uncompahgre Valley Water Users Association, under the 1975 Agreement, draws water which has been stored to its credit in Blue Mesa Reservoir based upon releases from Taylor Park Reservoir. Under and consistent with the 1975 Agreement, the Gunnison Tunnel will not exercise its direct flow power right for the diversion of waters released from storage in the Aspinall Unit except to the extent that credits are available by the exchange of storage. The United States has the right to determine and identity the uses of water released from storage in the Aspinall Unit and to shepherd thereby preventing, if necessary, the Gunnison Tunnel from diverting said releases under the auspices of its direct flow right. The 1975 Agreement appropriately preserves the distinction between the storage and direct flow rights of the United States and the Uncompahgre Project.

108. Under the 1975 Exchange Agreement, the UVWUA will be entitled to call out the Union Park Project to satisfy the 1901 direct flow water right whenever the natural flow of the Gunnison River is less than the physical demand for water through the Gunnison Tunnel. Under the 1975 Exchange Agreement, the UVWUA and the United States agreed to a methodology in which the water available to satisfy the direct flow water right associated with the tunnel is determined by computing the natural flow of the Gunnison River without regard to changes in storage of the Aspinall Unit and the flow of the Taylor River above Taylor Park Dam. The UVWUA may divert water released from storage in the Aspinall Unit reservoirs only in accordance with the 1975 Exchange Agreement.

109. The Court finds that the 1975 Agreement is consistent with Colorado law

and the purposes of both the Aspinall Unit and the Uncompahgre Projects. In fact, the Court, in a separate case (86-CW-203) recognized the 1975 Agreement and its purposes by Court decree, and the rights established by said decree are senior to the rights sought by the Applicant in the present cases.

110. The UVWUA has not waived its right to place a call on the river to satisfy its direct flow right. Indeed, it did place such a call in 1988. (Exhibit 128-A). Accordingly, no water may be considered to be available to Applicant's Union Park Project at times when the direct flow right for the Tunnel is not satisfied. This includes times at which the UVWUA has historically drawn on its supplemental supply of storage water, either in Taylor Park Reservoir or in its account in the Aspinall Unit under the 1975 Exchange Agreement. During these times, any diversions by the Union Park Project would be out of priority. The Court finds that Applicant's model has improperly allowed diversions by the Union Park Project during these periods of time. By contrast, Mr. Spronk and Mr. Helton have properly accounted for the direct flow rights decreed to the Tunnel and have limited diversions by the Union Park Project accordingly.

111. The Gunnison Tunnel also has conditional water rights in the total amount of 1,135 c.f.s. for hydroelectric power generation purposes. In accordance with the Court's earlier orders, these conditional rights must be assumed to be developed in determining whether water is available for Applicant. See §37-92-305~3), 15 C.~.S. (1990 Cum. Supp.) The Court finds that the development of this project, together with the 1901 priority, will result in a continuous demand of water through the Gunnison Tunnel in the amount of 1,300 c.f.s. during the irrigation season from May through October, and 1,135 c.f.s. during the non-irrigation season of November through April. These rights must be fully satisfied before any water is deemed available to the Union Park Project, as Mr. Spronk has done in scenarios 2, 4A, 4B, 4C, and 5B. (See: ¶ 149 supra. also)

112. It is the Applicant's position that the operation of the Aspinall Unit could and would be changed to accommodate the filling and operation of the Union Park Project (or any other upstream depletion) because inflows to Blue Mesa Reservoir would naturally be reduced. This position seems to assume that the Aspinall Unit is presently enjoying inflows of more water than it is entitled to. This is likely given the fact that a number of major conditional decrees, such as the Upper Gunnison Project, have not yet been made absolute; but when they are they will then utilize said "excess" water. The Applicant suggests that as said excess is actually depleted then the Aspinall Unit will have to modify its operation because it will not longer receive said excess water. This may be a true observation, but it is material to the inquiry

regarding the availability of water in these actions, only to the extent unappropriated water is found to be available for the Applicant's project. Otherwise, the Applicant's attempt to utilize water which inflows the Aspinall Unit would deprive the United States of water to which it is entitled. Under these circumstances the Applicant's use of said water would result in a major operational change of the way the United States utilized the Aspinall Unit, and such action by the Applicant, without a contract with the United States or congressional approval would be impermissible. (See: Pretrial Order of 9/14/90, p. 14).

113. Based upon the Court's analysis of the water rights of the Aspinall Unit (see: ,,24-68, supra.), the Court concludes that the state water decrees awarded to the Aspinall Unit are valid, and enforceable absolute decrees which may call for water against junior priorities on the River at any time that water is needed for the decreed purposes, subject only to limitations expressly recognized elsewhere in this Decree.

114. WRC states that the principal purpose of the Aspinall Unit is to permit Colorado to develop its allocation of waters under the Colorado River Compact and the Upper Colorado River Compact. Notwithstanding that contention, the WRC model did not properly reflect any releases that are being made from the Aspinall Unit under the commitment by the Bureau of Reclamation to meet obligations imposed under §7 of the Endangered Species Act for the benefit of the Dallas Creek Project on the Uncompahgre River and the Dolores Project on the Dolores River. [The Applicant's model of the Aspinall release of 300 c.f.s. for the Black Canyon reserved right to satisfy the Bureau's commitment to meet obligations under said §7 did not properly address the issue.] Section 7 releases are made to permit the Dallas Creek and Dolores Projects to store and use water within Colorado. Having made releases from the Aspinall Unit to satisfy said purposes, the United States is entitled to call against junior rights to fill the vacancy created by said releases, until its decreed rights have been satisfied.

115. The effect of the WRC model is to keep the Aspinall Unit at a constant level, or nearly so, but based upon the evidence, the Court concludes that the Aspinall Unit cannot be kept at a constant level and still fulfill its multiple Federal functions or the purposes recognized in its state water decrees.

C. MODELLING THE TAYLOR PARK RESERVOIR and 86-CW-203

116. The United States has a decree for Taylor Park Reservoir for a first fill in the amount of 111,260 acre feet. See 571 above. The Gunnison District owns a water right granted in 86CW203 for a second fill in the amount of 106,230 acre feet, which water right will be assigned to the United States when the decree becomes a final

judgment. [Exhibit 422] (See: 584 above) The manner of operation of the Reservoir is substantially affected by the 1975 Agreement. See ,,74-83 above. Since the construction of the Aspinall Unit, the Reservoir has been operated in substantially the same manner to accomplish the uses and purposes as established by the decrees and the 1975 Agreement. The decree in 86CW203 established with particularity the stream flows which will optimize the fishery in Taylor River and the water rights awarded therein were to be used to maintain such flows.

117. In this Court's September 14, 1990 Order in these cases, this Court advised the Applicant that it must obtain Federal approval before it could use Taylor Park Reservoir as a forebay and that such use would constitute a major operational change which could be made only with congressional approval. The factual premises upon which that Order was based was that the Applicant would have a pumping plant installed in Taylor Park Reservoir and that the Reservoir would be used both as a forebay and as an afterbay in connection with a pumped storage power project. As of the date of trial (and more importantly, as of the deadline of April 15, 1991), the Applicant had not obtained said approval from the United States for the Applicant to make <u>any</u> use of Taylor Park Reservoir. Notwithstanding this uncontroverted fact, the subject Applications seek a water right for the use of the Reservoir as a forebay and afterbay, although each WRC model simply models it as an afterbay by using a tunnel from Union Park Reservoir to release waters into Taylor Park Reservoir. Such distinction is without substance and constitutes a use of a facility belonging to the United States which cannot be accomplished without written approval. (See authorities in Court's Order of September 14, 1990.) In addition the written approval of the Uncompahgre Valley Water Users Association is required, and said approval has not been obtained either.

118. In WRC scenarios which did not consider the refill right in 86CW203, Taylor Park Reservoir was essentially kept full. The testimony was that it need not be kept full but it needed to be kept at a constant level for the purposes of the model. The testimony of the United States is that historically there is some fluctuation and they could not keep the level constant and achieve the purposes of the first fill decree and the 1975 Agreement. The evidence indicated that the model was operated so that in only four years of the entire study period were there any releases from the first fill decree to make up shortfalls at the Gunnison Tunnel. The Applicant was able to accomplish this by making releases from the Union Park Project through the Tunnel to Taylor Park Reservoir and then taking the water through the Reservoir and down to Blue Mesa Reservoir where it was credited to the account of the Uncompahgre Valley Water Users Association. This constitutes an unauthorized use of Taylor Park Reservoir.

119. WRC's modeling of the accounting for the exchanges of water under the 1975 Agreement between Taylor Park Reservoir and the Aspinall Unit differed substantially from the actual methods for such accounting developed by the Bureau of Reclamation in accordance with directions in the decree entered in 86-CW-203. Further, the WRC model generally did not use the water rights in 86-CW-203 to achieve the optimum flow rates required by the 86-CW-203 decree. This resulted in an additional overestimation of the yield to Union Park. [See: ,, 123(b) & (c), below]

120. Mr. Spronk properly accounted for the effect of the 86CW203 decree on water availability. The absolute portion of this water right was modeled in all scenarios. The conditional portion of the water right was modeled in Scenarios 1-C and 1-E, which reflect the effect of downstream calls against the 86CW203 decree. The reservoir was operated to achieve the optimum flow rates described in 86CW203 which the Court finds to be a proper exercise of the water right decreed in that case.

D. MODELLING INSTREAM FLOWS

121. Essentially, the Applicant (through WRC) took the position that Private instream flow rights near the Taylor Park Reservoir did not need to be modelled, at least not in excess of the flow levels contemplated in the decree for 82-CW-340. WRC's assumption in this regard was that said decree limited any call which might be made by Perkins Sams for 445 c.f.s. (under the decree in W-1991), and that over and above said limitation, the Applicant would condemn any other private instream flow right which might otherwise make a call against the Union Park Project. As is addressed by the Court in 225-227, pgs 75-76 of this Decree, the Court concludes that condemnation is not an appropriate option for the Applicant to attempt to demonstrate water availability.

122. A number of privately decreed instream flow rights must be considered in determining water availability. These include rights in the Taylor River in the amount of 445 c.f.s. below Taylor Park Dam and 225 c.f.s. above Taylor Park Dam below the confluence with Illinois Creek, as decreed in Case No. W-1991 (Exhibit 1055); several instream flow rights on various reaches of Lottis Creek, as decreed in Case No. W-1987 (Exhibit 1054); an instream flow right on Texas Creek, as decreed in case No. W-1986 (Exhibit 1053); and instream flow rights on Copper Creek in the amount of go c.f.s. and on the East River, in the amount of 46 c.f.s., as represented by decrees admitted in Exhibit 1118.

