

ADMINISTRATIVE MEMORANDUMS INDEX

As of January 25, 2016

Please note that these Administrative Memorandums will include many memos that have become outdated due to changes in rules, statutes or current Department policy. Some memos have been amended or superseded by others, and some may no longer be applicable.

PERMIT PROCESSING			
No.	Title	Signed	Amended or Superseded
1.	<u>Reinstatements and Extensions of Time</u> Upon showing of reasonable cause and within 60 days of notice, a reinstatement or extension will be granted.	4-7-75	
2.	<u>Priority to be Assigned to Permits When Proof is Due</u> The priority date will be reduced by the number of days the proof is late.	8-15-69	
3.	<u>Measuring Device Requirement and Removal</u> The order removing a measuring device must be signed by the Director or the Administrator	6-25-75	4-4-12
4.	<u>Extensions of Time for Water Right Permits</u> Extensions will be returned to permit holder by the region or state office when there are deficiencies. All others will be sent to state office and will be processed and receipted when extension of time appears valid.	12-12-80	
5.	<u>Amendment of an Application for Permit or a Permit</u> Procedure for amending/correcting an application for permit or any other application. Note: the department never should write on an application w/o the applicant's initials and additional information should be requested in writing.	4-28-82	1-12-00 (One portion of 4/28/82 memo amended)
6.	<u>Point of Diversion Description</u> Amendment is needed to change the tract a POD is in if it's different from what's on the permit. A transfer is needed when it's a claim, license or decree even if they're just adding a POD in same tract.	5-10-84	
7.	<u>Procedure for Application and Permit Processing</u> Swan Falls and Non-Swan Falls area application processing guidance	8-15-85	
8.	<u>Field Exams for State of Idaho, Dept. of Lands Permits</u> No on-site visit necessary—use agency records.	8-20-85	11-7-95
9.	<u>Process for Voiding, Canceling or Rejecting Applications and Permits</u> It's preferable to give applicant notice prior to the issuance of a final order in writing with a response time. See example letter within memo.	9-11-86	
10.	<u>Proof Submittal</u> Proof can be accepted if filed by a third party as long as they can show their interest in the property and permit and that the permit holder of record can't be reached.	12-1-88	
11.	<u>Field Examinations for CRP Lands</u> Exams should be conducted on CRP lands even if the system is no	2-1-89	

PERMIT PROCESSING

No.	Title	Signed	Amended or Superseded
	longer operating.		
12.	<u>Proof of Beneficial Use and Drilling Permits Considerations</u> Before proof is acceptable compliance with drilling permit and well log filing requirements need to be checked.	12-19-88	
13.	<u>Legal Advertisements</u> Adding the regional offices contact information to the legal notice to avoid confusion on the location of the application for permit/transfer	1-30-89	
14.	<u>Permit Approval Conditions</u> <u>Always</u> apply condition 046 when groundwater is listed as the source.	2-2-89	
15.	<u>Annual Diversion Volume Limits</u> The limiting volume should be the maximum allowable volume of water that is authorized for diversion annually from the source.	6-21-89	11-28-89
16.	<u>Rate of Flow and Volume for Water Rights with Source of Ground Water</u> When conducting a field exam there will be certain times when using a theoretical measurement is acceptable—use the flow chart w/i this memo. This memo also provides procedure for calculating rate of flow and formulas.	5-7-91	
17.	<u>Additional Investigation of Certain Applications for Permit</u> Application for permit proposing to divert a large % of a streams total flow or proposing a diversion dam across a stream need special analysis.	4-23-93	
18.	<u>Adjudication Claims Tolling Forfeiture – Fish Propagation Facility Volume</u> For fish propagation rights, do not include facility volume on permit or license and after claim is filed in SRBA, period of non-use should be considered.	3-24-00	
19.	<u>Further Guidance on SB 1337, Amending Section 42-221, I.C.</u> Transfer fees are based on quantity being transferred.	1-2-01	
20.	<u>RAFN Municipal Water Right Handbook</u> Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer.	11-13-13	3-16-15
21.	<u>Term Limits for Hydropower Use</u> General guidance regarding lengths of terms for hydropower rights and how the terms will be stated in the conditions of future water rights for power generation.	1-13-14	

April 7, 1975

OPERATIONS DIVISION
ADMINISTRATOR'S MEMORANDUM

*REINSTATEMENTS &
EXTENSIONS OF TIME*

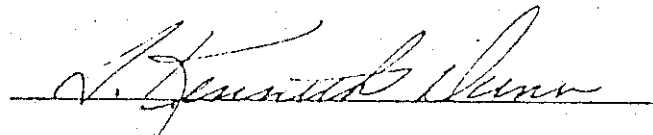
TO: Districts and Bureaus

FROM: A. Kenneth Dunn

Considering the decision of the Fifth District Court in the case of Bishop vs. Higginson, the following is our policy regarding reinstatement and extensions of time.

Idaho 42-218 and 42-218a should be considered together in determining if an extension of time should be granted upon request of reinstatement as described in 42-218a.

If within sixty days of being sent a lapse notice an applicant requests a reinstatement, we will, upon showing of reasonable cause, reinstate the permit. The applicant may also be granted an extension of time upon reinstatement. Receipt of a request for an extension of time may also be considered as a request for reinstatement. If the request does not show reasonable cause, the applicant should be so notified and requested to provide the information needed. Upon receipt of the additional information, a reinstatement and extension of time can be granted. In determining the number of days to advance the date of priority, the date of receipt of the original request should be used.


A. Kenneth Dunn

ADMINISTRATOR'S MEMORANDUM
OPERATIONS DIVISION

TO: WATER RIGHTS BUREAU
FROM: A. KENNETH DUNN
SUBJECT: Priority to be assigned to permits when proof is due

The priority of the permits should be reduced the number of days which the proof is late. Proof is not late if it is submitted on the day required under conditions of approval of the permit. It is also not late if the "due" date falls on a Saturday, Sunday or holiday and we receive it the next working day.

In calculating priority, use the actual number of days in each month. An example would be, if proof were required to be submitted on or before August 16, but was not submitted until August 21st, the priority would be reduced 5 days.

It is important that our notice is sent at least 60 days before the "due" date. If not, the applicant may be able to successfully sustain an action to retain his original priority.

Dated - August 15, 1969

A. Kenneth Dunn

MEMORANDUM

TO: Regional Offices
Water Allocation Bureau

Amended Permit Processing Memo #3

FROM: Jeff Peppersack



RE: Waiving measuring device requirements

DATE: April 4, 2012

IDWR often issues water right permits with conditions requiring permanent installation of measuring devices and/or lockable controlling works at the points of diversion. The purpose of these requirements is to allow for active regulation of the diversions. Active regulation is typically carried out by a watermaster within a water district. Sometimes experience shows that active regulation is not necessary. Beneficial Use Examination Rule 35.02.d states:

Field reports which indicate that a measuring device or lockable controlling works, required as a condition of approval of the permit, has not been installed, are not acceptable and will be returned to the examiner unless the measuring device requirement or lockable controlling works requirement has been formally waived or modified by the Director.

Since this rule was promulgated in the mid-1980s, it has been the practice of IDWR to issue a special order to waive a measuring device or lockable controlling works requirement. This practice should continue if the waiver is to be issued before the permit holder submits proof of beneficial use or if there is to be a substantial period of diversion and use before a water right license is issued.

However, sometimes a request for a waiver is received in connection with proof of beneficial use or in connection with a field examination, and completion of a field report and issuance of a water right license are imminent. In such cases, the water right license document, which IDWR issues as a preliminary order, may suffice as the formal vehicle for removing or changing the measuring device or lockable controlling works requirement. If the waiver is issued by changing or removing the condition when a water right license is issued, the waiver can be appealed according to IDWR's rules of procedure, as can any other element of the license.

As before, IDWR should consult with the watermaster prior to issuing a measuring device or lockable controlling works waiver for a permit in a water district. Because it facilitates conversation between the water user and watermaster, it is best when the water user seeks a signed statement from the watermaster in connection with a written request for a waiver. However, requests for waivers and watermaster comments may occur in any form of communication – conversation, letter, email, etc. – as long the communication is clearly and accurately documented in the water right file.

ADMINISTRATOR'S MEMORANDUM

Permit Processing No. 4

TO: Water Allocation Section and Regional Offices

FROM: Norman C. Young *NCY*

DATE: December 12, 1980

RE: Extensions of Time for Water Right Permits.

Since a fee is now required to be submitted on extension of time requests, the following guidelines have been developed for the review and receipting of such requests in order to hopefully minimize misunderstanding with the general public.

