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IDAHO PUBLIC
UTILITIES COMMISSION

Street Address for Express Mail:
472 W. WASHINGTON
BOISE, IDAHO 83702-5983

Attorney for the Commission Staff

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF)
BAR CIRCLE "S" WATER COMPANY FOR) **CASE NO. BCS-W-05-1**
AUTHORITY TO ESTABLISH COMMERCIAL)
FIRE PROTECTION TARIFF RATES.)
) **COMMENTS OF THE**
) **COMMISSION STAFF**
)

COMES NOW the Staff of the Idaho Public Utilities Commission, by and through its Attorney of record, Scott Woodbury, Deputy Attorney General, and in response to the May 11, 2005 Notice of Application, Notice of Modified Procedure and Notice of Comment/Protest Deadline in Case No. BCS-W-05-1, submits the following comments.

BACKGROUND

On April 22, 2005, Robert Turnipseed, president of Bar Circle "S" Water Company (Bar Circle; Company) filed an Application with the Idaho Public Utilities Commission (Commission) requesting authority to establish a commercial fire protection tariff. Bar Circle is located in Hayden, Idaho and provides water service to approximately 141 customers.

Bar Circle does not currently have an approved commercial fire protection tariff. As reflected in its Application, at the request of Waterford Park LLC, a boat and RV condominium storage facility, the Company entered into an agreement with Waterford to provide fire

protection service required for the facility. Attached to the Application is a copy of the Waterford agreement and a copy of the engineer's master plan for the storage facility that shows the location of water lines, fire hydrants and sprinkler service lines that are being installed to meet the fire protection requirements. Waterford is paying the cost to move existing lines and install new lines and hydrants.

Bar Circle states that it must dedicate a large portion of its existing storage reservoir to the fire suppression needs of the Waterford facility. The Company reports that nearly a third of Bar Circle's existing reservoir will be dedicated to meeting the required 53,400-gallon storage requirement.

Bar Circle anticipates that additional growth will occur in the area in the near future and that the Company will expand to serve new customers. Because of the large portion of the existing reservoir that will be dedicated to fire protection for the Waterford facility, the Company states that it will need to construct additional storage to meet its growth requirement sooner than anticipated. Attached to the Company's Application is an engineering estimate for the construction of a new 20,000-gallon reservoir. Total cost of the new reservoir is expected to be \$90,000.

Bar Circle requests approval of commercial fire protection rates as follows:

Monthly rate for commercial private hydrants	\$146.05
Monthly rate for commercial sprinklers per connection	\$ 97.65

The rates were developed using the cost of the new reservoir that could be avoided were it not for the dedication of a portion of the Company's existing facilities. Because the new reservoir is much smaller than the dedicated portion of the Company's existing reservoir, the Company believes its calculations are conservative. The fire protection rates when applied to the entire Waterford facility, the Company contends, will generate monthly revenue of \$1,121.68.

As reflected in attachments to the Company's Application, the dedicated portion of the existing reservoir is the equivalent of 23 residential customers' average daily requirements during the peak season of the year. The fire flow requirement for the Waterford facility, the Company contends, is nearly twice the average demand of the existing residential customers connected to the system.

Bar Circle purchased and combined its water system with the Rancho Aero water system in 2002. A Water Master Plan with engineer's report and hydraulic analysis was prepared at that time. The report was favorable with one substantial exception. That exception was the supply to

a nearby firehouse where pressures could, under some circumstances, be inadequate. Bar Circle resolved the pressure problem by adding a ten (10) inch main.

The Bar Circle water system consists of two (2) well pumps (maximum pumping capacity 581 gpm), two (2) storage tanks (one (1) concrete and one (1) steel, total available storage 165,000 gallons), three (3) booster pumps (total maximum capacity 485 gpm), a fire water supply pump (2500 gpm at 150 foot of head), a standby diesel generator capable of running either the booster pumps or the fire water pump at full capacity, and various water mains and distribution lines. The specific connection to Hayden Executive RV and Boat Condos' (RV Condos) fire protection system is a ten (10) inch main (belonging to Bar Circle) connected to a six (6) inch service (installed and owned by RV Condos).