123. (82CW340 v. W-1991) There is sharp disagreement between the parties with respect to whether the minimum stream flow right for 445 c.f.s. in case W-1991

should be modelled or not. The answer to this depends upon an interpretation of the Applicants conditional water right in case 89-CW-340 which incorporates a stipulation between NECO, the Applicant's predecessor in interest, and Perkins Sams who owns the decree in W-1991. addresses this issue as follows:

The Court addresses this issue as follows:

a. The water right in case W-1991 was found by this Court to be a valid right in separate litigation, see: Decree of March 25, 1991, in case 90-CW-92. The dispute between the parties arises however over the fact that as a Protestant in case 82-CW-340, Sams entered into a stipulation which reduced the amount of the minimum instream flows which would flow in the Taylor River below the Taylor Park Reservoir. In spite of the Opposers' position otherwise, the Court concludes that both Sams and the Applicant are bound by the terms of said stipulation as it is incorporated in the decree in 82-CW-340, and that as a result, Sams has no right to require that his minimum in-stream flow right be modelled in the quantity of 445 c.f.s.

b. However, the Court concludes that the provisions of the decree in 86-CW-203 control the streamflows in the Taylor River below Taylor Park Reservoir, rather than the provisions of the decree in 82-CW-340. This is true because the United States Bureau of Reclamation and the Uncompahgre Valley Water Users Association, the entities who are charged with the responsibility of releasing water into the Taylor River from the Taylor Park Reservoir, were not parties to the stipulation in 82-CW-340, and thus they are not bound by said stipulation, nor is the Gunnison District to whom the rights in 86-CW-203 were decreed. In fact, the stipulation and the decree in 82CW-340 recognized that said entities were not parties (see [VIII, 1.E.2). Further, the parties to the stipulation recognized that the Bureau and the UVWUA "have primary control over releases from the Taylor Park dam pursuant to the water storage right decree on April 29, 1941 in the amount of 111,260 acre-feet and the August 28, 1975 Taylor Park Reservoir Operation and Storage Exchange Agreement." (see [VIII, 1.E) Under the stipulation, NECO optimistically indicated its intent to release water from the Union Park Reservoir into the Taylor Park Reservoir in a manner cooperative with the entities in charge of the latter reservoir, but nothing in the stipulation bound the Bureau and/or the UVWUA to make releases in the amounts contemplated by the stipulation and the decree in 82-CW-340.

c. Rather the Bureau and the UVWUA are responsible for making appropriate releases of water under the terms of the 1975 Exchange Agreement (which also includes the Gunnison District and the River District). The decree in 86-CW-203 recognized the release practices which said parties have utilized under the 1975

Agreement, and said decree adopted those practices and gave them the force of law. (See: !153(g) below) So said entities must now conform to the provisions of the decree in 86-CW-203 and make releases pursuant to the optimum stream flows prescribed in said decree, rather than the streamflows contemplated by the decrees in 82-Cw-340 and W-1991.

124. No water may be considered to be available to the Union Park Project except during times when the requirements of existing minimum stream flows are being satisfied. These decrees have been determined by this Court to be valid in case No. 90CW110 (Exhibit 437) and case No. 90CW92.

125. In addition, two segments of the Lottis Creek Right decreed in Case No. W-1987, will be inundated by the Union Park Project, which will inundate 4,3s0 acres at the 900,000 acre foot reservoir size. The inundation of this water right will result in material injury to the beneficial uses for which the right in case W-1987 was decreed, including fish culture, recreation, wildlife procreation, stock water, and heritage preservation. The injury to these beneficial uses was established by the testimony of Mr. Almy, a Forest Service hydrologist who attested to the high quality stream fishery, wetland, wildlife, and other values in the area.

Accordingly, in the absence of purchase (by condemnation or otherwise) of the threatened rights, the Union Park Reservoir cannot be constructed without causing material to the Lottis Creek water right. [The Court's subsequent discussion regarding the power of condemnation is found in [~225-227 of this Decree.]

126. In addition to the private instream flow rights, CWCB has many minimum stream flow rights in the area of the Union Park Project. Any conflict between CWCB and the Applicant was intended to be resolved by an Amended Stipulation, with a tabulation of the instream flow rights attached, dated July 11, 1991 and filed in the subject cases. Whether the Amended Stipulation resolves the issues of "can and will" to allow an award of conditional water rights in these cases is a substantive issue. The Amended Stipulation merely attempts to postpone the issue of can and will by leaving to determination at a later date the method of mitigating any injury; and it is clear that no plan of augmentation has been proposed or approved to resolve any potential injury at this time. While the Court does not adopt the Opposer's argument that the Amended Stipulation is, in effect, a "purchase" of CWCB rights, the parties' agreement does leave issues (such as a plan of augmentation) outstanding, so the Court concludes that the CWCB rights cannot be ignored in modelling water availability.

127. Black Canyon Reserved Right. The slack Canyon of the Gunnison has a

federal reserved water right decree entered in Case W-437, but the amount of water associated with that decree is as yet unquantified. This right has been previously discussed in paragraphs 103 and 104 above.

E. MODELLING OF EAST RIVER DIVERSIONS

128. A large part of the East River Valley is operated by several large integrated ranch properties which consist of several thousand irrigated acres utilizing many of the senior irrigation decrees in the area including those testified to by ranchers Spann and Trampe. These large ranch properties have been operated so as to minimize the need for calls on the river system during previous times of shortages. Over nearly a 100 year period, the operations have developed a local means of cooperation, combining water usage at several diversion points along the river system from their various decrees in times of shortages to attempt to maximize the total sustained production rather than calling the river. There have been limited internal calls on the East River, notably in 1977 and 1983. Based on this, and uncontroverted testimony tending to show a long and continuing pattern of cooperation among principal irrigation users in the East River valley, any reliance by the Applicant on the absence of calls on the East River system as an indication of water availability is unfounded.

129. The senior irrigation decrees in the Upper East River valley, at nearly the same time annually, take command of the stream to the extent they can call down any junior appropriator, e.g. the Applicant, to fulfill their existing irrigation decrees. The testimony of Mr. Trampe, largely substantiated by Mr. Spann, was that on a year-in, year-out basis, the complex of irrigation rights on the Lower Brush Creek and the complex of irrigation rights beginning at the Verzuh-Young-Bifano Ditch and extending down through the East River No. 2 Ditch would command the stream as of at least July 1, in some cases even earlier. While this testimony was not based on expert engineering work, the Court recognizes the substantial practical experience on the East River drainage represented by both Mr. Trampe and Mr. Spann and finds their testimony to be reliable. Both of these locations are immediately downstream of five new proposed alternate points of diversion of Applicant on East River, Copper Creek, and Brush Creek, but upstream of the proposed Cement Creek point of diversion.

130. Notwithstanding the actual facts as they exist in the drainage, an examination of WRC's Scenario F. for instance, reveals that the flow points for the said five new proposed alternate points of diversion are shown as making substantial diversions in the months of July, August and September--the same months during

which the ranchers will be competing for the limited water available. (Refer to flow points 6, 10, 28, 33 and 38 in Scenario F. Exhibit 454) For these reasons, it is obvious that the modeling with respect to these points of diversion is inaccurate and unreliable and therefore, the Applications for the said points of diversion are dismissed.

F. MODELLING EAST RIVER AND COPPER CREEK PROPOSED DIVERSIONS

131. The private instream rights in the East River and Copper Creek are owned primarily by the Rocky Mountain Biological Laboratory (RMBL) and are located at the points of diversion described in the Amended Application on East River and Copper Creek. However, by virtue of the Applicant's stipulation with RMBL, the Applicant agreed to move its proposed points of diversion on the East River and on Copper Creek to points about 3 miles downstream. This was done shortly before trial without seeking to amend the applications, so there has been no resume' publication regarding the new points of diversion. Given this status of the rights, the Court must conclude that the former points of diversion within the reach of RMBL's minimum instream flow rights have been abandoned. [The Court recognizes that on August 30, 1991, (nearly two months after trial), the Applicant filed a motion to amend the application to address this problem, but the Court considers the motion to be untimely, and at the end of this Decree has denied said motion.] (See: ,, 228-230, supra.)

132. The Court finds that although the Amended Application contained a legal description of the proposed diversion on East River and Copper Creek, such description was nullified by the filing of the Stipulation with RMBL and consequently does not nova comply with §37-92-302(2), C.R.S. 15, which requires an application to contain a legal description of the proposed point of diversion.

G. MODELLING THE WILLOW CREEK COLLECTION SYSTEM AND TUNNEL

133. Applicant seeks a conditional water right for 340 c.f.s. for the Willow Creek Collection System and Bertha Gulch Tunnel ("Willow Creek Component'). The Willow Creek Component is a system of diversion facilities, open channels and a tunnel that would collect and carry water from three tributaries of Cow Creek, Willow Creek and from Bertha Gulch to the Union Park Reservoir site.

134. The Willow Creek Component is one of two alternative ways by which Applicant contemplates delivering water to union Park from the Willow Creek drainage. The other way in which water from the Willow Creek drainage might be delivered to Union Park is by means of the Willow Creek Diversion Structure and Willow Creek Pumping Plant. Even if Applicant were to obtain a water right for the

Willow Creek Component, it is not established that Applicant will use the Willow Creek Component. The location of the Willow Creek Component is five miles upstream from the Willow Creek Diversion Structure and the Willow Creek Pumping Plant. The Willow Creek Diversion Structure is Design Point 161 in Applicant's water availability model.

135. Applicant has the burden of proof in Phase I to show, by a preponderance of the evidence, that there is water legally available to support the conditional water right which it claims for the Willow Creek Component. §37-92-305(9)(b), IS C.R.S.; Southeastern Colorado Water Conservancy District v. City of Florence, 688 P.2d 715 (solo. 1984); ox v. Division Engineer, 15 Brief Times Reporter 556 (solo. 1991).

136. Applicant failed to present evidence on the physical availability of water to then Willow Creek Component in its case in chief. Applicant also failed to present evidence regarding the legal availability of water to the Willow Creek Component to support its application for 340 c.f.s.

137. With respect to the deficiencies cited in ,136 above, the Applicant contends that the requisite evidence was developed through its cross-examination of the Opposers' expert, Mr. Spronk. In this regard, the Applicant seeks to apply Mr. Spronk's approach of prorating runoff among sub-basins based upon the area of the basins involved. The Applicant applies said approach to its own modelled yield of 12,000 acre feet as the average annual water available at the Willow Creek Component, and then calculates a true yield (based on area only) of 6,774 acre feet. Applicant acknowledges that even this figure should be reduced by 10% to take into account the operation of the decree in 86-CW-203. However, the Court does not find that this analysis is supported by Mr. Spronk~s testimony, and thus in the absence of competent evidence that the Willow Creek Component was properly modelled, the Court must conclude that this feature of the Applications should be dismissed.