1) Extension of time requests received by either the region or the state office should be returned to the requestor with an explanatory cover letter when:

- a. The fee is insufficient or was not submitted.
- b. Information on the extension of time is insufficient to allow proper evaluation (i.e., work accomplished is not addressed).
- c. Extension of time has previously been approved on the permit. (Note the exceptions described in Section 42-204, Idaho Code.)
- d. Extension of time is unsigned.
- e. Extension of time is received prior to six months before proof due date.
- f. Extension of time is received for the first time but will likely be denied based on lack of diligence. In this case, the cover letter should describe the reason for the return of the application and fee but should also explain that applicant may resubmit the request for further consideration if he wishes to do so.

2) Extensions of time received by the regional offices with enough information to be acceptable should be forwarded to the state office for receipting. This will allow uniform review and disposition of the requests.

3) The extension of time will be receipted by the state office and processed when:

- a. Extension of time appears to be valid and ready for approval.
- b. Extension of time was returned for a reason described in 1 above and has been resubmitted by the permit holder.

MEMORANDUM

To: Regional Offices
Water Allocation Bureau
Amended Application Processing No. 9
Transfer Processing No. 20
Supplement to Permit Processing No. 5

From: Norman C. Young *Ncy*

RE: CHANGES TO WATER RIGHT APPLICATIONS

Date: JANUARY 12, 2000

This memo supercedes Application Processing Memorandum No. 9 dated May 10, 1982. This memo replaces the portion of Permit Processing Memorandum No. 5 under the heading Amending and Application for Permit.

Applications for Permit

Changes to an application for permit must be made by the applicant, not by department staff. If an application for permit is not acceptable because it is incomplete according to the criteria set forth in Water Appropriation Rule 35.03, the department should return the original application to the applicant as directed in Water Appropriation Rule 35.01.d. Department staff should not complete or change the application unless the applicant signs written permission to do so or the applicant is present to initial and date the change. No priority will be established by an incomplete application. To resubmit the original application form, the applicant may line out (not erase or white out) any original entry in a manner that it can still be read and then insert the new information and initial and date the change. The applicant may also submit a new application form in place of the original. When the application is complete, whether on the original form or on a replacement, it will be treated in all respects like a new application.

If an application is acceptable but the applicant wants to amend the application as described in Water Appropriation Rule 35.04, the applicant may make changes on the original application form or may submit a replacement application to the department. Amendments to an original application form must be made by lining out (not erasing or whiting out) the original entry in a manner that it can still be read and then having the applicant initial and date the changes. A replacement application must be identified as "amended" on its face and the original application must be retained in department files to document the date of filing or fee submittal. Because of the need to retain the original application, applicants should be encouraged to submit a replacement application or to visit the office to initial and date changes on the original. If the changes must be made through the mail, the department should keep the original application and encourage the applicants to make the amendments on a replacement

application form. This way, if the application is not amended in a reasonable time period, the original application can still be processed. Consult Water Appropriation Rule 35.04 to determine when amending an application requires advancing the priority date, collecting an additional fee, and/or re-advertising the application.

For changes other than those addressed in Water Appropriation Rule 35.04, it is not always necessary for department staff to seek an amended application from the applicant. It should be a general rule that a "mistake", such as a legal description that does not match the attached map, should be corrected by the applicant prior to publication of the legal notice. However, the department can clarify some items, such as source names that do not conform to the department's data entry standards, by documenting the water right file in the manner set forth below. Standard seasons of use for irrigation purposes can also be addressed by documenting the file with a memorandum. The department can also affect a change by issuing the permit for less than requested in the application. It is not possible in this memorandum to list all the items that might be addressed as "mistakes" or "clarifications" or by partial approval. When in doubt about the appropriate method, it is probably safest to have the applicant make the change or to obtain written permission for the change from the applicant.

When an application is complete but additional information is needed to support some aspect of the application, department staff should request the additional information in writing. Section 42-204, *Idaho Code*, authorizes the department to void the record of an application for permit if an applicant does not provide the requested information within thirty (30) days.

Explanatory information or "clarifications" concerning an application may be added to the "comments" field in the water rights database, but it should not be added to the paper document by department staff. A memo to the file may also be appropriate to further explain an application as long as it is not the mechanism for a change to the application document. Printouts of "comments" and memorandums should be placed on the right side of a water right file so they are not perceived to be part of the actual application, which is placed on the left.

Other Applications

For the most part, the department should treat other kinds of water right applications, including applications for transfer and applications to amend permits, the same as it does applications for permit. As with applications for permit, department staff should not complete or change other kinds of applications unless the applicants are present to initial and date the changes. However, because the filing date of other kinds of applications does not establish a priority date, it is not necessary to keep originals or copies of applications that have been replaced by amended applications unless the amendments were made after publication of the legal notice.



State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS

Governor

A. KENNETH DUNN

Director

Mailing address:

Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Resources Administration Division

FROM: Norman C. Young *NCY*

DATE: May 10, 1984

RE: Point of Diversion Description

Permit Processing No. 6
Transfer Processing No. 8

There has been considerable discussion concerning amendment or transfer requirements when a point of diversion location is changed, point or points of diversion are added or a replacement point of diversion is constructed.

The following will be the policy of the Department:

An amendment is needed to change the tract in which a point of diversion is to be constructed if different than the tract described on the permit. An amendment is also needed to add one or more points of diversion in the same tract described on a permit.

In the case of a claim, license, or decree, a transfer is needed to change the tract in which a point of diversion is located or to add a point of diversion even if the point of diversion to be added is in the original tract described on the license or decree. A transfer is not needed to replace a point of diversion in the original tract if the original point of diversion will be abandoned.



State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

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MEMORANDUM

TO: Operations Bureau and Regional Office Bureau

FROM: Norm Young, Administrator *NY*

DATE: August 15, 1985

RE: Procedure for Application and Permit Processing
Application Processing No. 34 / Permit Processing No. 7

RECEIVED
AUG 15 1985

Department of Water Resources
Western Regional Office

The amendment to Section 42-203, Idaho Code, became effective July 1, 1985 which requires changes to our processing of Applications and Permits. This memo describes some procedures to be used by the department until Rules and Regulations are adopted for Section 42-203, Idaho Code. The applications and permits for projects within the Swan Falls impact area will be treated differently than those located throughout the remainder of the state.

I. Swan Falls Area (Swan Falls dam upstream)

A. Application

- 1) Applications for DCMI (Domestic, Commercial, Municipal and Industrial) uses as defined in the S1180 contract and other essentially non-consumptive uses of water such as fire protection, fish propagation, hydropower, etc., which were advertised prior to July 1, 1985, must be re-advertised notifying the public that they may be protested with respect to the new public interest criteria of Section 42-203, Idaho Code. If no protests are received and the applications are otherwise approvable, they may be approved.
- 2) Applications for DCMI uses within the context of the S1180 contract and other essentially non-consumptive uses of water which are advertised after July 1, 1985 should be advertised in the usual manner with a notation in the advertisement that they can be protested with respect to the new public interest criteria. If protests are not received and the applications are otherwise approvable, they may be approved.
- 3) Applications for all other uses should not be advertised until the rules and regulations are adopted.

B. Permits

Existing permits in the Swan Falls area will have to be reviewed pursuant to requirements of Section 42-203D after rules and regulations have been promulgated. Permit holders will be advised by letter of the requirements of 42-203D.

II. Non-Swan Falls Area

A. Applications

- 1) Applications will be processed as in the past with the exception that the applications for a rate of diversion of 10 cfs or greater or 1000 acre feet or greater must be advertised statewide.

B. Permits

- 1) Permits will not be reviewed pursuant to Section 42-203D until after the department has had an opportunity to seek legislative clarification of Section 42-203D. Permit holders will be advised of the requirements of Section 42-203D by letter.

III. Statewide

- A. Transfers, Amendments and Extensions of Time will be processed and action will be taken as in the past.

MEMORANDUM

DATE: November 7, 1995

TO: Regional Offices and Water Allocation Bureau

FROM: Norm Young *NY*

RE: Beneficial Use Examinations for Department of Lands, Bureau of Land Management, and U.S. Forest Service Permits

Supplement to Permit Processing No. 8

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To promote efficient use of our time, I wish to encourage continued use and scrutiny of Bureau of Land Management, U.S. Forest Service, Department of Lands, and other government agency records to verify the development of stockwater rights and other small water appropriations. No on-site inspection is required. However, without an actual field inspection it is imperative that field examiners use "as-built" or actual construction records to verify the development. Use of records and/or maps indicating that a proposed water right is or may be still in the planning stage is unacceptable as verification of the development of a water right. Field examiners should be certain to note on each field report the nature and date of the records used to verify the development. Any field report sent to the state office without this key information will be returned to the region for clarification.