STAFF REVIEW

Staff investigated data available regarding the size and capability of the Bar Circle system to determine whether that system is appropriate for this type of service. The new fire protection system was designed by the Patriot Fire Protection Company of Spokane, Washington (see Attachment No. A). After review of documents and discussions with the fire marshal of the Northern Lakes Fire District, the DEQ in Couer d'Alene and the owner of Bar Circle, it was determined that the water system is well maintained and has the ability to provide this type of service. The current water system is adequate to provide a flow of 640 gallons per minute (gpm) of water at 60 psig for the RV Condos fire protection system and that flow conforms to the National Fire Protection Association (NFPA) requirements. The existing fire protection requirement is that 1,000 gpm of flow be available for residential fire protection. The two fire protection requirements combined (existing residential and new commercial) are 1,640 gpm, leaving 442 gpm of the 2,082-gpm total theoretically available for drinking water supply.

In parallel, further contacts with the fire marshal in the Northern Lakes Fire District resulted in information that the fire marshal has provided the necessary approvals for the fire protection system. The fire marshal (Dean Marcus) provided two letters stating that both the requirements for the fire protection system are satisfied and that the water system pressure and flow available to meet the fire protection system requirements are adequate, (see Attachment No. A). The DEQ, which has jurisdiction over design and adequacy of the system for supply to and safety of the public, stated that it is investigating this issue and several others and is in discussions with Bar Circle. DEQ stated that it would provide the results of its investigation to

the PUC when completed. Since the fire protection service is already being provided by Bar Circle, it is appropriate to proceed with a tariff design and rate determination.

STAFF'S ANALYSIS OF COMPANY'S PROPOSED RATES

The Company in its Application proposed monthly rates of \$146.05 per fire hydrant and \$97.65 per connection for a commercial sprinkler service. Under these rates the RV Condos would pay a monthly bill of \$1,121.68 (\$13,460.16 annually).

The Company developed these rates using an engineer's estimate for adding a new 20,500-gallon reservoir to the current system. The Company claims that using this methodology is a conservative approach since the 20,500-gallon reservoir is smaller than the dedicated portion of the Company's existing reservoir needed to provide the fire protection service for Waterford Park. However, the NFPA requirement for storage is 54,300 gallons (see Attachment No. A), which this smaller tank does not satisfy.

Staff does not believe the Company's proposal is the appropriate method to determine a tariff rate for the storage facility. The Company is not going to construct the new storage facility. The Company is using an engineer's estimate of the cost to construct the water facility as a surrogate for the cost of the Company's existing storage capacity. The Company is going to use its existing storage capacity to provide the capacity required for service. Therefore, the methodology for determining the appropriate tariff should consider only the Company's existing system for servicing the water requirement.

Alternatively, the Staff believes that a more appropriate method to determine the rate is to examine the demand that the fire protection service will place on the current system. In this case, the service being provided by Bar Circle to RV Condos does not involve any incremental capital cost and very little additional operating costs. The fire protection system will use very little water on an annual basis. Therefore, Staff believes that an alternative method, based upon the demand the service places upon the current system stated in terms of equivalency to the demand for service by the current customers is more appropriate (see Attachment No. B).

TARIFF STRUCTURE AND DETERMINATION METHODOLOGY

Since the fire protection system will use little water, but will have significant demand requirements, the fixed monthly rate for fire protection was calculated by Staff based on the fixed monthly cost to meet average demand of an equivalent number of water service customers.

Further, to check the validity of this method, Staff reviewed similar tariffs at United Water and Eagle Water.

The two key requirements for a fire protection system are pumping capacity and water storage. The approved fire protection system requires that 54,300 gallons of storage be available and that 640 gpm of pumping capacity be available. The storage requirement is for a dedicated volume of storage that will always be held ready for the commercial fire protection service. Existing customers may use all of the existing pumping capacity virtually all the time with the commercial fire protection system only using pumping capacity for annual tests or in the event of a fire. Staff, therefore elected to use storage capacity as the surrogate for establishing a tariff.

To allocate costs based on storage, fire protection storage demand was established based on average storage demand for an equivalent number of residential water customers. There are 141 Bar Circle customers at present and there are a total of 165,000 gallons of available storage in two different reservoirs. This results in an average storage of 1,170 gallons per customer. The 54,300 gallons of storage to be dedicated to the fire protection system is equivalent to the average amount of storage for 46.40 customers. The remaining storage of 110,700 gallons provides 785 gallons of storage per customer above the new fire protection storage requirements.