138. As an alternative argument, the Applicant contends that the Willow Creek Component claimed in its Applications should not be dismissed because it holds the decree in Case No. 82CW340 which recognizes a right for 340 c.f.s. for the "Willow Creek Collection System" and the "Bertha Gulch Tunnel". This decree for 340 c.f.s. does not control the resolution in Case Nos. 86CW226 and 88CW178 of the issue of whether there is sufficient water legally available to the Willow Creek Component.

139. The decree in Case No. 82CW340 is not res judicata as to the legal availability of water to the Willow Creek Component in Case Nos. 86CW226 and

88CW178. In order for a prior water rights decree to be conclusive of an issue in a later action, there must be identity of subject matter, identity of the cause of action, identity of the parties to the action, and identity of capacity for which or against whom the claim is made. City of Westminster v. Church, 445 P.2d 55 (solo. 1968); State Engineer v. Smith Cattle, 780 P.2d 546 (Colo. 1989).

140. There is neither identity of the cause of action nor of the subject matter between the decree 'for 340 c.f.s. for the "Willow Creek Collection System" and the "Bertha Gulch Tunnel" in Case No. 82CW340 and the issue of the legal availability of water to the Willow Creek Component in Case Nos. 86CW226 and 88CW178. First, the decree issued in Case No. 82CW340 is for an in-basin hydroelectric project, whereas the decrees sought in Case Nos. 86CW226 and 88CW178 are for a transmountain diversion project. Further, it appears that the decree issued in Case No. 82CW340 for the "Willow Creek Collection System" and the "Bertha Gulch Tunnel" is for a different collection system and tunnel than the Willow Creek Component for which a decree is sought in Case Nos. 86Cw226 and 88CW178.

141. The application for a water right for 3dO c.f.s. for the Willow Creek Component should be dismissed.

H. MODELLING CONDITIONAL WATER RIGHTS

142. WRC modeled certain conditional water rights which are listed on the last two pages of Exhibit 438. Their theory was .o determine for each conditional right what they considered to be the “contemplated draft”. They defined “contemplated draft" as a measure of the likelihood and feasibility of a conditionally decreed project to be constructed. They looked at conditional water rights and measured the impact on downstream uses based on estimates of total consumptive use which could be based on less than the fully decreed amounts. The referenced two pages in Exhibit 438 list the "contemplated draft" values. The Court finds that these values fail to properly quantify said rights because said values do not reflect the quantities actually decreed to said rights.

143. As stated by the Court previously in this Decree [see: ,17(c)(2)], the concept of the term "contemplated draft" as used by the Applicant is at variance with the understanding of said phrase as expressed by the Court. The term contemplated draft would normally refer to the amount of water authorized in the decree based upon the particular use less the amount of return flow quantified. It would also consider the extent of use such as an irrigation use being considered only during the normal irrigation season. Further, the Applicant injected into the phrase a "future condition"

element which the Court expressly prohibited. The Court recognizes that it allowed the parties to present their respective theories as to how conditional decrees should be modelled. However, having now heard the evidence, and having considered the law to be applied, the Court rejects the approach used by the Applicant (and used to some extent by the Opposers) which sought to analyze "future demand" for water in the basin as a substitute for examining how individual conditional decrees would impact water availability if developed to their fully decreed rights.

144. In order to illustrate the effect of decreed conditional water rights, Mr. Spronk modeled selected individual rights in reliance on this Court's pretrial orders. The Court finds that it is appropriate to consider these conditional water rights, but that Mr. Spronk would have modelled other conditional water rights, had the Court held that the particular rights which he did model could not be considered.

145. The most significant conditional water rights impacting water availability are those decreed for the Tri-County Hydroelectric Project in Case No. 80CW222 (Exhibit 272), in the amount of 6,060 c.f.s. for hydroelectric power purposes and its conditional storage right for 72,850 acre feet. These conditional rights are currently valid, and a diligence application is presently pending in Case No. 89CW251 (Exhibit 380). Upon construction the TriCounty Hydroelectric Project its decreed capacity of 6,060 c.f.s., it would exert a very substantial continuous year-round call on the Gunnison River Basin under a 1980 priority. This senior water demand must be considered in determining water availability.

146. The parties' respective experts disagreed sharply as to the quantity of water for which this water right should be modelled. Long-term stream gauge records at the Lazear station establish that the average flow of the River at the Tri-County Project site is approximately 1,465 cfs. The testimony of Arapahoe's witness, Mr. Andrews, is that hydra projects are designed and constructed at a capacity no greater than the average flow of the stream. So the Applicant modelled the right at this historic flow quantity, and advocates that the Court find that the reasonable contemplated draft of the Tri-County Direct Flow Project if it were built at all, could be 1,465 cfs, rather than 6,060 cfs. In this regard, Arapahoe points out that about 1.0 million acre feet of water enter the Aspinall Unit every year, and yet the demand of the Tri-County Project (at 6,000 c.f.s.) would be 4,342,770 acre feet per year (i.e. four times the flow of the river at the Lazear gauge). But it must be recognized that even if Arapahoe's analysis based upon a maximum flow of 1,465 c.f.s. is used, said flow requires 1,049,860 acre feet of water per year, and this is essentially equivalent to the entire inflow of the Aspinall Unit pointed out by Arapahoe.

147. Further, the very argument that there is insufficient flow in the river to satisfy the Tri-County Project decrees for 6,060 c.f.s. would seem to acknowledge that the river is overappropriated, with the result that there is not sufficient unappropriated water available for the Applicant's project. The Court realizes that the argument can be made that even though the amount of the direct flow of the water is not adequate at a given point, nevertheless there may be unappropriated water developed upstream. However, the Tri-County Project includes a reservoir with a capacity in excess of 72,000 acre feet, and thus has the ability to store water to develop the power head of 6,000 c.f.s. Therefore, the project would have the right to store water to permit the full utilization of its decrees, and thus the Court concludes that it is improper to model the Tri-County Hydropower rights at less than their fully decreed amount, because such a position is at variance with the amount legally claimed under the decrees. These present cases (86-CW-226 and 88-CW-178) are not the proper forum in which to challenge the amounts decreed under the Tri-County Hydropower rights, or to raise issues which should be considered in a reasonable diligence application regarding said rights.

148. Conditional water rights also exist for the Upper Gunnison Project. The storage rights alone exceed 80,000 acre feet of water, although CRSPA anticipated that only about 60,000 acre feet would be utilized. The Upper Gunnison Project rights were modeled by Mr. Helton, who assumed 40,000 acre feet of depletions above Blue Mesa Reservoir associated with this project consistent with the original anticipated demand of those rights. (Exhibit 182, the 1959 Economic Justification Report for the Aspinall Unit). Mr. Spronk also modelled certain of these rights, the East River Canal and Taylor River Canal, even though the Court cancelled said canals in its Judgment in 88-CW-183. However, Mr. Spronk's analysis demonstrated that the inclusion of these conditional rights had no effect on the yield of the Union Park Project in light of the other conditional rights which were also modelled.

149. The conditional water rights for the Gunnison Tunnel irrigation, domestic, and hydroelectric features described above will also affect the yield to the Union Park Project. This is particularly true with respect to the hydroelectric rights for 1135 c.f.s. described in 591 above. (Also see 5111) fir. Spronk modelled both of the conditional water rights for the Gunnison Tunnel Hydroelectric Projects and the senior conditional water rights for the Tri-County Hydroelectric Project. The Applicant argues that it was improper for Mr. Spronk to model all of these rights because there is insufficient water for both rights to be constructed. However, to the extent that this is true, said fact supports the conclusion that there is insufficient unappropriated water available to supply the Applicant's Union Park Project. The Court concludes that Mr. Spronk acted corrected in modelled all of these conditional hydropower rights for the Gunnison

Tunnel and for Tri-County, because each right is a viable, legal conditional right at this time, and the same are not subject to collateral attack through this subject litigation.

150. The City of Gunnison has decreed conditional storage water rights for four reservoir sites (Exhibit 1105, Section 130). Applicant's engineering firm, WRC, previously worked for the City of Gunnison, and testimony and reports of WRC at trial indicated that the City should construct at least 30,000-35,000 acre feet of storage at one or more of these sites to meet future municipal demands. Rather than modelling the individual water rights of the City of Gunnison, WRC purported to model the City's future municipal demands, including the storage requirements, by assuming a year-round diversion and depletion from the Gunnison River Basin of 10 c.f.s.

151. The Court finds that WRC's modelling in this regard was improper because it did not give full credence to all of the City's rights, but rather attempted to rely on future population projections. It is unclear whether two of the City's proposed reservoirs on the Taylor River (ie. Reservoirs #2 and #3) would duplicate each other, but if they would, then it would be improper to model both. With that exception, the City has current conditional decrees for its reservoirs and they are entitled to be modelled because each represents a legally recognized and valid conditional water right, which, for the purposes of determining water availability in this case, must be presumed to be capable of being implemented.

152. The Court recognizes that the City's expert, John Patterson, also attempted to project the City's demand for water based upon future population growth, and as a result he concluded that WRC's modelling assumptions did not properly reflect the demand of the City's conditional water storage rights. However, the Court concludes that Mr. Patterson's own estimates of demand were unrealistically high. But, as stated above, the Court rejects this population-projection approach as immaterial, because the focus of the inquiry here must be on the present condition of the river, and more particularly the impact of valid existing conditional water rights based upon the reasonable application of water to beneficial use based upon the face amount for which they are decreed.