State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS

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Mailing address:

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Boise, Idaho 83720

(208) 334-4440

MEMORANDUM

TO: Regional Offices

FROM: Jim Johnson *Jim*

THRU: Bob Fleenor *Bob*

DATE: August 20, 1985

RE: Field Exams for State of Idaho Department of Lands Permits
Permit Processing No. 8

Due to the similar nature of many Department of Lands permits to the U.S. Forest Service and Bureau of Land Management permits in that the water use developed is small stockwater and wildlife storage sites located in remote difficult-to-access acres, no on-site inspection of these uses is required. The field exam report should be prepared for each right indicating the confirmation of development through research of Department of Lands records and maps.

RECEIVED
SEP 12 1985

Department of Water Resources
Western Regional Office



State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

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ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young *NCY*

DATE: September 11, 1986

RE: Process for Voiding, Cancelling or
Rejecting Applications & Permits

Application Processing No. 39
Permit Processing No. 9

Various circumstances arise in the processing of applications and permits where action is taken to reject, void or cancel a water right filing with the Department. Typically, the Department has mailed a couple of letters to the applicant, then issued a show cause order and finally issued an order of final action. Although this process graciously gives an applicant every chance to respond to Department inquiries, the process exceeds the requirements which must be afforded to an applicant to pass minimum due process standards.

The term "procedural due process" has its genesis in constitutional law which provides that no person shall be deprived of property by the state without proper constraints on how the deprivation is accomplished. Where the property right is a government grant of property to the individual citizen with restrictions or conditions attached to the retention of the property by the individual, the owner must be given notice and an opportunity to be heard prior to the taking of the property by the state.

The measure of what procedural guarantees must be given to the property owner hinges on what property right is being affected. Where there is no property right, no constitutional process need be given.

It might be argued that an application to appropriate water is not a property right at all, but is merely a request to obtain a permit, which, upon approval, ripens into personal property. The Idaho Constitution, Art. XV, Section 3, provides, however, that "[t]he right to appropriate the unappropriated waters of any natural stream to beneficial uses, shall never be denied. . . ." Whether the constitutional provision could be interpreted as an inchoate, or broad property right, is uncertain. For purposes of Department procedure, applications should be considered as an attempt by the applicant to exercise a general right given by the State Constitution. Whether a permit or an application is being processed for rejection, cancellation or voiding, the applicant should be given notice and an opportunity to be heard.



State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

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EXHIBIT A

September 30, 1986

Speck U. Later
I-5, Exit 289
Burbank, CA 99999

Re: Application to Appropriate Water No. 65-4321

Dear Mr. Later:

NOTICE OF PENDING ORDER REJECTING APPLICATION

On October 6, 1977, you filed with the Department of Water Resources an application to appropriate water, numbered 65-4321, to irrigate 320 acres of land located in Section 21, T9S, R13E, B.M. You stated on the application that you were seeking ownership of the lands by means of a Desert Land Entry (DLE) Application.

It has recently come to our attention that Earl Y. Bird, P.O. Box 2, Hayden Lake, Idaho 83835, has been granted the right to enter and develop the lands listed in your application to appropriate water. Furthermore, we have searched the records of the Bureau of Land Management and have been unable to find any record of a DLE application in your name.

The purpose of this letter is to request that you withdraw your application or explain why the Department should not reject your application. Enclosed is a withdrawal form that should be signed and returned to me, unless you have some explanation that would prevent the Department from rejecting your application.

If you fail to respond to this inquiry within thirty (30) days of the date of this letter, the Department will act to reject your application. The application will be rejected on the grounds that it is speculative in that you do not have a possessory interest in the proposed place of use.

Respectfully,

GARY SPACKMAN
Supervisor, Water Allocation Section

I hereby certify that on this _____ day of _____, 1986, I sent the original copy of this letter, postage prepaid, to the person and address listed above.

ADMINISTRATOR'S MEMORANDUM

To: Water Management Division
From: Norman C. Young *NCY*
RE: PROOF SUBMITTAL
Date: December 1, 1988

PERMIT PROCESSING NO. 10

A question has arisen whether the department should only accept information such as proof of beneficial use or licensing amendments from the permit holder of record and not from third parties.

Many changes in land ownership occur without an assignment of a water right permit that is associated with the land. If water has been diverted and beneficially used, but not yet licensed, experience has shown that in most cases the seller of the property probably intended to convey the permit with the land. If the department refuses to accept submittals because the person submitting the information is not the permit holder of record, we likely are frustrating the intentions of both the former and present landowners with the net result of protecting or benefitting no one.

Section 42-218a, Idaho Code, states that the "permit holder" seeking reinstatement of a permit must submit sufficient evidence to clearly establish the extent of beneficial use during the development period.

The procedure described below in connection with proof submittal is different than administered by the department in the past and is partially based on the April 9, 1986 holding of the district court in a case entitled Glaser land & Livestock, Inc. v. Daniel C. Skeem (Twin Falls County Case No. 37669). While the case dealt with the ability of one party to foreclose on water right permits in the name of another party and is not interpreted by the department to provide irrefutable guidance, the case does suggest different treatment of permits.

The court essentially held that since the water under the permits had been diverted and beneficially used, the permits vested in the permit holder and thus became appurtenant to the property to which the water had been beneficially used. The vested rights were considered in the case to be within the

definition of real property and subject to foreclosure action.

The department will interpret "permit holder" as used in Section 42-218a, Idaho Code, to mean the most likely person from whom the information should be received. This interpretation will allow persons other than the permit holder of record to submit the proof of beneficial use and/or necessary evidence to prevent a permit from becoming of no force nor effect. The interpretation will also allow the reinstatement of a permit lapsed for a long period of time where the original permit holder can not be found or is estranged from the interested party. Before accepting a proof submittal from a party other than the permit holder, the department will attempt to contact the permit holder of record.

In order for a proof submittal from a third party to be acceptable, the third party is required to show his interest in the property and permit and that the permit holder of record can not be reached. The department will attempt to contact the permit holder of record before accepting the proof. Upon objection by the permit holder to the acceptance of proof from a third party, the department will schedule an administrative hearing if needed.

Conditions on existing permits which limit or control future assignments of the permit, however, such as permits for hydropower production must be complied with by the permit holder of record.

RECEIVED

NOV 19 1986

Department of Water Resources

RECEIVED
APR 10 1986
Hepworth, Nungester and Felton

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

GLASER LAND & LIVESTOCK,
INC., a Nevada
corporation,

Plaintiff,

vs.

DANIEL C. SKEEM and DARLENE
SKEEM, husband and wife; and
WAYNE B. SKEEM, ARLENE SKEEM,
and DANIEL C. SKEEM dba
S & S LIMITED PARTNERSHIP,
and ZIONS LEASING CORPORATION,
a Utah corporation,

Defendants.

Case No. 37669

MEMORANDUM OPINION GRANT-
ING IN PART AND DENYING
IN PART PLAINTIFF'S
MOTION FOR SUMMARY
JUDGMENT

Glaser Land & Livestock, Inc. has moved this court for summary judgment against Zions Leasing Company. Zions survives as the only remaining defendant inasmuch as default judgments and a decree quieting title in the plaintiff has been granted against all other defendants.

Glaser's motion for summary judgment is one for the right to foreclose on approximately 158 acres of land. Said property is the subject of an installment land sale contract, including amendments, entered into between plaintiff and defendants Daniel and Darlene Skeem. The

Skeems have defaulted on the contract. Plaintiff wants to to foreclose on the underlying real property, as well as water permits, a power sale agreement, a FERC exception, as well as equipment and improvements.

Zions contend they are able to compel plaintiff to sell them that property, within the 158 acres, in which they claim they had a "secured interest." Said interest arises by virtue of having financed the construction and operation of a hydroelectric plant.

DISCUSSION OF LEGAL ISSUES

Basic contract principles must be considered by the court in determining the merits of both parties' contentions.

There is no doubt the underlying land sale contract is enforceable. The contract between Glaser and Skeems was complete and definite in all its material terms and, therefore, is enforceable. Wood v. Simonsen, 108 Idaho 699, 701 P.2d 317 (Ct. App. 1985). A land sale contract whereunder prospective vendors agree to sell the land in question and prospective purchasers obligated themselves to pay by a down payment and an agreement to pay the remaining balance, together with interest, in annual installments meets the requirement for "mutuality of obligation." McCandless v. Schick, 85 Idaho 509, 380 P.2d 893 (1963). In order to ascertain the intent of the parties to a contract, the contract as a whole must be construed. Wing v. Martin,

107 Idaho 267, 688 P.2d 1172 (1984). Whether a contract is ambiguous is a question of law. Wood v. Simonsen, supra, at 701. The Glaser-Skeem contract is not ambiguous. The interpretation and legal effect of an unambiguous contract are questions of law to be resolved by the court. Luzar v. Western Sur. Co., 107 Idaho 693, 692 P.2d 337 (1984).

