

MEMORANDUM

Date: November 22, 2011
To: Water Right File 29-13784
From: medl
Re: revised license review

Applicant

The permit holders Raida Jensen and Joyce Terry, are sisters and daughters of DeVere Tovey. I understand they are co-executors of his estate.

Source & POD

The source of water for this right is two springs in Harkness Canyon. The field examiner described the diversions as perforated pipe which collect the spring water and are joined into a common piping system.

A fraction of the entire flow from the springs is directed into the distribution piping and then gravity feed to the place-of-use. Overflow near the diversion piping returns much of the spring water into Harkness Creek.

Permit 29-13155 for power use in the name of DeVere Tovey shares this system. I do not have measurements of the system with all of the spigots and the hydroturbine in simultaneous use. However, a rough calculation of the pipe capacity shows it to be more than sufficient to deliver the recommended flowrate to both permits and still provide overflow to Harkness Creek at the springs/points-of-diversion.

Statements in Application for permit 29-13784 and in the reviewer's narrative for right 29-13155, specifies that the springs for this right also serve licensed water right 29-7866. The number of springs and the locations of the springs are not the same for the three rights. Licensed right 29-7866 does not share this distribution system.

Water Use

The water is for domestic and irrigation use in a small RV camping area. 1 spigot for each of the 6 camp sites, or 6 spigots total, access the common distribution system.

The irrigation of 0.25-acre of grass is mentioned in the examiners narrative. But he did not provide a map showing the location of the irrigation nor do I have any confirmation that sprinkler systems were in place. A review of aerial photography does not support more irrigation than a few tenths of an acre at all the campsites combined.

The system piping is buried and crosses the camping/picnic area and becomes the penstock for the micro hydro turbine. The turbine is the end of the line. Any water remaining in the system enters Harkness Creek where the turbine discharges. The water is not chemically treated.

I have no information to support the Tovey family RV camp as a year-round, primary residence. However, I am willing to recommend a year-round season-of-use consistent with typical domestic rights.

Place of Use

According to available Bannock County taxlot information, the entire 40-acre tract, which includes the place-of-use, is owned by DeVere Tovey.

I created the Place-of-Use shape based on the existing permit shape which was provided in the file.

The place-of-use for this right is at 5500 ft elevation, approximately 4 miles as the crow flies NE of McCammon, Idaho. The Tovey family property is an island of private property surrounded by Caribou-Targhee National Forest or BLM lands.

Status & Combined Use

The same system serves right 29-13155 (power use). The power right will be term-limited and made subordinate to this right and any subsequent rights served by this system. However, as long as this right (29-13784) is maintained, there could be water in the system sufficient for power use.

Measurements were taken at turbine discharge for the hydropower use permit 29-13155. They support 0.11 cfs as the rate for this right. The maximum flow measurement recorded by the examiner for right 29-13155 was 0.11 cfs.

The rate recommended by the examiner is based on a total of the average measurements taken at each spigot. That total is 0.18 cfs but the permit limits the license to 0.11 cfs.

The capacity of the distribution pipe is greater than 0.5 cfs. Therefore, the recommended rates for 29-13155 and 29-13784 are additive and total 0.22 cfs.

Calculations

The volume recommended by the examiner is excessive. Internal guidance for the type of use described indicates that 50 gallon per person per day is an appropriate estimate for RV domestic use. If there are 3 people per RV site, each site would require 150 gallons per day. 6 sites would need 900 gallons per day or 0.0027 acre-ft per day. If the 6 sites saw continuous use for 200 days of the year the total volume for domestic use would be 0.54 AFA.

The field headgate volume for this area is 3.5. The volume of water sufficient to irrigate a 0.25-acre grassy picnic area would be $3.5 \times 0.25 = 0.875$ rounded to 0.88 AFA

The total volume I recommend for this right is $0.54 + 0.88 = 1.42$ AFA.