153. As mentioned earlier (in ¶¶94-95), another important conditional decree to which the parties devoted considerable attention was the Applicant's hydropower decree in case 82-Cw-340. The relationship between the decree in 82-CW-340 and the decree in case W-1991 is discussed in ,123, supra. A separate issue arising out of the consideration of the decree in 82-CW-340 is the question: In the absence of express consent of the United States and the UVWUA, which operate the Taylor Park

Reservoir, does the Applicant have the right to use the Taylor Park Reservoir because of its established rights under the terms of the decree in 82-CW340? For the following reasons, this Court concludes that the Applicant does not have such right:

a. First, the Applicant's attempt to utilize the Taylor Park Reservoir in the operation of the Union Park Project is a violation of the Water Supply Act of 1954, 43 U.S.C. §390(b) which provides that a major operational change in a federal project requires congressional approval.

b. As stated above, the applications of the County of Arapahoe filed herein contemplate the installation and operation of a pump-generating plant in Taylor Park Reservoir. This Court has ruled that the Applicant cannot make such an installation without the written permission of the Bureau of Reclamation. (Order dated September 14, 1990, p. 14).

c. Applicant has not currently obtained federal approval of the approval of the UVWUA to alter (a) the water surface elevation of Taylor Park Reservoir, or (b) the rate at which water is released from the outlet of Taylor Park Reservoir. Applicant has failed to secure the permission of the Bureau of Reclamation, the UVWUA and/or the Gunnison District to utilize the Taylor Park Reservoir, or water stored therein, pursuant to vested water rights. Applicant has neither applied for nor obtained authorization from the Bureau of Reclamation to use either Taylor Park Reservoir or land administered by the Bureau of Reclamation. (Undisputed Facts No. 23, 62 and 69).

d. Applicant asserts that the decree in Case No. 82-CW-340 provides it with the necessary authority to release water from Union Park Reservoir into Taylor Park Reservoir and thence through the outlet works of Taylor Park Reservoir into the Taylor River to satisfy provisions of the Decree in Case No. 82-CW-340. But, the Court rejects this position for the following reasons:

1) The Applicant needs the consent of the United States to utilize the Taylor Park Reservoir, and it has not obtained that consent. The United States was not a party to Case llo. 82-CW-340. [See decree in Case No. 82-CW-340 (Exhibit 283) at p. 9, Paragraph VIII.1.E.(2)] Even if the United States had been a party to Case No. 82-Cw-340, the decree in that case could not have authorized the use of federal land or facilities. Under Colorado law, a court adjudicating a water right lacks jurisdiction to determine that an appropriator has a right of way over the lands of another. Haines v. Fearnley, 56 Colo. 243, 246 (1914); S_yder v. Colorado Gold Dredging Company, so Colo. 516, ~18 (1914). The law is the same under the Colorado Water Right

Determination and Administration Act of 1969, 37-92-101 et seq. In TOWS v. State of Colorado. Division of Wildlife, 795 P.2d 837, 841 (solo. 1990), the court held that the water court properly refused to adjudicate land ownership interests because they only tangentially involved water matters. See also Mountain Meadow Ditch and Irrigation Co. v. Park Ditch and Reservoir Co., 130 Colo. 537, 277 P.2d 527 (solo. 1954) (a water right does not represent actual ownership in any real property appurtenant to the water).

2) Under Federal law, the result is the same. Any-use or encumbrance of land or other property belonging to the United States must be in accordance with rules established by Congress. U.S. Const. Art. IV, § 3, cl 2. 'While courts must eventually pass upon them, determinations under the property clause are entrusted primarily to Congress." Kleppe v. New Mexico, 426 U.S. 529, 536 (1976). Furthermore, a Colorado water right carries with it no right to the use of Federal land, Denver v. Bergland, 517 F. Supp. 155 (D.Colo. 1981) aff'd in part and rev'd in part on other grounds 695 F.2d 465. (lOth Cir.1982).

e. Therefore, the decree in Case No. 82-CW-340 grants a water right to the owner of that decree but it does not authorize the Applicant to use Taylor Park Reservoir for any purpose.

f. Release of water from Taylor Park Reservoir in order to achieve optimum fishery and recreational flows in the Taylor River is also required as a condition of the decree of this Court in Case No. 82-CW-324, for the AB Lateral Hydroelectric Project which is senior to the decree in 82-CW-340. The Court must consider the effect of the Agreement on water availability to Applicant.

g. Contrary to Applicant's assertion, there is no conflict between the decree in Case No. 82-CW-340, for the Union Park Hydroelectric Project, and the Decree in Case No. 86-CW-203. This is true for the following reasons:

1) As is expressly recognized in ¶ 1.E. at p. 9, and [1.G.(1)(E) at p. 10, of the 82CW340 Decree (Exhibit 283), Applicant has no control over the operation of Taylor Park Reservoir. (See ~ 123 above also)

2) The 82CW340 decree specifically acknowledges in ,1.E. that the reservoir must be operated in accordance with the 1975 Exchange Agreement, which is the genesis for the 86CW203 Decree.

3) Diversions pursuant to the decree in 82CW340 would not prevent the United

States from achieving the objectives of 86CW203, since the Union Park Hydroelectric Project decree only authorizes the diversion and release of water for hydroelectric power generation purposes. These diversions would affect only the timing of flows in the Taylor River, and not the total amount of water available in the river. (Leak, June 10).

4) The 82CW340 water right will rarely, if ever, be in priority because of the senior call of the Aspinall Unit.

5) The minimum and maximum flow rates in Case No. 82CW340, which were the result of a stipulation between the parties in that case, were not based on any finding of optimum stream flows. (See 99 119-120 also)

6) These flow rates are not binding on the United States or other persons who were not parties to Case No. 82CW340.

h. Applicant has assumed that it is obliged to release water from Union Park Reservoir into Taylor Park Reservoir in order to achieve the minimum flows decreed in Case No. 82CW340, and has modeled an outlet from Union Park Reservoir into Taylor Park Reservoir this purposes. As set forth herein, the minimum and maximum flow rates decreed in Case No. 82CW340 do not apply to the water right application in this case. Water availability in this case is not to be determined in relation to those minimum and maximum flows. However, even if those flow requirements did apply in this case, Applicant would be unable to comply with the 82CW340 stipulation because it has no contract with the United States which would allow it to install outlet works in Taylor Park Reservoir. Such operations would require the Applicant to construct physical facilities in Taylor Park Reservoir to control the reservoir space in order to accommodate these releases, and to control the outlet works of the reservoir in order to ensure that these releases were passed through the dam into the Taylor River. Applicant has no such rights as against the United States, and water availability cannot be premised on these assumptions. See pp. 13 - 15 of this Court's September 14, 1991 Order on Crystal Creek's Rule 56(h) Motion. The decree in Case No. 82CW340 does not establish Applicant's right to construct this facility for the purposes of this separate case. See, City of Grand Junction v. Hannah Creek water Users Asstn, 192 Colo. 279, 557 P.2d 1169, 1171 (1976); State Engineer v. Smith Cattle, Inc., 780 P.2d 546, 549 (solo. 1989); Enlarged Southside Irrigation Ditch Co. v. John's Flood Ditch Co., 116 Colo 580, 183 P.2d 552, 555 (1947) (Decree conclusive only as to water right at issue). No other outlet works from Union Park Reservoir exist which would allow it to comply with the stipulated flow rates.

154. The effect of many major conditionally decreed water rights in the basin is represented by Mr. Spronk's Scenarios 2, 4A, 4B, 4C, and 5B. The Court finds that these scenarios present conservative estimates of the yield to the Union Park Project, in that the estimated project yield would be less if more than the selected conditional water rights which were modeled by Mr. Spronk were used to determine water availability.

155. The Court entered its Pretrial Orders referenced in 991617 of this Decree only after extensive consideration of briefs and oral arguments submitted by the parties and continues to believe that such Orders reflect the proper way to consider conditional water rights in determining availability of water. **Since the theory of the Applicant differs substantially from the Court's Orders, the method of treatment of conditional water rights in the computer modelling performed by WRC is disapproved. The Court so concludes because it believes the Applicant used improper assumptions in its modelling and it did not analyze the individual impact of conditional decrees, with the result that the Applicant's models substantially overestimated the amount of water available for appropriation by the Union Park Project.**

156. There is no basis in the record for disregarding any major decreed conditional water right. None of Arapahoe's witnesses possessed the necessary qualifications to give opinions as to future population growth or future agricultural or industrial development in the Gunnison River Basin. The deposition of Charles Brendecke which was admitted in evidence provides an insufficient foundation for any conclusions as to future Basin demands for water. The methodology used by the Colorado water Resources and Power Development Authority to eliminate conditional water rights was not supported by expert testimony, and no foundation exists in the record for considering this as a limit on future water demands.

I. CONCLUSIONS CONCERNING HYDROLOGY

157. The WRC model in Scenario A merely presented baseline data and no yield was calculated. The other WRC scenarios gave yields as follows: (For each scenario, the resulting annual yield for the Union Park Project is shown in parentheses)

a. Scenario B modeled historic demand on Taylor Park Reservoir and WRC's version of operation of the 1975 Exchange Agreement. Blue Mesa is modelled with releases to meet the minimum stream flows below the Gunnison Tunnel. (139,000 acre feet)

b. Scenario C is the same as B. but adds the factor of absolute water rights which were modeled with decreed diversions and historic depletions. (125,000 acre feet)

c. Scenario D is the same as C, but the conditional water rights are modeled on their "contemplated draft". Also, in this scenario, Gunnison Tunnel was modeled with full capacity year-round operations which is reflective of conditional power decrees. (97,000 acre feet)

d. Scenario E is the same as B. but includes the operation of 86CW203. (125,000 acre feet)

e. Scenario F used historic diversions for absolute water rights, some modification to conditional water rights as considered in other scenarios but still based upon "contemplated draft", Taylor Park Reservoir with the 86CW203 decree as it was used in Scenario E and generally all other assumptions the same as Scenario E except a change in the Redlands Canal Power Diversions and City of Gunnison municipal rights. This resulted in a firm yield to Union Park Reservoir from 101,000 to 127,000 acre feet per year.

158. In its Scenarios B and E, Applicant improperly modeled the irrigation rights based only on the historic depletion amount rather than the total historic or decreed diversions which would result in a senior call on the Union Park Project. This results in an overestimation of yield. Furthermore, Applicant failed to model any absolute water rights below the confluence of Ohio Creek and the Gunnison River and failed to model historic absolute water rights based on priority administration within the Gunnison River Basin, assuming instead that historic operations reflected priority administration. The evidence established that there have historically been shortages to existing absolute rights in the Gunnison River Basin which have not resulted in the curtailment of junior water rights.

159. In fact, the Upper Basin has not been intensively administered by the Division Engineer in the past, in part because of cooperative efforts by neighboring ranchers, and also based on agreements (such as the 19?5 Exchange Agreement regarding releases from Taylor Park Reservoir), which sought to maximize the beneficial use of scarce water resources. Further, records of historic diversions reflect only the water being diverted under absolute decrees, and modelling based on said records alone fails to reflect the impact of existing conditional rights which are being diligently developed to utilize additional water.

160. Prior to the operation of Blue Mesa Reservoir, the Uncompahgre Valley Water Users Association called its water rights for the direct flow decree for the Gunnison Tunnel which caused water rights upstream in the Gunnison River Basin to be administered. Since the operation of Blue Mesa Reservoir, rigorous administration has not been necessary owing in large part to the way in which Blue Mesa Reservoir was operated. However, rigorous administration can be expected in the future with increased water development and rigorous administration is a reasonable assumption in determining the water available to the Union Park Project.