In order to be able to compel performance under a contract, one must be in "privity." Privity refers to those who exchange contractual promissory words or those to whom promissory words are directed. Wing v. Martin, supra at 272. Zions is not a party to the contract entered into between Glaser and Skeem. Zions is not in privity with the vendor and, therefore, cannot sue to enforce performance pursuant to the terms of the underlying contract.

A party must look to the person with whom he is in a direct contractual relationship for relief, in the event his expectations under the contract are not met. Id.

Therefore, Glaser cannot compel Zions performance to be substituted for Skeems. Nor can Zions compel Glaser to perform under the terms of the contract. Zions cannot compel Glaser to sell Zions that portion of the total 158-acre parcel in which Zions claims an interest.

Further, Zions cannot be construed as a third-party beneficiary to the Glaser-Skeem contract. Obviously, the land sale contract was not entered into to directly benefit Zions. I.C. Sec. 29-102.

Absent fraud or overreaching, a court cannot modify express terms of an agreement lawfully entered into by two competent persons. Knoke v. Charlebois, 107 Idaho 427, 690 P.2d 392 (Ct. App. 1984).

The court is without jurisdiction to make a contract between Glaser and Zions. Minidoka County For Use and Benefit of Detweiler Bros., Inc. v. Krieger, 88 Idaho 395, 399 P.2d 962 (1964).

While a party to a contract may agree to accept the performance different in form from that recited in the contract, there is not evidence to support a finding by this court that the Glasers agreed to accept Zions' performance of the land sale contract.

Glaser's only remedy is against the defaulting buyers. Glasers cannot insist Zions pay the full balance due and owing under the contract, nor can Zions, not a party or a third-party beneficiary of the contract, insist on Glaser's performance under the partial release provisions of the contract.

In concluding the discussion as to the land itself, there is no doubt Glasers validly asked this court to treat the installment land sale contract as a mortgage and allow the vendors to foreclose.¹

¹By asking the court to treat this contract as a
(Footnote Continued)

Given that the Glasers can proceed to foreclose on the real property, the next question for this court concerns Zions' asserted rights, via assignment by Skeems, in the water rights, a power contract and a FERC permit exemption.

A. Water Rights.

The Skeems applied for and obtained water permits no. 47-7700, 47-7702 and 47-7705.

The Skeems have until various dates in 1987 to submit proof of application of the water to a beneficial use to the Department of Water Resources. There is evidence to support a finding by this court that the water has, in fact, been put to beneficial use.

In regard to water permit 47-7700, Skeems had until on or before February 1, 1987, to submit proof of application of beneficial use. Water permit 47-7702, Skeems had until on or before May 1, 1987, to submit proof. Water permit 47-7705, Skeems had until on or before May 1, 1987, to submit proof. This "outside" time frame does not preclude the Skeems from submitting proof earlier. Nor does it preclude the Department of Water Resources itself from being requested by Glaser to make such a finding.

These water rights are not adjudicated, licensed or unadjudicated "constitutional" rights. Nor is this mere

(Footnote Continued)

mortgage, the Skeems obviously have a statutory right to redeem. I.C. Sec. 11-402.

initiation of the statutory process by the filing of an application for an appropriation permit. See Matter of Hidden Springs Trout Ranch, Inc. v. Allred, 102 Idaho 623, 636 P.2d 745 (1981). Skeems have already procured water appropriation permits. The defendants cite Big Wood Canal Co. v. Chapman, 45 Idaho 380, 263 P. 45 (1921), as precedent for characterizing Skeems' permits as inchoate rights and, therefore, not real property. However, Big Wood Canal Co. also stands for the proposition that substantial compliance with the statutory conditions in regard to proof of application to beneficial use will suffice.

"The purpose and object for requiring proof of completion of works is to ascertain whether or not they conform to the terms of the application and permit, and are capable of diverting the amount of water intended. Substantial conformity with such application and permit is all that is required." Big Wood Canal Co. v. Chapman, supra at 394-395.

It appears from the record that Skeem has diverted and put the water to beneficial use. This court finds Skeem has substantially complied with the statutory mandates and, therefore, the water rights must be considered as having vested in the Skeems. Case law indicates that this court has jurisdiction to make such a finding by considering the entire record. See Glendale Ranches, Inc. v. Schaub, 94 Idaho 585, 494 P.2d 1029 (1972). By virtue of the rights

having vested, the rights are appurtenant to the property to which the water has been beneficially applied. Clearly, water rights are within the definition of real property. I.C. Sec. 55-101 and cases cited under "Ditches and Water Rights".

Therefore, Glaser can proceed to foreclose upon the water permits.

B. The FERC Exemption and the Idaho Power Contract.

The FERC exemption is federal authorization to operate the "Mud Creek Project." The "project" involves some parcels of land not subject to, nor which can ever be subject to Glaser's foreclosure action. The exemption is appurtenant to the entire three parcels of land on which the project is located.

An essential element of a license or a license coupled with an interest is the right to use land in the possession of another. Shultz v. Atkins, 97 Idaho 770, 554 P.2d (1976). The FERC exemption is analogous to a license. The court agrees with Zions that the exemption should be characterized as a general intangible. Glaser cannot foreclose on the FERC exemption.

The Idaho Power contract is an agreement to sell power produced from the Mud Creek Project. The rights under the contract have been validly assigned to Zions. Contract

rights are also general intangibles and, therefore, Glaser cannot foreclose on the power sales contract.

C. Other Improvements, Etc.

The record is insufficient as to other improvements, related equipment, structures, etc. for this court to make a determination of whether any of the aforementioned are subject to foreclosure. Therefore, summary judgment is denied, pending augmentation of the record so as to put enough evidence before this court with which to make a competent decision.

EMINENT DOMAIN

The question of whether Zions can succeed with an action for eminent domain is not before this court. However, the court notes that it agrees with Zions' position that Zions does not have to have an ownership interest in the water rights, which supply the source of energy for the Mud Creek Project, prior to being able to go forward with an action for eminent domain. Bassett v. Swenson, 51 Idaho 256, 5 P.2d 722 (1931).

Therefore, summary judgment will be granted to plaintiff as to the underlying real property and the water permits.

Summary judgment is denied as to the FERC exemption and the Idaho Power contract.

Summary judgment is denied as to the related equipment, improvements, etc. pending augmentation of the record.

Counsel for plaintiff is asked to prepare an order of partial summary judgment.

DATED this 9th day of April, 1986.

Daniel B. Meehl
DANIEL B. MEEHL
District Judge

CERTIFICATE OF MAILING

The undersigned certifies that on the 9 day of April, 1986, she caused to be mailed a copy of the foregoing memorandum opinion to:

Holland & Hart, Langroise, Sullivan
Attorneys at Law
P. O. Box 2527
Boise, Idaho 83701

Hepworth, Nungester & Felton
Attorneys at Law
P. O. Box 589
Buhl, Idaho 83316

Sandra Tophalson

ADMINISTRATOR'S MEMORANDUM

TO: Regions and Water Allocation Bureau

FROM: Norman C. Young *NCH*

DATE: February 1, 1989

Permit Processing No. 11

RE: Field examinations for CRP land

A large number of acres in Idaho have been selected for inclusion in the conservation reserve program (CRP). Some of the CRP lands were developed under outstanding permits. Proof may have already been filed on a permit, but the department did not examine the system while it was operating.

If at all possible, an examination should be conducted on CRP lands, even if the system is no longer operating. If the department field examines the beneficial use at the present time, however, the examiner may not be able to measure the actual flow rate and the system operation may also be difficult to define. Nevertheless, if we wait for ten years, the new system that is installed may be substantially different than the system that was originally developed.

Whenever possible, we should attempt to examine CRP lands covered by an existing permit. Measurement of flow is not required in connection with CRP lands if the flow cannot be measured. The flow rate must, however, be estimated from secondary sources of information. The land owner should be able to gather information regarding pump size, pumping depth, and the physical configuration of the system that would cause substantial head losses. A definition of the irrigated land must also be reconstructed from aerial photographs or other sources of information. Although the field examination for CRP lands may not be as exact as other field examinations, it will probably better represent the extent of beneficial use during the permit period than a future examination for a new system. Completion of the field exam also changes the status of the water right to a perfected status, not requiring further processing by the department in the future.