While fixed costs of storage are not necessarily recovered in the customer charge, Staff used the current minimum customer charge adjusted for the monthly volume allowance as a proxy for the fixed costs associated with water storage.

The Bar Circle minimum charge of \$15.00 per month includes 7,500 gallons of water usage. Subtracting the cost of this commodity from the minimum charge at the published tariff of \$0.95 per 1,000 gallons, results in a remaining fixed charge of \$7.88 per customer per month.

The resulting "fixed" storage costs allocated to fire protection is then calculated by multiplying the fixed cost per customer of \$7.88 by 46.40 equivalent customers. The resulting tariff is \$365.63 per month or \$4,384.97 per year.

Staff compared rates for similar services in other systems to those derived in this case using the fixed cost methodology. United Water has a tariff for fire hydrants and a separate tariff for sprinkler systems (September 2000). Eagle Water Company has a single tariff sheet for both sprinkler systems and hose connections (July 1982).

There are ten (10) service points in the RV Condos fire protection system. They consist of three (3) fire hydrants and seven (7) sprinkler systems, one each in seven different (7) buildings. Applying the RV Condos service points to the United Water tariffs results in a

monthly tariff of \$333.19 and applying the Eagle Water tariff to the RV Condos service results in a tariff of \$257.40 per month. Both of these two older tariffs are lower than but are within the same range as those derived by Staff for this case.

Staff believes that storing and delivering water for fire protection to a commercial entity is a reasonable service for Bar Circle to offer. Further, pending final comment from the DEQ, Staff believes it likely that Bar Circle will be able to deliver this new service without affecting service to its residential customers.

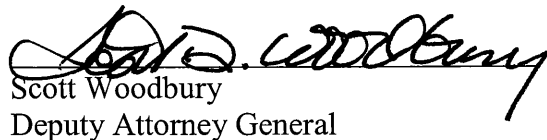
RECOMMENDATIONS

Staff recommends that the Commission approve an interim tariff of \$365.41 per month for commercial fire protection service. Staff recommends that this tariff be reviewed once DEQ has made its determination regarding the Bar Circle system's adequacy to handle the addition of the commercial fire protection service.

In order to provide consistency between the Bar Circle fire protection tariff and similar existing tariffs, Staff further recommends that that tariff be structured to assess fees for hydrants and for sprinkler systems. The recommended rates are:

For each Fire Hydrant	\$9.50 per month
For each building sprinkler system	\$48.13 per month

Respectfully submitted this *8th* day of July 2005.


Scott Woodbury
Deputy Attorney General

Technical Staff: Harry Hall
Joe Leckie

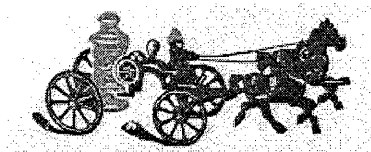
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ATTACHMENT NO. A

**FIRE MARSHALL'S LETTERS
AND
PATRIOT FIRE PROTECTION LETTER**

Northern Lakes Fire Protection District

Proudly serving the areas of Hayden and Rathdrum



Hayden Area (208) 772-5711 • Fax: (208) 772-3044
Rathdrum Area (208) 687-1815 • Fax (208) 687-2088

June 6, 2005

Harry Hall
Idaho Public Utilities Commission

Mr. Hall,

The Bar Circle S water system was approved by the Fire District to provide the necessary fire flows for the Hayden Lake Boat and R V storage facility located at 374 W Garwood Road.

The water system has the necessary capacity and pumping capabilities. They also installed the required fire hydrants.

If you have a questions please call 772-5711

Thank you,

Dean S. Marcus
Fire Marshal

cc: **Bob Turnipseed**
P O Box 1870
Hayden, ID 83835

125 W. Hayden Avenue • Hayden, Idaho 83835

Attachment A
Case No. BCS-W-05-1
Staff Comments
07/08/05 Page 2 of 5

Northern Lakes Fire Protection District

Proudly serving the areas of Hayden and Rathdrum



Hayden Area (208) 772-5711 • Fax: (208) 772-3044
Rathdrum Area (208) 687-1815 • Fax (208) 687-2088

June 13, 2005

Harry Hall
Idaho Public Utilities Commission

Mr. Hall,

This is a follow-up letter to the one I e-mailed you last week. As stated in the letter of June 6th, the Bar Circle S water system was approved by the Fire District to provide the necessary fire flows for the Hayden Lake Boat and R V storage facility located at 374 W Garwood Road.