161. In each of its scenarios in which Applicant found water to be available for appropriation, Applicant assumed that the United States would not be allowed to continue to operate the Aspinall Unit for flood control as it currently does. Specifically, Applicant asserts that, once its project is complete, the Bureau will not need to continue its current practice of drawing Blue Mesa down in the winter months to make room in the reservoir to store the spring runoff. Applicants reason is that the depletions from its project will provide flood control by obviating the need to evacuate storage to~store runoff. The Court finds this position unpersuasive in view of the fact that the Union Park Project controls a very small drainage area in comparison to the drainage area controlled by Blue Mesa Reservoir. The Union Park Reservoir is essentially an off-stream reservoir which could store flood flows only by pumping. (Exhibit 486-I). In addition, the Bureau of Reclamation witness, Mr. Johnston, testified that, in his experience, the Corps of Engineers would not regard an off-stream reservoir dependent upon pumps for diversion of flood flows to be an effective means of flood control. Accordingly, the Court finds that Applicant's assumption that the Bureau of Reclamation will alter its manner of operating the Aspinall Unit for flood control after the Union Park Project is operational to be invalid.

162. The conditions the Bureau of Reclamation would impose on any right-of-use for Taylor Park Reservoir or other Bureau of Reclamation administered lands or facilities are intended to maintain the Bureau's ability to operate the CRSP and Taylor Park Reservoir as it has done since the 1975 Agreement. Mr. Stanton's historical accounting of the operation of Taylor Park Reservoir and the Aspinall Unit during the period 1975-1990 shows an average of 4332 acre feet of surplus water flowing into Taylor Park Reservoir. (Exhibit 2208). During the same period, an average of 23,408 acre feet was surplus inflow at Blue Mesa Reservoir. (Exhibit 2210).

163 Mr. Brent E. Spronk of Spronk Water Engineers, Inc. testified as an expert in behalf of Crystal Creek and Mr. D. D. Helton of Tipton & Kalmbach, Inc. testified as an expert in behalf of the River District. In comparing the estimates of the average annual virgin flow (before imposing constraints for senior rights) at the proposed points

of diversion by the various experts, the Court notes that the estimates of Mr. Helton and Mr. Spronk agree quite closely and are approximately 17,000 acre feet per year less than those of WRC. (See Exhibit 455-D.1). WRC used a regression analysis to aid in computing the average annual run-offs. This analysis was based primarily on a precipitation map (Exhibit 55) which was in turn based on very limited data because of the high altitudes. (Exhibit 65) In addition, the precipitation map was developed for a period 1931-60 rather than 1950-88 which is the period studied by WRC. Both Mr. Spronk and Mr. Helton testified that they were concerned about the shortcomings in the regression relationship and the resulting inaccuracies which could be expected. The Court finds that the total average annual flow at the proposed points of diversion as determined by Messrs. Spronk and Helton are more reliable than the calculations of WRC and are in the approximate amount of 278,000 acre feet per year rather than the WRC determined amount of 295,000 acre feet per year. Based on this analysis, WRC's computations, would result in an overestimation of yield to the Union Park Project.

164. For the purposes of modelling analysis, an administrative period beginning on May 1 and ending on the following April 30 is appropriate for Blue Mesa Reservoir because it is a multiple purpose reservoir. During its historical operation, the storage accruals in Blue Mesa Reservoir have averaged 375,537 acre feet annually and have amounted to as much as 608,030 acre feet in a single administrative period. The exercise of the direct flow rights averaged 642,961 acre feet annually and has amounted to as much as 1,343,341 acre feet in a single administrative period (Exhibit 2040).

165. The Court finds that it is appropriate to maintain historic storage contents in Blue Mesa Reservoir before considering any excess water to be available to Applicant. The Court finds that Mr. Spronk's modeling of the 800,000 acre foot active storage capacity of Blue Mesa Reservoir somewhat high. Mr. Helton's modeling of the 603,000 acre foot maximum historic releases is more reasonable and appropriate to account for and satisfy the absolute domestic, municipal, industrial, and agricultural water rights of the United States before allowing any diversions by Applicant.

166. Mr. Helton evaluated the yield of the Union Park Project by assuming that the water rights for the Aspinall Unit would be called. Mr. Helton found that by recognizing (a) a Blue Mesa direct flow demand of 2,500 c.f.s. for power purposes, (b) a Morrow Point direct flow demand of 5,070 c.f.s. for power purposes, and (c) an annual storage accrual in Blue Mesa Reservoir of up to 608,030 acre feet that water would have been available to the Union Park Project during only two years of the forty years during water years 1950-89. On an average annual basis, the water available

to the Union Park Project averaged only 2,546 acre feet. He later revised this estimate (based on subsequent pretrial orders of this court), and eventually concluded that as much as 27,512 acre feet of water would be available to the Union Park Project. (Exhibit 2041 and 2041A.) This conclusion was reached without consideration of development of any conditional water rights, except the AB Lateral. Had he modelled other conditional water rights, the yield of unappropriated water available to the Applicant's Union Park Project would have been substantially reduced.

167. The Court finds that the Spronk model, while not perfect, is of value in confirming Mr. Helton's results.'Mr. Spronk's model with respect to conditional water rights, by and large was consistent with the Orders of this Court. His final modelling efforts using only existing absolute water rights as constraints, concluded that a yield of 48,590 acre feet would be available to the Union Park Project on an average annual basis. (Scenario 5A) And after imposing constraints for selected conditional water rights, he concluded that about 10,800 acre feet of water would be available on an average annual basis. (Scenario 5B) This latter scenario includes the modelling of the impact of conditional water rights for the East River Canal and the Taylor River Canal--which this Court has cancelled. (See !92 above regarding the conditional water rights for the Upper Gunnison Project; and ~ 148). Nevertheless there are many other conditional rights which could have (and should have) been modelled, so the Court concludes that if Mr. Spronk's use of 800,000 acre feet of active storage capacity for Blue Mesa Reservoir was excessive, said excess is nevertheless more than offset by the impact of conditional rights which he did not model.

168. Having considered the modelling by the engineers of WRC for the Applicant and the modelling by Helton and Spronk for the Opposers, the Court recognizes that none of the modelling is totally consistent with the principles expressed in this Decree. However, as between the two approaches for hydrological modelling (by the Applicant and by the Opposers), the Court concludes that Opposers' experts more closely utilized the assumptions and procedures which the Court has found appropriate in its analysis as expressed in this Decree. The Court concludes that the Applicant's overall analysis should not be adopted because of the deficiencies in the Applicant's regression analysis [see S22(b) above] and because the assumptions on which the Applicant's modelling was based resulted in an overestimate of the amount of water available for the Union Park Project. The Court has tried to address in detail the problems it has found with some of the assumptions used by the Applicant, but generally they related to the absolute water rights of the Aspinall Unit and the Uncompahgre Project specifically, and most of the conditional water rights generally. The Court recognizes that the Opposers' experts, in running various scenarios, arrived at several different quantifications of the average annual yield of unappropriated water

for the Project, ranging from as little as 6,310 acre feet to 15,230 acre feet, and under one scenario, 48,590 acre feet (which did not consider conditional rights). The Court acknowledges that the evidence is insufficient to arrive at a precise numerical figure for the average annual yield for the Union Park Project because none of the experts applied each and every modelling principle and assumption adopted in this Decree. However, the Court is confident in concluding from the evidence presented that, as a compromise figure of the quantities calculated by the Opposers' experts, the average annual yield of unappropriated water for the Union Park Project would not exceed 20,000 acre feet. The Court further concludes that if all of the existing absolute decrees and all of the major conditional decrees had been properly modelled, the quantity would be much less. The 20,000 acre-foot maximum quantity stated above is the total average annual yield for all proposed points of diversion Applied for, including those features of the Union Park Project which are dismissed in Section VII, ~ B on page 78 of this Decree.

## V. PERMITING

169. In its Pretrial Order, the Court ordered that during the Phase I trial, Applicant would be required to demonstrate through one or more overview witnesses its overall strategy for obtaining in a businesslike manner the required permits and approvals for the Union Park Project. Applicant chose to not offer evidence that it had a strategy or that it adopted a businesslike approach at this stage in the pursuit of its Project. While the Court finds this lack of advanced planning surprising, and particularly unbusinesslike for a project involving hundreds of millions of dollars, the Court now concludes that said failure is not fatal to the approval of the subject applications. Rather by failing to investigate and develop an overall strategy to address permitting issues which nowadays are prerequisites to the successful completion of any major water project, the Applicant is simply putting itself at risk that its expensive efforts in pursuing the water rights first would ultimately be for nought. This is a political decision, not a judicial one, and the Court will not address it further here.

170. The Court also indicated that Applicant would be required during Phase I to prove that there is no legal impediment* nor factual inability with respect to its eligibility to obtain three specific permits and approvals: (a) the right of way which must be issued by the U.S. Bureau of Reclamation to use and occupy land managed by the Bureau of Reclamation; (b) the right of way permit which must be issued by the U.S. Forest Service in order to use and occupy National Forest lands in connection with the Project; and (c) compliance with Section 7 of the Endangered Species Act before any federal permit, license, or assistance for the Project may be granted.

(* As defined and considered by the Court in Phase I, a "legal impediment" includes any factor preventing the Applicant from obtaining the required approval or permit, or any term or any condition imposed upon a permit or approval which is required as a matter of law, with which the Applicant cannot comply.)

A. BUREAU OF RECLAMATION PERMITS:

171. Various aspects of the Union Park Reservoir Project will require Bureau of Reclamation land use permits. Having now heard the evidence, the Court concludes, with one major exception, that as a general rule there are no flat legal bars which would prevent the Applicant from obtaining necessary permits from the Bureau in this case. The major exception relates to the Applicant's proposal to utilize what it calls the Taylor Park Pumping Plant as a part of the Union Park Project. This issue has already been addressed by the Court in ,153, supra, as it relates to the Applicant's decree in case 82-CW-340.

-- 172. It is the law of this case (based upon pretrial orders) that Arapahoe cannot rely on the use of Taylor Park Reservoir to show that water is available for its project, nor can Arapahoe utilize the Taylor Park Pumping Plant unless it obtained consent from the Bureau and from the UVWUA on or before April 15, 1991. (See: ,,16(c) and (d), and !5117 and 118 of this Decree.) Arapahoe failed to timely obtain said consents. In its order of September 14, 1990, the Court recognized that no person or entity has the right to utilize the water facilities and diversion structures of another water user without the consent of the owner. Any attempt to use said facilities without consent would constitute a trespass, and thus would be illegal. The Court recognizes that in response to the Court's order of 9/14/91, Arapahoe filed its amended application in November, 1990, requesting alternate points of diversion above the high water line of Taylor Park Reservoir on the Taylor River, Texas Creek and Willow Creek. However, based upon the evidence presented at trial, it appears that even if the Applicant does not use the Taylor Park Reservoir as a "forebay", it still intends to use it as an "afterbay" in which to release water so as to maintain certain minimum flows as required by the decree in 82-CW-340, and to facilitate its generation of power, utilizing its so-called "Taylor Park Pumping Plant." The Court concludes that this feature of the Applications constitutes an impermissible use of the Taylor Park Reservoir, and that the Bureau has the right to object to said use (and to withhold consent for such an operation) without first pursuing the NEPA process.