MEMORANDUM

To: Water Management Div. Staff Drilling Permit No. 2
From: Norman C. Young *ney* Permit No. 12
RE: PROOF B/U AND DRILLING PERMIT CONSIDERATIONS
Date: December 19, 1988

This memorandum describes some internal procedures for assuring that drilling permit requirements and well log submittal requirements have been met in the development of a water right with a groundwater source.

1. REVIEW OF WELL LOG

Every well log filed which shows the start of construction of a well on or after 7-1-87 should show an associated drilling permit number. Unless the drilling permit number is shown on the log, or can be determined by contacting the driller or from review of department records, the well log should be considered incomplete and not "acceptable to the Director" as provided in Well Driller Licensing Rule 4,1,1.

The review of the well log should include a review of the associated drilling permit to determine compliance with any drilling permit conditions.

Most drilling permits issued except for single family domestic use or stockwater use are associated with a related water right filing. The identification number of the water right permit should be shown on the drilling permit form and well log. Copies of the well log and drilling permit should be filed in the appropriate water right file.

2. REVIEW OF A REQUEST FOR EXTENSION OF TIME OR PROOF SUBMITTAL

When an approvable request for extension of time is submitted which indicates a well is yet to be deepened or constructed, the transmittal letter needs to advise that a drilling permit must be filed with the department in connection with the construction.

When proof of beneficial use is filed in connection with a ground water source, compliance with drilling permit and well log

filing requirements need to be checked before the proof is considered acceptable. A copy of the well log and drilling permit should be forwarded to the vault as received for filing in the water right file.

If the log and drilling permit can not be located or if the applicability of the drilling permit requirement can not readily be determined, correspondence may be required to determine when the well was drilled, deepened or enlarged. This determination should be a joint effort of water right personnel and groundwater protection personnel with the groundwater section taking the lead to obtain the well log and drilling permit.

The question on the proof form relative to when the water was first beneficially used will eliminate much of the potential correspondence. i.e. if the date of first beneficial use shown on the proof is prior to the date a drilling permit was required, a drilling permit likely is not applicable. An exception could involve multiple wells where some of the wells are constructed prior to 7-1-87 and some after or deepening of a well after 7-1-87.

If a drilling permit is required but was not applied for, the proof should be considered incomplete and unacceptable until the required drilling permit and fee are submitted, the drilling permit has been issued and the conditions of the drilling permit have been met.

A drilling permit must also be checked against the proof to be sure the proper drilling permit fee has been paid. If the drilling permit fee paid is too small, the proof should be considered incomplete until the correct drilling permit fee has been paid.

The legal basis for rejecting a proof of beneficial use for failure to obtain a drilling permit or for failure to have paid the proper drilling permit fee is based on a condition of water right permit approval which reads as follows:

"The permit holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code".

This condition should also be added to extension requests or amendments which indicate a well is yet to be constructed or deepened. If a permit holder fails to comply with the drilling permit statute, the permit will be cancelled under the provisions of Section 42-311, Idaho Code for failure to comply with the conditions of permit approval.



State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 334-7900

CECIL D. ANDRUS

GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

ADMINISTRATOR'S MEMORANDUM

To: Water Management Division

From: Norman C. Young *Ncy*

RE: LEGAL ADVERTISEMENTS

Date: January 30, 1989

Application Processing No. 44
Permit Processing No. 13
Transfer Processing No. 11
Claim Processing No. 3

Attached is a copy of Section 60-113, Idaho Code, which is self-explanatory.

In order to comply with the code section, the department should prepare its legal notices in compliance with paragraph (b) of the section. We can simply add a statement to our legal notice which states something like "For additional information concerning the property location, call _____ Regional Office at _____ (phone number)".

This change in our advertising procedure should be relatively easy to implement and should satisfy the requirements of Section 60-113, Idaho Code.

The recommended change has been selected since, most of the legal descriptions which appear in the notices prepared by the department do not have a related street address. In addition, most legal notices are prepared from the computer based data which can not readily accommodate the preparation of a legal notice which involves language such as "... which is located 2 miles West of the Mountain Home Air Force gunnery range and 5 miles south of the intersection of Simco Road and Interstate Highway 84".

MEMORANDUM

To: Gary Spackman
From: L. Glen Saxton *MS*
RE: PERMIT APPROVAL CONDITIONS Permit no. 14
Date: February 2, 1989

I think every permit we issue which shows a groundwater source should be conditioned relative to compliance with section 42-235, Idaho Code. In addition, transfers or amendments which propose additional wells, or deepening or enlargement of existing wells should be so conditioned. We have conditioned some transfers and amendments in this manner.

Initially, the determination conducted relative to whether the well existed or not and whether the condition should be shown on a permit as a condition of approval was worthwhile and eliminated unnecessary conditions on the permits we issue. At this point, however, an application may indicate an existing well which, in fact, may have been constructed in violation of Section 42-235, Idaho Code.

By not having to screen the applications to determine whether the well exists or not, our reviewers should save some time in addition to providing the framework to insure compliance with Section 42-235, Idaho Code.

It appears the language of the condition does not need to be changed to apply in all cases, but the explanatory information in the transmittal letter may need to be modified or supplemented.

Please implement immediately.

c: Bob Fleenor

ADMINISTRATOR'S MEMORANDUM

Permit Processing No. 15
License Processing No. 6

To: Regions and Water Allocation Bureau

From: Norman C. Young *NCY*

Date: November 28, 1989

Re: Annual diversion volume limits

This Supercedes Memorandum of 6/21/89

A need has arisen to further define the annual volume or "duty" of water component of a water right.

"Consumptive use" is one of the measurements of volume that will be used in the Snake River adjudication. For irrigation, consumptive use has been defined as the consumptive irrigation requirement of the most water consumptive crop. Consumptive use will be included in the director's report in the adjudication as required by statute and for the purpose of evaluating a proposed change in a future administrative transfer.

A "field headgate volume" has previously been shown on licenses. "Field headgate volume" for irrigation is derived, in theory, by adding to crop consumptive use an additional increment of water for water losses incurred in applying the water to the crop. For uses other than irrigation, the volume equivalent to "field headgate volume" is generally the amount of water which is required to be delivered to the place where the water is being used.

The difference between consumptive use volume and field headgate volume has confused owners of water rights. Greater demand on limited water resources may require regulation of water rights by annual volume. A limitation on the annual volume which may be diverted for both adjudicated and administrative rights will resolve inconsistencies in volume definition, and will provide a means to regulate the right.

The limiting volume on a water right should be the maximum allowable volume of water that is authorized for diversion annually from the source. For most permits that are presently being licensed, the maximum diversion volume will equal the field headgate volume. If the distance between the point of diversion from the source and the field headgate or place of use is greater than one-half mile, water lost in delivery to the field headgate may be significant. Potential losses must be evaluated, and added, if necessary, to the field headgate volume numbers now in use.

The maximum annual diversion volume will be limited by the following two conditions:

The maximum diversion volume is defined as the maximum allowable volume of water that may be diverted annually from the source under this right. The use of water confirmed by this right is limited to the amount which can actually be beneficially used. The maximum diversion volume may be adjusted to more accurately describe the beneficial use or to implement accepted standards of diversion and use efficiency.

This water right is restricted and appurtenant to the lands or place of use and to the purpose herein described, as provided by the laws of Idaho.

DIRECTOR'S MEMORANDUM

TO: Regional Offices, Water Allocation Bureau and
Adjudication Bureau

FROM: R. Keith Higginson *R. K. Higginson*

RE: Rate of Flow and Volume for Water Rights With Source
of Ground Water

DATE: May 7, 1991 Application Processing No. 51
Permit Processing No. 16
Adjudication Memo No. 31

A review of field examination procedures relative to measurement of rate of flow for diversions from ground water has resulted in the identification of certain water uses for which a theoretical computation is an acceptable substitute for measurement of rate of flow. The purpose of this memorandum is to describe situations where utilization of the theoretical computation is permissible.

The determination of which situations require measurement of rate of flow for a ground water right is outlined in Appendix 1. The procedure for determining rate of flow is described in Appendix 2. This memorandum shall be the authority for removal of flow measurement requirements from water right permits that are shown by Appendix 1 not to require measurement.

