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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION	)	
OF UNITED WATER IDAHO INC.	)	CASE NO. UWI-W-00-1
FOR APPROVAL OF INCREASED RATES	)	
FOR WATER SERVICE	)	

DIRECT TESTIMONY OF DANIEL BROWN

ON BEHALF OF UNITED WATER IDAHO INC.

February 2000

Q. Please state your name, business address, position and employer.

A. Daniel Brown. My business address is 8248 W. Victory Road, Boise, Idaho 83709. I am the Managing Engineer, responsible for engineering at United Water Idaho.

Q. Please briefly describe your educational and professional background.

A. I received a bachelor of science degree in Civil Engineering from the University of Idaho in 1976. I was employed by Davenport Engineers from January 1, 1977 through February 1978 and worked primarily on water related projects for the cities of Middleton and Fruitland, Idaho. On February 20, 1978 I began my employment with United Water Idaho. I worked as a staff engineer until 1983 when I became Managing Engineer. I received my professional engineer registration in July of 1981.

Q. Have you testified in any proceeding before a regulatory body?

A. Yes, before this Commission on the Garden City Exchange, the Eagle acquisition case and the 1997 General Rate Case.

Q. In your capacity as Managing Engineer, are you responsible for planning and implementing United Water Idaho's capital expenditure plan?

A. Yes, I am.

Q. Are you familiar with the various capital projects which are planned to be placed in service between October 1, 1999 and April 30, 2000

A. Yes, I am.

Q. Please describe in general the categories and purposes of the capital expenditure program indicated on Exhibits 9 and 10.

A. The capital expenditure program indicated on the above referenced Exhibits is for non-revenue producing plant either placed in service or intended to be placed in service prior to rates becoming effective in this proceeding.

Non-revenue producing plant projects are service enhancement projects resulting from infrastructure replacement needs, quality reasons, and/or assurance of continued quantity.

Infrastructure Replacement is primarily the result of aging, non-performing plant or due to functional obsolescence. The major capital expenditures which fall under this sub-category are replacement services and meters, replacement mains, well redrill/replacement projects and replacement of information technology systems.

Replacement services can be prompted by two conditions: 1) reaching the end of physical serviceable life or 2) replacement services associated with replacement main projects.

Replacement mains are generally the result of three conditions: 1) inadequate capacity, 2) reaching the end of physical serviceable life and 3) association with street reconstruction projects. The last condition will be discussed in more detail below.

Well redrill/replacement projects are typically the result of the deterioration of older wells which, with age, are no longer providing reliable production. A second reason for well redrill/replacement is water quality. With newer scientific technology it has been possible to replace some existing poor quality wells with a higher quality water.

Information Technology projects are intended to replace hardware and software systems needed for efficient company operations and improved reliability of service to our customers.

Public Agency Required Projects. These are projects or increased expenditures due to local, state or federal governmental agency requirements. During this period, most agency required projects relate to local governmental actions.

Q. Please highlight the capital projects included in Exhibit 9 under the following plant designations: source of supply, treatment plant, pumping plant, main lines, service lines, customer meters and general plant.

A. The following discussion provides information regarding unique or significant projects falling under the above plant designations.

Projects C98A002 – ASR – Swift Well. ASR stands for Aquifer Storage and Recovery. Water is injected into a well, or stored in the aquifer for later withdrawal or recovery. This process is pursued for the basic purpose of increasing peak supply capacity under two basic scenarios. One is where the aquifer has insufficient natural recharge to support the peak season supply requirements. The other is when the aquifer's water quality is unpalatable to the consumer. In this case, high quality water is injected into the aquifer during the off-season and "recovered" during the peak season. This is the case of the Swift well project. The major benefit to the customer is a higher quality water supply and the utilization of existing facilities, in lieu of other, more capital-intensive, supply alternatives.

This project involved improvements to the existing facilities to facilitate the ASR process, engineering feasibility and process analyses and permitting. The Swift

ASR project is the first of its kind in Idaho. This innovative approach to a major water quality issue will help to preserve the investment in existing facilities, maintain the balance between supply and demand, and provide the customers with improved water quality.

