

To: File 63-32835 (City of Nampa)
From: Manuel Rauhut
Re: Beneficial Use and RAFN Review
Date: April 22, 2020

Overview:

This memorandum serves as the licensing review document for the City of Nampa's RAFN water right permit 63-32835. Due to various circumstances there is a significant amount of information that has been added to the file since the City of Nampa attempted to submit proof on September 28, 2015. This history is well documented in the file and led to reinstatement of the permit. Therefore, it will not be reiterated here. This memo discussed the relevant information to move forward to license the permitted beneficial use. For a brief recap of the history of this permit, please refer to Chris Meyer's September 5, 2017, letter to the Department and to the *Preliminary Order Reinstating a Permit* issued in February 2020

Background:

On June 15, 2018 IDWR received a letter from the City of Nampa's ("City") consultant, SPF Water Engineering ("SPF"), and on September 19, 2018 IDWR received a memorandum from the City's water counsel, Chris Meyer. These two submittals included information requested by the Department in a letter dated October 25, 2017, that specifically relates to reasonably anticipated future needs ("RAFN") permits. Pursuant to Idaho Code § 42-217, the information must be submitted in conjunction with proof of beneficial use for a RAFN permit. The Department specifically requested a revised description of the City's service area, a revised planning horizon, and a revised estimate of reasonably anticipated future need, including a gap analysis. SPF's letter, which accompanied a completed beneficial use field examination report, addressed these three items, and Mr. Meyer's memorandum provided a more detailed integrated demand gap analysis for the City's potable and irrigation water rights. IDWR determined that SPF and Mr. Meyer adequately addressed these three issues. However, IDWR noted that the gap analysis was based on the City's integrated (potable and irrigation) system in peak demand periods during the summer months. The City's non-potable (irrigation) system is served by a combination of groundwater rights and surface supplies from irrigation districts. Since surface water from irrigation districts is generally available during the summer months, the Department requested that the City modify its irrigation and combined system analyses to show the irrigation demand during the shoulder season (early spring and fall, rather than peak summer demand) when surface water from irrigation districts may not be available. This type of gap analysis would demonstrate whether the City will periodically experience shoulder season demand for its non-potable delivery system that is greater than the diversion rate authorized under the City's current portfolio of water rights. In those instances the City would supplement irrigation water with water from its potable system, which was connected to the irrigation system starting in 2014. IDWR met with the City, SPF, and Mr. Meyer on August 13, 2019, in part to further clarify the Department's position and to discuss the types of analyses needed for completing the licensing process.

Gap and Cap Analyses

On November 7, 2019 IDWR received a letter from SPF and Chris Meyer. The report enclosed with the letter was prepared in response to the August 13, 2019 meeting between the City, its representatives, and Department staff. Specifically, the report addresses IDWR's request that the City demonstrate that there is a net shortage ("gap") in its water right portfolio during the shoulder season. This report also provides information that is applicable to three pending permit applications (63-33968, 63-34229, 63-34742) and will not be discussed in detail in this memorandum.

It is important to distinguish between the "gap" and "cap" analyses and how they relate differently for the licensing of the referenced water right and the three permit applications (not discussed in detail in this memo). The "Gap Analyses" are to demonstrate that the City of Nampa will periodically experience shoulder season demand for its non-potable delivery system and its combined system that is greater than the diversion rate authorized under the City's current portfolio of water rights for those systems. The "Cap Analyses" provide information with respect to the City's system capacity. These analyses are to demonstrate that during the relevant time period (the end of the five-year development period of the permits), the City will have sufficient diversion capacity to divert the water it is authorized to divert under its portfolio of water rights, including the anticipated license and permits.

SPF and Mr. Meyer maintain the position that only the "gap" analyses are relevant to the licensing of permit 63-32835 and that a cap analysis is not required. I do not agree with this premise, but it doesn't need to be resolved here, because the City of Nampa's system has sufficient system-wide capacity to divert all of its water rights, including its permits.

SPF's letter included a detailed gap analysis for the shoulder season. (As noted above, a previous gap analysis was completed for the peak irrigation demand season, but generally this is a time when the City has access to surface water from multiple irrigation districts). In its shoulder season gap analysis, SPF evaluated historic monthly production data from the City's non-potable system wells and surface water pump stations to extrapolate the average production rate in September (a shoulder season month subject to curtailments of surface water deliveries). SPF concluded that based on this data set (2008-2012) the average monthly production in September is 73% of July's monthly production rate. This percentage was then applied to future demand forecast rates included in the City of Nampa Irrigation Master Plan.

Table C1, on page 14 of Mr. Meyer's memorandum summarizes the September GAP analysis as follows (next page):