The water system has the necessary capacity and pumping capabilities. They also installed the required fire hydrants.

The pumping capability of a water system, as far as fire flows go, comes from the International Fire Code.

SECTION B105: FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B105.1 One- and two-family dwellings.

The minimum fire-flow requirements for one- and two-family dwellings having a fire-flow calculation area which does not exceed 3,600 square feet (344.5 m²) shall be 1,000 gallons per minute (3785.4 L/min). Fire flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5 m²) shall not be less than that specified in **Table B105.1**.

Exception: A reduction in required fire flow of 50 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system.

B105.2 Buildings other than one- and two-family dwellings.

The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be as specified in **Table B105.1**.

Exception: A reduction in required fire flow of up to 50 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code. Where buildings are also of Type I or II construction and are a light-hazard occupancy as defined by NFPA 13, the reduction may be up to 75 percent. The resulting fire flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in **Table B105.1**.

125 W. Hayden Avenue • Hayden, Idaho 83835

Table B105.1 takes into consideration the size of the building and the construction class to determine the required fire flow. 1,500 gpm is the starting amount for buildings other than one and two family dwellings. One and two family dwelling units require a flow duration of two hours. Commercial buildings start at a 2-hour flow requirement and go up to 4 hours.

These code requirements would set the storage capacity for one and two family dwellings at 120,000 gallons and commercial storage capacity at 180,000 gallons. This is before domestic use is figured in.

With the above code requirements be stated, there are many other factors that the code allows to be used to determine storage requirements and/or availability. Pump gpm rating, well capacity, financial considerations and the ability of the fire district to provide water are some of the factors used when determining the storage requirement.

The Hayden Lake Executive RV and Boat Storage facility was required to be sprinklered do to the size of the buildings and the proposed fire flows the would be available at the time. That gave them a reduction in the required fire flows.

If you have a questions please call 772-5711

Thank you,



Dean S. Marcus
Fire Marshal

cc: Bob Turnupseed
P O Box 1870
Hayden, ID 83835

F A C S I M I L E M E M O



10005 East Montgomery
Spokane, WA 99206
(509) 926-3428
FAX (509) 926-3708
E Mail: davidh@patriotfire.com

To: Bob Turnipseed
Attn:
From: Dave Herrmann
Project Manager

Date: August 11, 2004

Fax Number: 208-665-9300
Number of pages sent: 1 - inc cov

- Reference: Executive RV & Boat
- Subject: Site Fire Water Requirements

Bob,

I've spoken with Dean Marcus of Northern Lakes Fire District regarding fire flow and water storage requirements for this site. A summary is as follows:

1. NFPA 13 requires a minimum water supply equal to the sprinkler system demand plus an additional 250 gpm for fire department use for a minimum of 60 minutes.

For this site, the sprinkler system demand is 390 gpm. Adding 250 gpm for fire department use gives us a total demand of 640 gpm* required for 60 minutes, or a total of 38,400 gallons.

* the total demand of 640 gpm must be available at 60 psi at the site fire main *

2. Fire hydrant supply requirements are a minimum of 250 gpm for 120 minutes, or a total of 30,000 gallons.

We know of no requirement to combine these totals, since the NFPA requirement includes fire department hose streams, albeit only for 60 minutes as a safety buffer, and since the fire hydrant shouldn't be needed if the sprinkler system is functioning properly.

Conservatively, you could add the 250 gpm for an additional 60 minutes, or 15,000 gallons to the sprinkler demand for a total storage supply of 53,400 gallons which is still less than one third of your existing supply arrangement.

If you have any questions regarding these, please give me a call.


Dave Herrmann
Project Manager

Note: If you did not receive all of the page(s) or if you have a question, please call.

ATTACHMENT NO. B
CALCULATION OF TARIFF

6/27/2005

BAR CIRCLE S COMMERCIAL FIRE PROTECTION RATE CALCULATIONS FOR HAYDEN LAKE EXECUTIVE STORAGE

Bar Circle S (Bar Circle) has applied for a new tariff for a commercial fire protection customer. After investigation, it was determined that the approvals of the local fire marshal, Dean Marcus of Northern Lakes Fire District, have been received by Bar Circle.