173. Mr. Ron Johnston of the Bureau of Reclamation testified that he would develop and impose conditions on any permit applications by the Applicant prior to and outside of the NEPA process. Arapahoe's permitting experts testified that all

permitting aspects of a major project are considered together in the REPS process and that none of them may be pre-judged prior to completion of that process. Mr. Kaiser, one of Arapahoe's permitting experts, testified that permit applications cannot be summarily rejected unless they call for an activity which is obviously and blatantly illegal. There is nothing illegal about a proposal to construct a trans-mountain water project in Colorado per se, but the Court does conclude that the Applicant's proposal to directly utilize the Taylor Park Reservoir, without first having obtained consent of the Bureau and the UVWUA to do so, is not viable. This is true because such direct utilization of the Taylor Park Reservoir necessarily interferes with the Bureau's operation of the reservoir and the purposes for which it exists.

174. In fact, under 43 CFR 5429.6 the Bureau is precluded from issuing a right-of-use ". . . when it is determined that the proposed right-of-use will interfere with the functions of Reclamation or its ability to maintain its facilities." Further, it is the law of the case that the required consent of the Bureau and of the UVWUA would have to be obtained by April 15, 1991, and it was not, so the Applicant is precluded from relying on the Taylor Park Pumping Plant as part of its Project.

175. In addressing aspects of the Applicant's project, other

-than the Taylor Park Pumping Plant, the Court concludes that in determining whether proposed rights of use conflict with the operation of Bureau facilities, the Bureau must consider the actual effects and must proceed to issue permits if permit provisions can be designed to avoid actual interference with the purposes for which the Bureau facilities exist. There are certain unresolved questions of fact as to the exact location of the features of the Applicant's Project and the extent to which the same will impact federal facilities and lands.

176. As mentioned above (I 173), &3 CFR §429.6 indicates that the Bureau is precluded from issuing a right-of-use when the proposed right-of-use will interfere with the functions of Reclamation or its ability to maintain its facilities. This regulation is consistent with and implements 43 U.S.C. §387, which provides that grants of rights of way will only be issued where their exercise will not be incompatible with the purposes for which the lands or interests in lands are being administered, and shall include terms and conditions which adequately protect the interests of the United States.

177. Mr. Johnston, also testified that the procedure followed by the Bureau of Reclamation upon receipt of an application is that the Bureau reviews the application and prepares the right-of-use document with conditions to be imposed to assure that

the proposed right-of-use will not interfere with the functions of reclamation or its ability to maintain its facilities. If the conditions are acceptable to applicant the analysis required by the National Environmental Policy Act, 42 U.S.C. §4332 is performed. If the conditions are not acceptable to the applicant, then there is no need to do a NEPA analysis. If the initial conditions are acceptable to the applicant, the NEPA analysis may result in imposition of additional conditions.

178. The conditions identified in the United States' Exhibit 2220 are the conditions which Mr. Johnston indicated would be imposed with respect to the Applicant's Project. The Opposers urge that said conditions are non-discretionary conditions which must be considered by the Court in determining water availability to the Applicant's project. And they argue that nothing in the National Environmental Policy Act, 43 U.S.C. §4321, et. seq., or other law prevents the Bureau or the Forest Service from identifying these mandatory conditions in advance. See: State of Minnesota v. Block, 660 F.2d 1240 (8th Cir. 1981) cert. denied, 455 U.S. 1007 (1982); Sabine River Authority v. United States Department of Interior, 745 F.Supp. 388, 393 (E.D. Tex. 1988); Colorado River water Conservation District v. United States, 593 F.2d 907 (10th Cir. 1977).

179. A review of the conditions set out in Exhibit 2220 demonstrates that the conditions are broad statements with which there can be little argument. It is true that the Applicant's Project cannot impair operation of the Taylor Park Reservoir to deliver water to the UVWUA and to full; comply with the "1975 Agreement," among other operational considerations. The Court recognizes that the federal regulations addressing the permits which would have to be issued to authorize the Applicant's use of the federal lands and facilities contemplate a process by which the Applicant is given an opportunity to be heard on methods for avoiding "impairment" of such operations. Clearly the Applicant is entitled to a permit if specific ways and means can be devised so that the potential "impairment" can be precluded. And under normal circumstances, it would be premature to judge whether a proposed feature of a project would result in an impairment or not. However, the Taylor Park Pumping Plant clearly does interfere with the use of the Taylor Park Reservoir, and thus the Bureau has authority to impose conditions to protect its own facility without first requiring investigation under the NEPA process. Except with respect to the Taylor Park Pumping Plant, however, the Court concludes that the Applications in these cases should not be dismissed for failure to demonstrate permission to use the Bureaux facilities and lands.

B. FOREST SERVICE PERMITS:

180. A number of proposed diversion points and facilities of the Union Park

Project are located within the Gunnison National Forest. Applicant's construction and operation of Union Park Project facilities on the Gunnison National Forest constitutes a special use under 36 CFR 251.50(a) which must receive special use authorization from the Forest Service. Under the Federal Land Policy Management Act (FLPMA), at 43 U.S.C. § 1761(a)(1) and 36 CFR 251.53, the Forest Service may issue special use permits for rights of way for reservoirs, canals, ditches, flumes, laterals, pipes, pipelines, tunnels and other facilities and systems for the impoundment, storage, transportation or distribution of water. Applicant must obtain a special use permit for a right of way in order to locate its Union Park Project facilities on National Forest System lands.

181. Under 36 CFR 251.54, prescribes a voluntary procedure for proponents seeking occupancy of National Forest System land to contact Forest Service officials responsible for management of the affected land as early as possible. Through this preapplication process, potential constraints may be identified and the proponent can be given guidance and information, such as possible land use conflicts, environmental and management considerations and special conditions, which may facilitate successful resolution of the special use permitting process.

182. Again in view of the vast cost of its proposed Project, it is surprising that the Applicant has not availed itself of the special use permitting preapplication process with regard to its Union Park Project. There were apparently certain limited contacts between Applicant and Forest Service representatives over three years ago regarding the hydroelectric component of its project. However, these contacts do not amount to the ongoing preapplication consultation contemplated by the special use regulations. However, unwise it may have been for the Applicant to ignore this process, the procedure is not mandatory, and failure to pursue it is not fatal.

183. The special use regulations specify at 36 CFR 251.54(f)(1) the steps which an authorized officer of the Forest Service is required to take after receiving a special use permit application. The authorized officer must assess the applicant's qualifications, complete an environmental analysis, assessment and/or an environmental impact statement under the National Environmental Policy Act of 1969 (NEPA); determine compliance with other applicable laws, regulations and orders; consult with other agencies, land officials, or interested parties and hold public meetings where appropriate; and take any other action necessary to fully evaluate and make a decision to approve or deny the application and to prescribe suitable terms and conditions. The authorized officer does not have to conduct an environmental analysis under NEPA prior to determining whether a proposed use is in compliance with applicable laws, regulations and orders. The fact that the language of 36 CFR 251.54(f)(1) lists these

two items separately supports this conclusion.

184. An authorized Forest Service officer may deny issuance of a special use permit on a number of grounds specified in 36 CFR 261.54(i). Among these grounds are that the proposed use would be inconsistent or incompatible with the purposes for which the lands are managed or with other uses, that the proposed use would not be in the public interest, that the applicant is not qualified, that the use would otherwise be inconsistent with applicable Federal and State laws, or that the applicant does not or cannot demonstrate technical or financial capacity.

185. An authorized officer is required to deny issuance of a special use permit where that use would be inconsistent or incompatible with land management purposes as reflected in the relevant Forest Plan, or where the use would be inconsistent with applicable Federal and State laws. The Forest Service need not conduct an environmental analysis under NEPA in order to deny a special use permit on the grounds of inconsistency with the Forest Plan or with Federal and State laws.

186. The issuance of a special use permit is conditioned upon compliance with terms and conditions contained within it. Under 36 CFR 251.56(a), special use authorizations must contain terms and conditions which will carry out the purposes of applicable statutes and implementing rules and regulations. A standard condition in all special use permits, pursuant to 36 CFR 251.54(f) and (i), and 43 U.S.C. 1764(c), is that the permittee must comply with state and federal laws and regulations.

187. Another standard condition in all special use permits specifies that the permit is subject to all valid claims. This condition is required by 36 CFR 251.55(c), which makes all special use authorizations subject to valid existing rights, and 36 CFR 251.55(b), which specifies that all rights not expressly granted under a special use permit are retained by the United States.

188. The Union Park Project would divert water from streams at points within the Gunnison National Forest, reducing flows in downstream stretches of these streams within the Forest. The streams within the Gunnison National Forest from which the Union Park Project would divert water have high resource value, presently supporting aquatic habitat and other characteristics dependent upon sufficient flows of water. Among these flow-dependent characteristics are stream channel maintenance, fish habitat, riparian vegetation, wetlands and floodplains.

189. Under 36 CFR 251.56(a), the Forest Service is required to include in special use authorizations terms and conditions which will minimize damage to scenic

and aesthetic values and fish and wildlife habitat and otherwise protect the environment. The Forest Service may impose a variety of mitigation measures on water diversion projects, including design, structural and construction measures, and required bypass flows (ensuring that a specified amount of water remains in the stream channel) to maintain stream channels or fisheries. The Forest Plan for the Grand Mesa, Uncompahgre, and Gunnison National Forests (Exhibit 1109) includes management requirements providing for the imposition of bypass flows as a mitigation measure associated with issuance of a special use permit. For example, in furtherance of wildlife habitat improvement and maintenance, the Forest Plan directs the Forest to maintain instream flows to support a sustained yield of natural fisheries resources. (Exhibit 1109 at III-242). With respect to water uses management and special use authorizations the Forest Plan states at p. III-51 as follows:

Special Use Permits, easements, rights-of-way, and similar authorizations for use of National Forest Lands shall contain conditions and stipulations to maintain instream or bypass flows necessary to fulfill all National Forest uses and purposes. (Emphasis added).