Project C98A004 – Ground Water Rights. Ground water contributes over 75% of our peak day source of supply capacity. It is vital that the effort required to ensure their supply positions be taken before significant declines in the water levels occur. The focus of this project is on the implementation of the 1996 municipal statute and associated actions, which include:

1. Refile in SRBA
2. Accomplished transfers of priority licenses (reinstatement)
3. Unified points of diversion
4. Unified place of use as UWID Service area

Project C99A005 – Surface Water Rights. This project reflects expenditures toward the acquisition of new surface water rights, which are needed to insure continual raw water supply for treatment and distribution to our customers. This project makes approximately 1,085 acre feet of raw water supply available for use at the Marden Water Treatment Plant.

Project C99A007 - Surface Water Rights Purchase – Wilson Properties, L.P. This project is for the purchase of 2,750 acre feet of water rights on the Snake River. In 1999, we completed and exchange agreement between the Idaho Department of Water Resources and the Bureau of Reclamation to enable us to divert this water off of the Boise River at Marden.

Project C00A001 – Collector #3 Rehabilitation. This project is necessary to recover the original production capacity of Ranney Collector #3. This collector is

needed for the water supply to the Marden WTP. The collector was originally constructed in 1950 and TV camera inspection of the infiltration screens indicated they are in very poor condition. This project will involve the installation and development of new infiltration laterals. We anticipate the work will increase the capacity up to 2,800 gpm. It is currently producing less than 1,200 gpm. This is very important due to the "pretreatment" provided to the water produced from the collectors as compared to the water diverted directly from the river. This pretreatment results in a more efficient treatment process necessary to meet regulatory requirements.

Project C98B005 – Marden Water Treatment Plant Expansion. The Marden plant expansion project addresses declines in well capacities in the Main Service Level and increased peak season demand. Over the period from 1994 through 1997 (the operations results of 1997 were the basis for initiating the plant expansion in 1998) East Main Service Level well capacities declined a total of 2.367 MGD. The consumption in the East Main increased from 21.700 million gallons in 1994 to 22.986 in 1997, for a difference of 1.286 million gallons. The combination of these two elements totaled 3.653 MGD. This is in addition to the 2.252 million-gallon volume that was imported from Gowen and the First Bench service levels on 1994 maximum day.

As noted above, deficiencies in supply, during peak season operations, between 1994 and 1997 were met by importing water from the Gowen and First Bench service levels. During July of 1997, these two service areas contributed an average of 5.33 million gallons per day to the Main Service Level. Several days during the month exceeded 6.0 million gallons. This is very near the distribution system's hydraulic capacity limit. In addition, this was with all Main

Service Level wells in operation. Had one of these wells broken down, it would have been very difficult to keep pace with demands. As it was, we were unable to fill our major storage facilities on a daily basis, which during an extended hot spell, could have threatened fire protection capabilities down town.

The poor availability of ground water supplies in this area of the distribution system and the limitations of importing water from other well fields were discussed at length in the original plant project. The lack of other viable alternatives lead to the plant expansion as being the most cost effective means to increase supply to the Main Service Level.

The expansion of the plant from 8 MGD to 16 MGD made a significant difference to the operation during the summer of 1999. It was the first summer in many employee's recollections that the Hulls Gulch reservoir was filled to more than 85% of capacity on a daily basis during July. As detailed in Witness Linam's testimony, this expanded production capacity was necessary to meet the service needs of existing customers.

Project C99B102 – WTP Intake Screen. This project is for the purchase and installation of a second raw water screen on the river intake to the Marden Water Treatment Plant. The screening capacity is 8 million gallons per day per screen. This limitation is based upon the water velocity entering the screen versus fish smolt ability to escape the screen. The addition of this screen will enable the plant to take more than 8 MGD of river water through the Super Pulsator clarification process. The balance of the plant's production is currently supplied from the three Ranney Collectors.

Project C00B001 – Chlorine Equipment – Ammonia. This project is intended to address an ammonia problem we have discovered in three of our production

wells, Maple Hills, Frontier and Bali Hai. The plan is to feed sufficient chlorine to fully oxidize the ammonia and subsequently maintain a normal chlorine residual in the discharge water. If the correct chlorine feed is not maintained, unpalatable water quality can result. This project will include the necessary equipment to pace the chlorine feed against the target residual level.