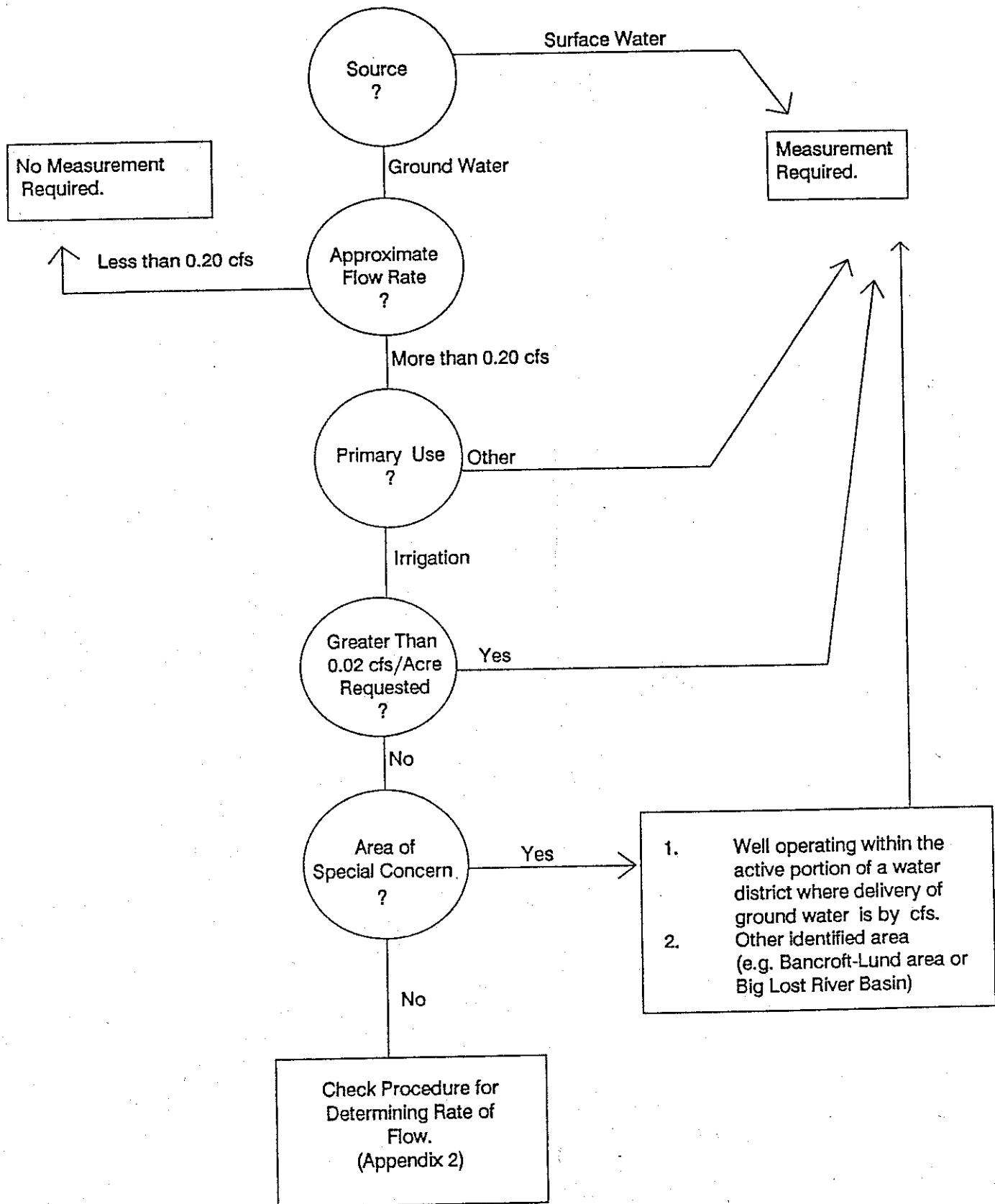
This procedure applies to rate of flow determinations for the preparation of water right licenses and adjudication Director's Reports.

Appendix 1 - Flow Chart for Determining if Flow Measurement is Required

Appendix 2 - Procedure for Determining Rate of Flow

APPENDIX I

FLOW CHART FOR DETERMINING IF FLOW MEASUREMENT IS REQUIRED



Appendix 2

Procedure for Determining Rate of Flow

(Use this procedure in conjunction with Appendix 1)

A. Measure the rate of flow of the system whenever it is possible at time the examination is conducted, even if it is not required.

B. The licensed or decreed rate of flow is not always determined by the system capacity. This is the case when the system capacity obviously exceeds the permitted or claimed flow rate. In such cases no significant effort needs to be made to determine system capacity.

C. An acceptable method of determining a rate of flow for licensing or the director's report for a system not requiring a measurement is as follows:

1. Evaluate whether system capacity is likely to be the limiting factor. If not, base the recommended rate for licensing or decree on the lesser of the permitted or claimed amount or the duty of water.

2. If the system capacity appears to be the limiting factor, make an acceptable estimate by refining the theoretical calculation. Compute the theoretical calculation as described below:

a. Basic equation:

$$Q = \frac{(8.8) \times (HP) \times (E)}{H}$$

Where Q = rate of flow in cubic feet per second,
 HP = brake horsepower of the pump motor,
 E = pump efficiency, and
 H = total head.

b. For purposes of field calculations, parameters are determined in the following manner:

1. HP is obtained from the motor nameplate.
2. E is considered to be the highest operating efficiency of the system, which is assumed to be 70% unless a higher efficiency can be demonstrated by the operator.
3. H is computed as the sum of the dynamic lift (elevation distance between water surface during pumping and location of pressure reading) and the pressure head at the pump, computed as 2.31 times the pressure in psi.

Procedure for Determining Rate of Flow (Cont.)

c. Procedure:

1. Determine HP from motor nameplate.
2. Determine dynamic pumping level (water level during pumping), based on a combination of at least two of the following:
 - a. Discussions with well owner.
 - b. Measurement with a steel tape, pressure tube, or electric well probe (plus a drawdown factor).
 - c. Information from exams conducted on nearby wells, if in a homogeneous aquifer, (including the amount of anticipated drawdown).
 - d. Information provided on a well log, particularly where the well driller shows pump test data with discharge and draw down.
 - e. Information from water level contour maps, such as in the Snake Plain Aquifer.
3. Measure pressure of mainline near the pump, or estimate this pressure based on the type of operating system (high pressure pivot, open discharge, etc.).
4. Compute the theoretical rate of flow.

d. Example:

An irrigation system is found to have a 50 HP motor, a dynamic depth to water of 100 feet, and a pressure of 80 psi near the pump.

$$Q = \frac{(8.8) \times (\text{HP}) \times (E)}{H} = \frac{(8.8) \times (50) \times (.70)}{(100 + \{2.31 \times 80\})} = 1.08 \text{ cfs}$$

Procedure for Determining Rate of Flow (Cont.)

- e. Limitations: There are some situations where use of this equation is not applicable, for example where there is no means of determining even an estimate of the dynamic pumping level, and where artesian pressure creates a flowing well. In these situations either measurement is required or alternate techniques must be used to quantify estimated flow rates. Acceptable measurement techniques for these situations include (1) sprinkler measurements for pressurized systems, (2) timed fills of trapezoidal ditches for gravity flow systems, and measurement with a polysonic measuring device.

3. Refine the theoretical measurement by a variety of techniques, including reading the power meter if the system is operating to determine horsepower actually being used, evaluation of whether friction losses are relevant, review of pump design information to improve the estimate of efficiency, or obtaining information on measurements taken by pump installers, electrical companies, etc.

D. When developed in conformance with Appendices 1 and 2, the theoretical rate of flow is an acceptable substitute for a measured rate of flow.

ADMINISTRATIVE

MEMORANDUM

PERMIT PROCESSING NO. 17

To: Regional Managers
Permits Section

From: L. Glen Saxton *WLS*

RE: **ADDITIONAL INVESTIGATION OF CERTAIN APPLICATIONS FOR
PERMIT**

Date: April 23, 1993

Attached is a memo from Norm Young to me asking that the regions do some additional pre-permit investigation for certain applications which may divert a large portion of a stream's flow and for those which propose a diversion dam across a stream.

The State Office will develop conditions of approval related to encroachments into the flood plain and for the consequences of not complying with the conditions of approval.

If you have questions, please contact me or Norm.

c: Norm Young
Fred Eisenbarth

TO: GLEN

FROM: NORM *NCY*

RE: EISENBARTH'S REQUEST TO CONSIDER FLOODWAYS IN WATER RIGHTS

DATE: APRIL 22, 1993

You have asked whether flood plain encroachments are concerns that need to be addressed in water appropriation permits. I have been concerned for some time that IDWR needs to consider more carefully a number of public interest matters as water right permits are processed. The concern relates more directly to surface water filings, perhaps than to ground water. These concerns include fish and wildlife issues, including the need to provide for minimum flows and fish passage at and below the diversion point, recreational passage along the stream (usually rafting or canoeing), water quality, and hydraulic related issues (such as passage of required floods).