190. The Forest Service has determined that it will include, either through interpretation of standard required clauses described above or as explicit terms, several conditions in any special use permit issued to Applicant for the Union Park Project. These conditions, which would be required as a matter of law, are as follows:

a. Applicant cannot interfere with the ability of Taylor Park Reservoir to fully comply with the 1975 Exchange Agreement. This condition is required as a matter of law since a special use permit is subject to all valid existing rights.

b. Applicant cannot interfere with the full exercise of the water right decreed to Taylor Park Reservoir in Case No. 86CW203. This condition is required as a matter of law since a permittee must comply with state laws and must also recognize valid existing rights.

c. Applicant must agree to the environmental mitigation measures, including bypass flows, required under FLPMA.

191. However, to date there has been no quantification of any bypass flows which would be required as a condition of any special use permit issued by the Forest Service for the Union Park Project. So this issue does not directly bear on water availability, and failure to have a permit or approval based upon the foregoing conditions at this stage of the Applicant's Project development is not fatal to the

subject applications.

C. 1987 ASTER INTERAGENCY AGREEMENT:

192. Land use management and special use permitting activities performed by the Forest Service in areas which could influence the operation of Bureau of Reclamation projects are subject to the 1987 Master Interagency Agreement between these two federal agencies (Exhibit 2219). Facilities of the Union Park Project would be located within the area of project influence of Taylor Park Reservoir. Under Paragraph VI.B.(3) of this Master Interagency Agreement, the Forest Service is obligated to administer and manage lands and resources within an area of project influence in a manner which does not conflict with the purposes for which the project was constructed. This Paragraph also provides that absent an emergency, the Forest Service may take no action likely to adversely impact project operation or maintenance. Furthermore, under Paragraph VI.B.(9) of the Master Interagency Agreement, the Forest Service may not issue permits within an area of project influence without first obtaining the Bureau's concurrence on use conditions and stipulations.

193. Forest Service officers issuing special use permits are bound by the provisions of the 1987 Master Interagency Agreement between the Forest Service and Bureau of Reclamation. Consequently, the Forest Service may not issue any special use authorization for construction and operation of Union Park Project facilities if those facilities would conflict with the authorized purposes of Taylor Park Reservoir. If the Forest Service were to issue a special use permit for the Union Park Project, it would have the obtain the Bureau's concurrence on conditions included within the permit. Applicant must comply with any terms and conditions developed as a result of consultation between the Forest Service and the Bureau of Reclamation pursuant to this Agreement.

194. Nevertheless, except with respect to the impact of the Taylor Park Pumping Plant on the Bureau's Taylor Park Reservoir (¶¶ 171-179 above) and the extent to which said impact implicates the 1987 Master Interagency Agreement, no evidence has been produced that any aspect of the Forest Service permitting procedure would interpose a flat legal bar to the construction of the Union Park Project.

D. ENDANGERED SPECIES:

195. The Endangered Species Act (ESA) places a non-discretionary duty on all federal agencies to ensure that their actions (including permitting of private activities) do not result in jeopardy to endangered species.

196. If it is determined that endangered or threatened species may he affected by a proposed action, the federal agency proposing the action (the action agency) is required to consult with the U.S. Fish and Wildlife Service t the Service) unless the action agency determines, with written concurrence from the Service, that the action will not adversely affect the species. Upon request for formal consultation, the Service will issue a "biological opinion" to the action agency. If the Service determines that the proposed action will not jeopardize the survival and recovery of the species, a "nonjeopardy" opinion would be issued. The nonjeopardy opinion may be premised upon binding "conservation measures" which an applicant for a permit has agreed to implement. If the Service determines that the proposed action is likely to jeopardize the survival and recovery of the species, a "jeopardy" opinion is issued. A jeopardy opinion is to be accompanied by "reasonable and prudent alternatives" (if any exist) which, if implemented, will avoid jeopardy.

197. In preparing the biological opinion, the Service must base its determination solely on the best scientific and commercial' data available, and may not take into account social or economic factors relating to the proposed project. Economics may be considered in the development of "reasonable and prudent alternatives" to the proposal, but such considerations may not alter the underlying biological opinion regarding impacts on the species.

198. If "reasonable and prudent alternatives" or "conservation measures" cannot be fashioned to satisfy the concerns of a jeopardy opinion, then the project cannot be pursued and constructed, unless an exemption from the Endangered Species Act is secured. An exemption may only be granted by a committee of cabinet level federal officials.

199. Three fish native to the Upper Colorado River have been listed by the U.S. Fish and Wildlife Service as endangered under the ESA: the Colorado squawfish (Ptychocheilus lucius), the bonytail chub (Gila elegans), and the humpback chub (Gila cypha). The razorback sucker (Xyrauchen texanus) is currently proposed for listing as endangered.

200. These fish were once plentiful throughout the Upper and Lower Colorado River and its tributaries. The Colorado squawfish historically grew to a size of eighty pounds and lengths of more than six feet and at one time supported a commercial fishery. It appears to be the objective of the Endangered Species Act to try to restore said fish to the stream to promote more variety in sport fishing.

201. In more recent years, the fish have become endangered as a consequence

of several factors. Large reaches of habitat have been blocked off by dams substantially reducing the range of the surviving fish populations. Water flows have been modified by water projects and diversions throughout the Colorado River Basin. Throughout the basin, loss of natural peak flows have adversely affected the fish.

202. Over the course of the last two and a half decades since the fish have been listed as endangered, the Service has prepared biological opinions on over 100 proposed federal actions. In each of these cases, the Service determined that the proposals would result in jeopardy to endangered fish. However, in nearly every case "reasonable and prudent alternatives' or "conservation measures" were adopted which ameliorated the jeopardy concerns so that the projects could proceed.

203. As of the time of trial, the Applicant had made no effort to explore endangered species issues with the federal agencies. In fact, the Applicant had no obligation to seek a biological opinion at this early stage of the development of its project, but, in light of the importance of endangered species issues, it is surprising that no preliminary efforts were undertaken to investigate the potential impact of said issues.

204. After approximately three years of discussion, the Recovery Implementation Program (RIP) for the endangered fish was finalized on September 29, 1987. Shortly thereafter, the Federal government and the States of Colorado, Wyoming, and Utah formally endorsed the plan by adopting a Cooperative Agreement on January 22, 1988. (Exhibits 476 & 2309)

205. The purpose of this program was to adopt a mechanism which would allow the construction of water projects to go forward in a manner consistent with the protection of threatened and endangered species. The initial time frame for completion of the RIP is 15 years from its adoption. (Exhibit 476, p. 2-2)

206. Under certain circumstances (including a finding that the RIP is making "sufficient progress" in its objective of recovery of endangered fishes), a water project, in lieu of making releases of water, can make a monetary contribution to the recovery program to fund management and recovery actions that will address depletion impacts. (Exhibit 2311, the Final Environmental Assessment for the RIP, Table ES-1, [A.1.b, p. ES-4) This requirement of "sufficient progress" means that the RIP itself must show that it is making progress toward the determination of flow needs and the actual acquisition and protection of water rights to guarantee such flows.

207. On May 12, 1989, the Solicitor for the Department of the Interior issued

an opinion upholding the authority of the Service to condition the nonjeopardy determination on a showing of sufficient progress toward implementation of recovery goals.

208. In recent years, the Service has found that sufficient progress has not occurred to permit nonjeopardy opinions to be issued for major projects. Consequently, projects have been required to secure releases of water (from the project or elsewhere) in order to obtain a nonjeopardy opinion. For example, the Service issued a final Biological Opinion for the Muddy Creek project in Colorado which determined that because insufficient progress had been made in implementing the recovery program, the project as an interim requirement must release 3,000 acre feet of water in three out of five years until the RIP is implemented. (Memorandum of Understanding Between the United States Fish and Wildlife Service and the Colorado River Water Conservation District, included in Exhibit 2319) These releases are designed to compensate for the impacts to the endangered fish caused by the project's average annual depletion of 8,000 acre feet.

209. The RIP contemplates additional commitments of water from Blue Mesa to address problems resulting both from Blue Mesa itself and from existing and future water development in the Upper Colorado. Specifically, the program contemplates, at the outset, use of Blue Mesa water to supplement flouts at the confluence of the Colorado and the Gunnison to maintain flows there of 2,000 c.f.s. However, no precise quantification has yet been adopted because ongoing studies of this matter have not yet been completed.

210. The Federal government has addressed endangered species concerns at other Federal reclamation projects in the Upper Colorado River Basin by imposing conditions for releases of water from the Blue Mesa Reservoir. Specifically, the biological opinions for the Dallas Creek Project and the Dolores Project commit flows totaling up to 148,000 acre feet per year in volume, more or less. The Union Park Project will divert water which might otherwise be available to satisfy the flow requirements which have been imposed on the Blue Mesa Project by the Dallas Creek and Dolores Projects. The Applicant suggests that its modelling of the 300 c.f.s. minimum in-stream flow for the Black Canyon federal reserved right already accounts for the releases from Blue Mesa necessary to satisfy the commitments for the Dallas Creek and Dolores projects. However, the Court rejects the Applicant's position in this regard. Rather the Court finds and concludes that the requirement for the 148,000 acre feet of water is in addition to pass-through inflows for the benefit of the Black Canyon. The Court adopts the Opposer's position that more water than has historically passed through the Black Canyon is needed to satisfy said commitments.

If this were not true, then there would be no need to compensate for new depletions from the Dallas Creek and Dolores projects.

211. There was no evidence as to the amount of releases or other compensation and restrictions, if any, which might be required of the Union Park Reservoir Project under ESA. The Opposers consider this lack of evidence to be fatal to the Applicant on the grounds that the Applicant had the burden of proving the same at trial. However, while the Court acknowledges that the ESA and the RIP will almost certainly impact Arapahoe's Union Park Project, there is no evidence at this point from which to find that the ESA and the RIP impose actual legal bars which would prevent the Applicant from completing its project. Having now heard the evidence, the Court concludes that ESA issues are usually considered in parallel with the National Environmental Policy Act (NEPA) process, which will be initiated when Arapahoe files applications for the necessary permits with various federal agencies, and that it is impossible to predict now what conditions, if any, may be imposed on Arapahoe under ESA. The NEPA process consists of appropriate studies, consultations, recommendations, including suggestions from the applicant, and finally, decisions by the Environmental Protection Agency (EPA) or by the lead federal agency as to the necessary environmental constraints on a proposed project. Such decisions cannot be made at this time, and the Court will not engage in the exercise of attempting to predict or prejudge those determinations. The Court is also mindful that the Recovery Implementation Program developed under the ESA for Colorado River fishes is designed to allow projects like Arapahoe's to proceed, consistent with the protection of threatened species and endangered species upon an applicant's payment of a depletion charge and the agencies' implementation of recovery measures. The Court is satisfied that ESA does not pose a flat legal bar to the Union Park Project.