WATER RIGHT PORTFOLIO (Diversion capacity based on mathematical sum of authorized diversion rates, taking into account combined use conditions)											
	Licensed & decreed (cfs)	Permits (cfs)	Appli- cations (cfs)	Total (cfs)							
Potable System Rights	49.55	5.00	0.00	54.55							
Non-Potable System Rights	77.04	0.00	13.30	90.34							
TOTAL	126.59	5.00	13.30	144.89							
PEAK DAY DEMAND (cfs)											
Potable - summer peak day	18.00	24.00	25.00	25.00	26.00	26.00	29.00	32.00	35.00	100.00	
Irrigation - summer peak day	116.00	134.00	138.00	141.00	143.00	145.00	157.00	172.00	191.00	534.00	
Irrigation - shoulder season day (73%)	84.68	97.82	100.74	102.93	104.39	105.85	114.61	125.56	139.43	389.82	
TOTAL - SUMMER PEAK DAY	134.00	158.00	163.00	166.00	169.00	171.00	186.00	204.00	226.00	634.00	
TOTAL - SHOULDER SEASON DAY	102.68	121.82	125.74	127.93	130.39	131.85	143.61	157.56	174.43	489.82	
PEAK HOUR DEMAND (cfs)											
Potable - summer peak hour	24.00	31.00	32.00	33.00	33.00	34.00	38.00	42.00	45.00	129.00	
Irrigation - summer peak hour	155.00	179.00	185.00	188.00	191.00	194.00	210.00	230.00	255.00	714.00	
Irrigation - shoulder season hour (73%)	113.15	130.67	135.05	137.24	139.43	141.62	153.30	167.90	186.15	521.22	
TOTAL - SUMMER PEAK HOUR	179.00	210.00	217.00	221.00	224.00	228.00	248.00	272.00	300.00	843.00	
TOTAL - SHOULDER SEASON HOUR	137.15	161.67	167.05	170.24	172.43	175.62	191.30	209.90	231.15	650.22	

*see below regarding the circled values.

The table shows that the City had a gap between its existing water right portfolio and its demand as early as 2012 (note however that the system was not connected until 2014 and after). The City's current water right portfolio consists of 126.59 cfs (circled in red in table). This permit, 63-32835, adds an additional 5.00 cfs (circled in orange in table) for a combined 131.59 cfs. The peak shoulder season demand in 2012 was 137.15 cfs (circled in green in table), which is 10.56 cfs more than currently available in their combined water right portfolio (126.59 cfs).

The POD associated with this water right was not used to meet the 2012 demand shortfall described above because the City's potable system was not connected to the non-potable system until 2014. IDWR was not provided data to show that the City has already diverted and used the permitted diversion rate from this POD, after 2014. However, the data show that the shoulder season demand can reasonably be anticipated to exceed 131.59 cfs within the planning horizon, which extends to 2030. The anticipated peak shoulder season hourly demand for 2020 is 161.67 cfs (circled in blue in table), which is 35.08 cfs more than currently available in their combined water right portfolio. Consequently, the permit should be licensed as a RAFN right and should continue to include the relevant conditions on the license.

Revised Planning Horizon and Service Area

On June 15, 2018 SPF submitted additional information with regards to the revised Service Area and Planning Horizon. SPF is of the opinion that a planning horizon should be allowed to be extended to match the City's other planning documents. IDWR's guidance (Mat Weaver's RAFN memo) has been that planning horizons can only be adjusted downward. Regardless, the City has accomplished their full beneficial use by integrating their potable and non-potable systems. There is no need to extend the planning horizon past the date of the license, because the City was able to show that there is a shortfall in their water right portfolio under current demand (see table and paragraph above).

Idaho Code §42-202B (9) defines the service area for a municipality as follows: "Service area" means that area within which a municipal provider is or becomes entitled or obligated to provide water for municipal purposes. The license will be based on the latest service area for the City, but this area will change over time as the City grows.

Review of the Beneficial Use Field Report

On October 25, 2017 the Department sent a letter to Chris Meyer informing him that because the City did not submit all the information needed to satisfy the requirements of Idaho Code §§ 42-217 and 42-218a within 60 days of the July 7, 2017, lapse notice, the permit remains lapsed, and reinstatement can occur only upon submittal of specific information outlined in the letter (revised description of the City's service area, revised planning horizon, revised gap analysis) plus submission of a report prepared by a certified water right examiner as outlined in Idaho Code §42-218a(2). SPF Water Engineering submitted the requested information (note, this information was revised as described on pages 1-3 of this memo) on June 15, 2018 together with a beneficial use field exam. The field exam was completed by certified field examiner Marci Pape, PE (Examiner 15-142) on April 5, 2016. The field exam includes all the required information. The field exam and the attached memo did not include a narrative with regards to an increment of beneficial use that was accomplished under the permit, but that topic was discussed subsequently in multiple analyses from SPF and Chris Meyer.

Recommendations for Licensing

The recommendation in the field exam was to license the rate at 4.94 cfs, which was based on the average of eight measurements. I recommend licensing the full 5.0 cfs because four of the eight measurements had flow rates above 5.00 cfs, which demonstrates that the pump has sufficient capacity to exceed the rate on the water right. This municipal water right shall not include volume limitations. The City was able to show, that (with their recently interconnected potable and irrigation systems) they have an existing shortfall of available water in their existing water right portfolio. This includes the shoulder season, when peak water usage is less during the summer months, but surface water from canals is not always available and must be augmented with groundwater from the potable system. Therefore, the right should be licensed to the full amount.

As stated above, the POD associated with this water right was not used to meet the 2012 demand shortfall described above (the system was not connected until 2014). IDWR was not provided a finding that the City has already diverted and used its allowable diversion rate from this POD, after 2014, so the permit should be licensed as a RAFN permit and continue to include the relevant conditions on the license.

Conditions

- **Removed**
 - 046. The City already drilled the well in 2014. The other two wells were not started and City did not indicate that these wells will be constructed. The associated PODs were removed on the license.
- **Added**
 - 102. Added only the first sentence of condition 102, which is also on the City's RAFN license 63-33022. The condition reads as follows: "The right holder shall not provide water diverted under this right for the irrigation of land having appurtenant surface water rights as a primary source of irrigation water except when the surface water rights are not available for use."
- **RAFN Conditions**
 - Conditions X64 and 109. As explained in the recommendations above, the conditions regarding the RAFN planning horizon continue to be relevant on the license.