At the time the Stream Protection Program was moved into your Bureau, one of the reasons for doing so, was to develop the coordination needed to routinely address these issues. We recognized that Idaho law exempts construction under an approved water right permit from the stream protection permit requirement, but we wanted the issues that would have been considered under the Stream Protection Act to be addressed in the water right review. I realize that considerable work would be needed to make a full review of these issues, but I also think that the numbers of applications requiring detailed review is small. Emphasis needs to be placed on diversions potentially taking a large percentage of a stream's total flow and those proposing a diversion dam across a stream.

Now, to respond to your specific question, I would like the regions to routinely review filings for these concerns. It may require correspondence with the applicant or with other agencies. The staff review sheet should be revised to show that the issues have been considered. As a part of your final review and signoff, you need to satisfy yourself that appropriate conditions have been added or that the issues are adequately addressed in the cover letter. Conditions should be attached if we will enforce the matter either by cancelling the permit or refusing a license. If the issue does not directly involve us, it can be covered in the letter. As for encroachments into the flood plain, given that IDWR is the agency coordinating the program in Idaho, it should go as a condition of approval.



State of Idaho

DEPARTMENT OF WATER RESOURCES

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MEMORANDUM

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

TO: WATER MANAGEMENT DIVISION STAFF

FROM: NORM YOUNG *NY*

RE: 1) ADJUDICATION CLAIMS TOLLING FORFEITURE
2) FISH PROPAGATION FACILITY VOLUME

DATE: MARCH 24, 2000

Adjudication Memo #4647
Permit Processing Memo #18
Transfer Processing Memo #22
Licensing Memo #11

On December 29, 1999, the Snake River Basin Adjudication (SRBA) district court issued its *Order on Challenge (Consolidated Issues) of "Facility Volume" Issue and "Additional Evidence" Issue*, Subcase Nos. 36-02708, et al., In Re SRBA, Case No. 39576. In that decision the SRBA district court determined, among other things that:

1. "Once a claimant files a claim in the SRBA, for a particular water right, the forfeiture provisions of I.C. § 42-222(2) are also tolled for purposes of establishing forfeiture, so long as the claimant continues to prosecute the claim to a partial decree."

2. Facility volume is not an element of a water right for fish propagation. While a facility volume condition could be carried over from a license into a partial decree, an additional remark would be added to the partial decree indicating that the condition has no effect on the use of the right.

Water Management Division will implement this decision as follows:

Adjudication Bureau:

1. Agents investigating water use in the SRBA shall only investigate water use prior to the date the water right claim was filed with IDWR for purposes of determining whether forfeiture has occurred. Field examinations made, photographs taken, or other evidence of non-use of a water right after the date a claim was filed with IDWR shall not be used in preparing the recommendation on the claim for the Director's Report.

2. Facility volume conditions will not be included in the Director's Report for fish propagation claims whether or not the claim is based upon an existing license that includes the facility volume condition.

Water Allocation Bureau:

1. Filing a claim and participating in the SRBA does not prevent a water user from making use of his/her water right. Therefore, in the context of transfer or other applicable administrative proceedings, IDWR will continue to consider nonuse of water after the filing of an SRBA claim as relevant to whether forfeiture has occurred.

2. Facility volume conditions will not be included in new permits for fish propagation and will not be carried over from a permit to the resulting license. IDWR will not, on its own initiative, endeavor to enforce a facility volume condition associated with any existing right.

Except as specifically discussed in this memorandum, IDWR standards regarding the investigation of SRBA water right claims and the processing of administrative applications remains unchanged.

MEMORANDUM

TO: DISTRIBUTION LIST

FROM: NORM YOUNG *NY*

RE: FURTHER GUIDANCE ON SB 1337, AMENDING SECTION 42-221, IDAHO CODE. (AUGMENTING THE GUIDANCE MEMORANDUM, DATED JUNE 26, 2000, ISSUED UNNUMBERED BY GLEN SAXTON)

DATE: January 2, 2001

Application Processing No.: 66
✓Permit Processing No.: 19
Transfer Processing No. 23

Senate Bill 1337 enacted by the 2000 Legislature and effective on July 1, 2000 revised the fee schedule for filing applications for permits to appropriate water and for applications to transfer existing water rights. Initial guidance for determining transfer fees was provided in a memorandum from Glen Saxton dated June 26, 2000. Experience applying the new fee schedule indicates that additional consideration needs to be given to determine the appropriate fee for an application proposing to change the use of only a part of a water right(s).

Section 42-221, Idaho Code, provides for basing the filing fee upon the "quantity" of water being transferred. Thus, if an application proposes a change to an entire water right, the fee should be based upon the quantity of the right. However, if the application for transfer involves a change to only a part of a water right, the filing fee should be determined by the quantity of the part to be changed. One variation of a change that only affects a part of a right is if the right is to be split into one or more parts and a separate diversion and delivery system is used for each part. The June 26, 2000 memorandum describes the procedure for determining an appropriate fee when the right is split.

A second variation is if the change does not split the right even though the change affects the use of only a part of a right. This memorandum provides additional guidance to be used to determine the appropriate fee in this case. This variation can occur under several scenarios including the following examples:

a. The point of diversion is to be changed to divert a part of the quantity authorized under the right from a new location with the remainder of the right to be diverted without change. For example, one of several wells listed as points of diversion

on a water right is to be relocated to a different 40-acre subdivision with no other changes to the use of the right. In this case, the applicant should identify as additional information on Part 1 of the application the maximum quantity to be diverted at the new location and the fee should be based upon this quantity. If the application is approved, the approval should be conditioned to limit the quantity of water allowed to be diverted at the new point to no more than the amount indicated on the application.

b. A part of the place of use is to be changed to a new location. For example, a specific 40 acre tract of a 1000 acre place of use is to be switched to another 40 acre tract without a change to the remaining 960 acres in the place of use and the diversion/distribution system will otherwise be unchanged. The filing fee should be based upon the proportionate quantity of water appurtenant to the part of the place of use that is being changed. If the applicant proposes a change in the quantity different than the proportionate share, the application should be filed reflecting a split in the right.

c. The nature of use of a part of a right is proposed to be changed. For example, 10 cfs of a 50 cfs irrigation right is proposed to be changed to recharge purposes. The filing fee should be based upon the 10 cfs proposed to be changed assuming no other changes are proposed.

d. If changes are proposed to both the place of use and the point of diversion which involve only a part of the right, the fee should be based upon the larger of the two changes assuming that the two changes can appropriately be shown on the same application; i.e., still use in a common system and ownership is not split.

The need to advertise a transfer application statewide should be based upon the quantity of water being changed by the transfer rather than the full quantity represented by the right(s) being changed. Legal notices should be streamlined to avoid duplicate and unnecessary information.

Applicants should be advised early in the process that staff time spent researching an application involving multiple rights will be recorded. When appropriate, the applicant will be billed for cost of researching the rights in accordance with Section 42-221(J), Idaho Code.

I anticipate that these examples will not cover all of the possible scenarios. I encourage you to bring to the attention of Water Rights Permit Section situations, as they arise, that do not fit the available guidance.

MEMORANDUM

To: Distribution List

From: L. Glen Saxton *LLS*

RE: GUIDANCE ON SB 1337 AMENDING SECTION 42-221, I.C.

Date: June 26, 2000

Senate Bill 1337 was enacted by the legislature during the last session and becomes effective on July 1, 2000. The bill which amended section 42-221, Idaho Code, provides for increased filing fees for applications for permits and for applications for transfer. The total fee for filing an application for transfer should be based on the summation of the diversion rates for the rights shown on the application. As an example, if an application for transfer proposes to change three rights, one in the amount of 0.8 cfs, a second in the amount of 0.3 cfs and the third in the amount of 0.2 cfs, the total filing fee should be \$290 based on the summation of 0.8 cfs, 0.3 and 0.2 cfs = 1.3 cfs.

As a variation of this example, assume the same three rights above are conditioned to not exceed a combined rate of diversion of 0.8 cfs. In this case, the fee should be based on the combined rate of diversion of 0.8 cfs and should equal \$250.

If an application for transfer proposes a change to part of a water right, the filing fee should be based on the part to be changed, if a separate diversion and distribution system will be used for the part to be changed and the right will be split. A change to part of a water right with a separate diversion will require a split.

A transfer accompanied by evidence of a change in ownership of the water right(s) will not require a separate filing of a change in ownership as required by Section 42-248, I.C. or Section 42-1409 (6), I.C.