Project C99C007 – SCADA Replacement. This project is to replace the Valmet SCADA system installed in 1990 at United Water Idaho (UWID). The new system will improve response times, allow greater flexibility as new applications are added and is fully Y2K compliant, the existing system is not.

The SCADA system monitors data from more than 150 remote sites throughout the Boise area and extending well into surrounding communities. The system master is composed of dual Digital Equipment Corporation (DEC) computers in an automatic fail-over configuration running Valmet Automation's OASyS SCADA software. The field equipment is a mix of Valmet's and Opto 22 RTUs. The Valmet SCADA system, which uses limited and proprietary communications, will be replaced with an Intellution SCADA system as window into a PLC based control system. This will eliminate the communication speed limit and the proprietary communications protocol imposed by the Valmet system. By doing this the communications speed can be increased resulting in faster system updates. It will allow the use of other RTU types and more efficient communication protocols, as they become available. The Intellution SCADA system will provide system operators with a familiar look and feel for operation and control and will provide more flexible reporting and data storage through known office automation and database software.

Because of the communications speed limitations imposed by the Valmet system and protocol, additional work must be done to modify the radio system and RTUs. This involves replacing a portion of the remaining Valmet RTUs and modifying the radios with higher speed modems.

This project will provide the essential hardware, software and support services to allow UWID to install and operate a more user-friendly and advanced, integrated Instrumentation and Control System (I & C) for use well into the next century. Additionally, it will allow easy system expansion and provide flexible data access and retrieval. These improvements to the operating systems are necessary to continue to provide reliable service to our customers.

The SCADA system is an essential element in the efficient operation of the water system. It played a key role in the company's ongoing efforts to reduce its unit power consumption by providing much of the data necessary to identify needed improvements to equipment and operations, as indicated on the following table:

YEAR	KWH/1000 GAL	CHANGE
1997	2.07	-
1998	1.96	(5.3%)
1999	1.87	(4.6%)

Project C99C103 - Master Meter Changeout. This project is for the replacement of the original propeller type flow meters which no longer provide reliable measurement at our well and booster sites. Accurate flow measuring devices are required by the Idaho Department of Water Resources (IDWR). The existing propeller meters do not provide adequate output to the SCADA system for data acquisition and control purposes, nor do they meet the

requirements of IDWR for accurate water measurement. These new meters are electronic, have no moving parts and do not restrict the flow of water. They also provide instantaneous, compatible output to the SCADA system which provides the means for facility control which is not available from the propeller meters. This project will complete the replacement of the remaining propeller meters with the new "mag" meters.

Project C99E001 – Quail Ridge Storage Reservoir. This project is for the construction of a new water storage reservoir for the Quail Ridge Subdivision and a contiguous existing neighborhood. This facility is required for peaking supplies and for fire protection reserves for this service area. Exhibit 9 indicates $229,431 in gross expenditures. Exhibit 10 indicates corresponding contribution and advance amounts against this project totaling $189,431. The difference is a result of the need to supply storage for existing UWID customers and improve the overall operations and reliability for an area without adequate storage.

Project C99K107 and C99K108 – Operations Center Parking Expansion and Building Remodel. The 8248 West Victory Road site has been the company's operations center for the past 20 years. In that time the water system has grown considerably as has the number of personnel needed to operate it. The building, parking and materials storage area have been generally adequate over much of this period, but that is no longer the case. Parking is generally inadequate for company personnel and customers. Office space is crowded and there is not adequate space for employee meetings and training. This project is designed to address these needs

Q. You stated earlier that you have prepared Exhibit 10. What is the purpose of this exhibit?

A. Exhibit 10 indicates the anticipated CIAC and Advance amounts during the period from October 1, 1999 through April 30, 2000. Also indicated are the projects against which the contributions and advances will be applied.

Q. Does this conclude your testimony?

A. Yes it does.

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EXHIBITS TO ACCOMPANY

THE DIRECT TESTIMONY OF

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