## VI. MISCELLANEOUS

### A. PLAN OF AUGMENTATION

212. Applicant's request for approval of a plan for augmentation is an issue in Phase I of this case. Case Management Order, disputed issues l(b), 4(c), 30.

213. To the extent the Applicant seeks to use Blue Mesa Reservoir as a source of augmentation water, the Court finds that a prerequisite to such a claim, Arapahoe needed to have a contract with the United States for such use, and under this Court's pretrial orders said contract was required to be in effect as of April 15, 1991. The Applicant has failed to demonstrate the existence of such a contract, so the Court concludes that the Applicant cannot rely on the use of Blue Mesa Reservoir as a source

of water for a plan of augmentation.

214. Applicant's claim to use water appropriated in these cases for augmentation will not make more water available to the stream or prevent injury to other water users. This claim was expressly limited to the use of water which had been reduced to storage in Union Park Reservoir. To release this water so that a like amount could be diverted into the project facilities would not constitute a sensible or valid augmentation plan.

215. Applicant's claim to use water decreed in Case No. 82-CW340 as a source of augmentation water is also untenable. The 82CW-340 water rights have not been decreed for augmentation purposes. The use of such water for augmentation would result in injury to other water users. The only consumption associated with this water right was approximately 3,000 acre-feet of evaporation from Union Park Reservoir, which will continue in the future at an increased rate due to the larger reservoir size. The 82CW340 water right involved a non-consumptive cycle of pumping and release of water without any contemplated depletions which could now be used for augmentation (Leak and Spronk testimony).

216. In effect, Applicant's proposed augmentation plan called for water to be released from Union Park Reservoir, and required that water be passed through Taylor Park Reservoir to satisfy minimum stream flows for eventual credit to the UVWUA account in Blue Mesa. This plan violates the Court Is September 14, 1990 order, at Page 12, that augmentation water must be provided to the UVWUA at Taylor Park Reservoir rather than the Gunnison Tunnel.

217. Applicant's plan also depends on a structure to release water from Union Park Reservoir to Taylor Park Reservoir. The plan cannot be approved on this basis in the absence of a contract with the United States and the UVWUA. See September 14, 1990 Rule 56(b) Order. The decree in Case No. 82CW340 is not res judicata as to the issues in this case involving the sufficiency of Arapahoe's augmentation plan. City of Grand Junction v. Kannah Creek water users Ass~n, 192 Colo. 279, 557 P.2d 1169, 1171 (1976); State Engineer v. Smith Cattle Inc., 780 P.2d 546, 549 (solo. 1989); Enlarged Southside Irrigation Ditch Co. v. John's Flood Ditch Co., 116 Cola. 580, 183 P.2d 552, 555 (1974).

218. In short, the Applicant has failed to present competent evidence in support of a plan of augmentation, and any request for approval of such a plan must be denied and dismissed.

B. CHANGE OF WATER RIGHT:

219. Applicant's proposed change of the 82CW340 water rights is also an issue in this case. Case Management Order, disputed issue No. 44; June 3, 1991 Pretrial Order, Paragraph 8.

220. The Court has already ruled in Case No. 86CW226 that Applicant may not change the essentially non-consumptive 82CW340 water right to new consumptive uses. December 29, 1988 order, pages 7-8. The rationale of that order is also applicable to Case No. 88CW178.

221. The Applicant has offered no evidence with respect to the change of water right claimed in its applications nor has it proven any conditions which would protect other water users from any injury which might otherwise result if the requested changes were granted.

222. For the reasons outline in the foregoing section on Applicant's plan for augmentation in ,215 above, the Court finds that the contemplated draft of the decree in 82CW340 which could be changed to new uses in connection with the Union Park Project is zero.

223. The Court therefore denies Applicant's proposed change of water rights.

C. POWER TO CONDEMN:

224. The Court concludes that whether or not the Applicant has a right to condemn property is not material to the issues in this case. This is true because the issue of the water availability addresses unappropriated water, not the water of some other user which might be purchased through condemnation by the Applicant.

225. However, to the extent that consideration of condemnation is material to the resolution of the issues of water availability, the Court concludes for the following reasons that the Applicant does not have the power to condemn the water rights of private water users.

a. First, the Colorado General Assembly has expressly addressed which entities should have the power to condemn water rights, and it has empowered only towns, cities and those entities which are both a city and a county to do so. 538-6-201, C.R.S. (1990) It is determinative of the issue that this legislation omits counties per se from utilizing eminent domain power to acquire water rights.

b. Arapahoe frankly admits that the foregoing statute does not include counties. }however' Arapahoe contends that under §30-20-402(1)(a), C.R.S. (1990) it does have the right of eminent domain to construct "water facilities" and it further argues that said term includes "water rights" within the language: "any and all rights or interests in such water facilities."

c. The Court concludes that Arapahoe reads said statute too broadly. The statute does not say that a county has the right to acquire "water rights" by eminent domain, and case law in Colorado makes it clear that no eminent domain statutes are to be strictly construed against the government and liberally in favor of property owners. Platte River Power Authority v. Nelson, 775 P.2d 82, 83 (solo. App. 1989). The language in §30-20-402(1)(a) is at best doubtful in its intent to empower counties to condemn water rights, and the Colorado Supreme Court has held that the power to condemn "can never be implied from doubtful language." Coquina Oil Corp. v. Harry Kourlis Ranch, 643 P.2d 519, 522 (solo. 1982).

226. It seems clear to this Court that had the legislature intended to grant the power of eminent domain to counties, it would have included counties in the Water Rights Condemnation Act which expressly addresses said power. Thus, this Court concludes that the Applicant herein does not have the power to condemn private water rights, including particularly the instream flow rights which have been decreed in cases W-1985, W-1987 and W-1991.

227. The Court recognizes that in a pretrial order it indicated that the Applicant would have to prove its ability to acquire certain easements and lands over which to construct its project because of its power to condemn. However, that order by the Court was addressing only the power to acquire interests in land, and is to be distinguished from the subject here which is the condemnation of water rights.

D. APPLICANT'S SECOND MOTION TO AMEND WATER APPLICATIONS

228. On August 30, 1991, (nearly two months after completion of the evidence in Phase I) the Applicant filed a Motion to Amend its water Applications based upon its stipulation with Rocky Mountain Biological Laboratory (of April 30, 1991). The proposed "Second Amendment to Water Applications" seeks to combine the diversion structures which the Applicant had previously claimed in making its First Amended Application filed in November 30, l§90 by making claim for the Consolidated East River Diversion Structure in the amount of 120 c.f.s. (to replace its claims for the East River Diversion Structure for 80 c.f.s. and for the Copper Creek Diversion Structure for 40 c.f.s.). The Second Amended Application describes the consolidated diversion

structure well downstream of the two separate diversion structures, and the reason for the amendment is "to avoid impacts on Rocky Mountain (Biological Laboratory), its water rights and ongoing studies at its laboratory."

229. The Opposers joined in objecting to the proposed Second Amended Application on grounds that the amendment is untimely, that there is no water available for the new point of diversion, that the Court lacks jurisdiction to consider water availability at the new point of diversion, and that the amendment cannot relate back as requested by the Applicant.

230. The Court adopts the Opposers' position, principally on the grounds that the Motion to Amend is untimely and that the Court lacks jurisdiction to consider the Amended Application because no notice of it has been published. Danielson v. Jones, 698 P.2d 240 (solo. 1985).

## VII. JUDGMENT AND DECREE

WHEREFORE IT IS THE ORDER OF THE COURT: For the reasons stated in the foregoing Findings and Conclusions in paragraphs 1-230:

A. The Applicant's Motion to File a Second Amended Application in the subject cases is hereby denied.

B. The Court dismisses the Applicant's claims with respect to the following:

1. The claimed points of diversion on East River and Copper Creek.

2. The claims for the Willow Creek Collection System.

3. The Applicant's claim for the Taylor Park Pumping Plant, and in addition, the Court orders that the Applicant cannot rely on the use of Taylor Park Reservoir as a forebay or an afterbay, nor as a source of water for purposes of showing availability of water in these cases. (See ,171-179 above)

4. Any claim for a plan of augmentation.

5. Any claim to change of water rights with respect to the decree in 82-CW-340. Therefore, the Application in case 86-CW-226 and any amendment thereof are hereby dismissed with prejudice.

C. To the extent the Applicant has claims remaining in case 88-CW-178, the Court finds that there is not more than 20,000 acre feet of unappropriated water physically and legally available on an annual average basis at the points of diversion claimed by the Applicant in case 88-CW-178. The Applicant failed to satisfy its burden of proof to establish that more unappropriated water is available.

D. Except with respect to the Court's specific findings and conclusions in ¶171 and its holding in ¶ B(3) above dismissing the Applicant's claim for the Taylor Park Pumping Plant, the Court orders as a general principle that there are no flat legal bars which preclude the Applicant from applying for permits and approvals from the Bureau and the Forest Service or complying with the Endangered Species Act in connection with the Union Park Project.

E. Because the Court has found some unappropriated water to be available, the question remains as to whether or not there is a need for a trial on Phase II feasibility issues. Within 15 days hereafter, the Applicant shall advise the Court in writing as to whether the Applicant believes a sufficient quantity of unappropriated water has been found to exist under this Decree which would justify proceeding to Phase II of this litigation in case 88-CW-178 (recognizing that 86-CW-226 has been dismissed per ¶ B(5) above).

F. Anticipating that a conference among counsel and the Court will be necessary to discuss further proceedings in this action, the Court sets this matter for a telephone status conference with the Court sitting in Montrose (at 303/249-9676) on November 13, 1991, at 11:00 A.M. Applicant's counsel shall be responsible for arranging for the telephone conference to include at least one attorney for each of the parties who actively participated in the Phase I trial. In the event of a conflict which cannot be resolved in any other way, the attorney with the conflict shall notify the Court's reporter, Del Bohling (at 303/874-4416), and shall obtain a new time and date for the telephone conference and shall then be responsible for coordinating the same with all other counsel who need to participate.

DONE BY THE COURT, This 21st day of October, 1991.

Robert A. Brown
Water Judge for
Water Division No. 4
State of Colorado

cc: all pro se parties and counsel of record*

* The Clerk is directed that in distributing copies of this Decree, she is to send one copy to the Applicant, in care of its attorney, Paul Zilis, and one copy to Opposer-Upper Gunnison River Water Conservancy District, in care of its attorney, Andy Williams. Said two attorneys shall then confer and allocate between them as they may agree the responsibility for distribution of copies to all remaining parties and counsel in the case, and in all events they shall distribute said copies to said persons within 3 days after receipt of this Decree. Not later than October 25, 1991, Mr. Zilis and Mr. Williams shall file Certificates of Mailing with the Court demonstrating their compliance with this Order.