This approval regarding the adequacy of the public water supply system to meet the requirements of the fire protection system did not require the addition of new operating equipment.

Although the system appears adequate, the DEQ is still in proceed of reviewing the system. It is expected that the DEQ will make a determination in the near future. Since the new fire protection system is already connected to the Bar Circle system, it was decided to proceed with an interim tariff pending resolution of the DEQ approval. The result is that there are no incremental capital costs on which to base a tariff using incremental costs

Since the nature of a fire protection system requires pumping capacity and storage capacity (with only occasional use of water), it was decided that investigation of a tariff using a calculated number of customers that are equivalent to the requirements placed on the system by the new fire protection service is appropriate. The tariff will be a fixed monthly charge based on the fixed charges paid by all customers adjusted for the number of customers that is equivalent to the fire protection system.

This requires 1) calculating the fixed cost per month per customer; 2) Determining the number of customers equivalent to the fire protection system requirements; and 3) calculating the product of 1) and 2) to determine fixed portion of the monthly tariff.

GIVEN VALUES

Fire Protection System Requirements

Commercial Fire Protection Demand	640 gpm
Commercial Fire Protection storage requirement	54,300 gallons

Current Billing Tariff	minimum	\$15.00 for the first zero to \$0.95 for each	7,500 gallons 1,000 gallons thereafter
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Pumping Capacity

Pumping capacity was estimated using the pump curves in the Bar Circle 2002 Water System Master Plan. A pumping pressure margin for delivery at a pressure higher than the 60 psig required at the fire protection system connection is required. A total developed head of 190 ft (~90psi) was selected as a conservative number. The resulting capacities are listed below.

Fire Water Supply Pump Capacity	1800 gpm at 190 ft head
Goulds Booster Pump	0 gpm at 190 ft head
2 Jacuzzi Pumps each 110 hp	282 gpm at 190 ft head

TOTAL 2082 gpm at 190 ft head

Note: Given that the residential service area has a fire protection service requirement of 1,000 gpm, this pumping capacity address the unlikely event of a fire at the boat storage occurring at the same time as a fire at in the residential area. Also, in an power outage situation, there is an existing standby generator capable of running the fire pump to deliver up to 2,500 gpm at a pressure of 70 psig (150 ft of total dynamic head).

Storage Capacity	Total	Net available
Concrete reservoir	185,000	120,000 Gallons
Steel Reservoir	55,000	45,000 Gallons
Total	240,000	165,000 Gallons
Number of customers	141	

Calculation of fixed tariff per customer

Customer minimum tariff	\$15.00 per month
Water included in minimum tariff	7,500 gallons
Price of water	\$0.95 per 1,000 gallons
Cost of water in minimum tariff	\$7.13 per month

Net monthly fixed cost tariff **\$7.88 per month** (capital recovery, ins., taxes, admin., overhead, etc.)

2) Determination of the number of customers equivalent to the fire protection service

Allocation of fixed costs (which include the cost of both pumping and storage) can be determined based on either the pro-rated pumping capacity required for the fire protection system or the pro-rated storage capacity required by the fire protection system. Both will be calculated for comparison.

Calculation of Equivalent Customers

Based on the Storage Capacity:

Total Available Storage capacity	165,000 Gallons
Total Number of current Customers	141 customers
Storage Capacity per customer	1170.21 gal. per customer
Fire Protection System Required capacity	54,300 Gallons
Number of Customers equivalent to FP System	46.40 Customers

3) Determination of fixed monthly Tariff

Number of customers equivalent to FP system storage demand	46.40 customers
Fixed cost per customer	\$7.88 per month
Resulting fixed monthly tariff	\$365.41 per month
Resulting fixed annual tariff	\$4384.97 per year

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 8TH DAY OF JULY 2005, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF**, IN CASE NO. BCS-W-05-1, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

ROBERT TURNIPSEED
PRESIDENT
BAR CIRCLE 'S' RANCH WATER CO.
PO BOX 1870
HAYDEN ID 83835

ROBERT SMITH
2209 N BRYSON RD
BOISE ID 83713



SECRETARY

CERTIFICATE OF SERVICE