Per section 42-240(2) Idaho Code, filing fees for water right exchanges are the same as for transfers.

The state office will issue appropriate press releases after July 1, 2000. The state office will also provide new instructions reflecting the changes. Old transfer instructions can be used after July 1 as long as the old fee amount is removed and the new fee schedule is inserted into the instructions. Inserts will be provided by the state office.

Attached is a copy of the senate bill in underlined, struck-out format and new instructions for filing an application for permit and an application for transfer.

MEMORANDUM

TO: Regional Offices
Water Allocation Bureau

FROM: Mat Weaver *MW*

RE: Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN)
Municipal Water Rights at the Time of Application, Licensing, and Transfer

DATE: March 16, 2015

Application Processing No. 74
Permit Processing No. 20
License Processing No. 13
Transfer Processing No. 29

See attached Amended RAFN Municipal Water Right Handbook

IDAHO DEPARTMENT OF WATER RESOURCES

Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer

March 2015

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1. Introduction

This document is intended to provide guidance and support to Idaho Department of Water Resources (the Department) staff in evaluating and processing applications for reasonably anticipated future needs (RAFN) water rights and can be used to provide assistance to applicants seeking RAFN water rights throughout the application, permit, license, and transfer processes. Guidance does not have the force and effect of law. Rather, it is designed to serve as a primary reference tool to assist agency staff and to assist those impacted by agency actions to comply with the law. The appendix includes a number of resources and support items related to RAFN analysis including the following: “*Municipal Water Right Permit Evaluation*” checklist (Item 5), which can be utilized by the applicant when applying for RAFN water rights; methods for estimating residential demand (Item 3); and a detailed example of the determination of RAFN for a small community that implements the methodology described in this document (Item 6).

RAFN vs. non-RAFN Prior to 1996, common law practices allowed municipalities to establish water rights greater than immediate needs. The 1996 Municipal Water Rights Act provided a statutory process for establishing a municipal water supply for reasonably anticipated future needs (RAFN). The 1996 Municipal Water Rights act was codified in Idaho Statutes in the form of amendments to Idaho Code (I.C.) §42-202, the addition of I.C. §42-202B, amendments to I.C. §42-217, amendments to I.C. §42-219, and amendments to I.C. §42-222. A key distinction of the RAFN right is the allowance of components of the water right, namely the diversion rate, to be perfected without physically completing diversion and use in establishing beneficial use during the development period of the permit.

There are times when a municipal provider will choose to file an application to appropriate water solely for use to meet needs in the near-term (up to five years) without the burden of demonstrating future needs over an established planning horizon. This type of municipal water right has been termed a non-RAFN municipal right. Municipal water rights that are not defined as RAFN in conditional language are by default non-RAFN water rights. *Application Processing Memo #18* presents and discusses the distinctions between both types of municipal water rights and provides guidance to Department staff for processing permits and determining extent of beneficial use for licensing of non-RAFN municipal water right permits. It is not the intent of this document to repeat or duplicate the material presented in AP Memo #18. The focus of this document will be on RAFN municipal water rights. When a water right application has been determined to be for a non-RAFN municipal beneficial use, Department staff should consult AP Memo #18 for processing guidance.

In addition to water rights with a designated municipal beneficial use, municipal providers may also own water rights for non-municipal uses such as domestic, irrigation, commercial, etc. These water rights are often associated with uses such as parks, golf courses, cemeteries, and buildings that are not directly connected to a municipal provider’s primary municipal water delivery system. These water rights are sometimes acquired from previous non-municipal water right holders with the acquisition of land by the municipality. In other instances they may have been developed directly by the municipal provider for a demand not distributed throughout the entire existing water service area, or not otherwise qualified as a municipal use. When conducting a review of a municipal provider’s suite of water rights, these water rights should be considered along with any existing water rights used for municipal needs, and any evaluation of RAFN should take into consideration beneficial use already being met by these types of water rights.

Types of Municipal Providers

Idaho Code §42-202 provides, in relevant part:

An application proposing an appropriation of water by a municipal provider for reasonably anticipated future needs shall be accompanied by sufficient information and documentation to establish that the

applicant qualifies as a municipal provider and that the reasonably anticipated future needs, the service area and the planning horizon are consistent with the definitions and requirements specified in this chapter.

Idaho Code §42-202B(5) defines three types of municipal providers:

- a) A municipality that provides water for municipal purposes (i.e. incorporated cities);
- b) Any corporation or association holding a franchise to supply water for municipal purposes, or a political subdivision of the state of Idaho authorized to supply water for municipal purposes, and which does supply water, for municipal purposes to users within its service area (e.g. Water and Sewer Districts; United Water Idaho, a private company that supplies public drinking water to much of Ada County); or
- c) A corporation or association which supplies water for municipal purposes through a water system regulated by the state of Idaho as a “public water supply” as described in I.C. § 39-103(12), Idaho Code. (e.g. developers; subdivision home owner associations).

As set forth in M3 Eagle Final Amended Order¹ (M3 Final Amended Order) a corporation or association seeking to qualify as a municipal provider under subsection c above for RAFN must qualify as a municipal provider at the time application is considered by the Department. In other words, at the time of application, the applicant must already supply water for municipal purposes through a water system that is regulated by the state of Idaho as a public water supply. It is insufficient for the applicant to merely be “*ready, willing, and able*” to be a municipal provider once the permit is issued.

2. Evaluating Reasonably Anticipated Future Needs

This section outlines and develops a fundamental protocol that should be considered by the applicant and Department staff in evaluating reasonably anticipated future water needs for qualified municipal providers.

As discussed above, Idaho law allows a municipal provider to secure water rights for RAFN purposes without relying on immediate diversion and use to establish beneficial use. For a qualified municipal provider, a RAFN estimate has four fundamental components:

1. Service Area (I.C. §42-202B (9)),
2. Planning Horizon (I.C. §42-202B (7)),
3. Population Projections within the Planning Horizon, and
4. Water Demand (necessary to serve the population during the planning horizon throughout the service area)

This protocol explains each one of these four components in order, and then describes how they should be used to evaluate a municipal provider’s RAFN.

It is important to recognize at the outset that a conservative standard may be appropriate in estimating future needs to justify a RAFN water right, especially in instances where there is a weighing of public interest in an area of recognized limited water supply. There may be a difference between the supply of water sufficient to sustain an urban population and the supply desirable to keep future operating costs low or to provide aesthetic amenities.

¹ Amended Final Order of the Department in the matter of application to appropriate water no. 63-32573 In the name of M3 Eagle LLC dated January 25, 2010.

Service Area

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. For a municipality, the service area shall correspond to its corporate limits, or other recognized boundaries, including changes therein, after the permit or license is issued. The service area for a municipality may also include areas outside its corporate limits, or other recognized boundaries, that are within the municipality's established planning area if the constructed delivery system for the area shares a common water distribution system with lands located within the corporate limits. For a municipal provider that is not a municipality, the service area shall correspond to the area that it is authorized or obligated to serve, including changes therein after the permit or license is issued.

For a municipal provider, Idaho code requires the RAFN service area to be contained within the municipality's "established planning area" (I.C. §42-202B (9)) minus "areas overlapped by conflicting comprehensive land use plans" (I.C. §42-202B (8)).

For smaller widely-separated cities, the concern of overlapping comprehensive land use plans is not typically an issue. For these cities to justify a proposed future service area, the applicant should provide evidence of existing "corporate limits" and "other recognized boundaries" (I.C. §42-202B (9)). Idaho Code §50-102 requires the establishment of corporate limits (recorded metes and bounds description of the incorporated area) in association with the incorporation of a city. These limits are established with the counties within which the city is located. Where the applicant is a city, copies of corporate limits should be provided by the applicant. As necessary, staff can cross check corporate limits by obtaining the boundary directly from the city, governing counties, or the state. In addition, the Department maintains a spatial data layer delineating all incorporated cities and their respective city limits within the State of Idaho. This data layer is based on U.S. Census data that is updated every ten years. This data layer can be a good place to start in determining corporate limits, but there is a chance it may not represent the most current boundary, and, when the applicant is a city, staff should always obtain a current delineation of the corporate limits from the RAFN applicant or permit holder at the time of permitting and licensing. The purpose of this current boundary information is to facilitate the Department's review of the proposed RAFN service area.

Other recognized boundaries can include areas of impact, utility service planning areas, or other unique planning areas, provided they have been legitimately adopted by the municipality with verifiable records, as "established planning area[s]" consistent with I.C. §42-202B (9). Idaho Code §67-6526 in the Local Land Use Planning statutes requires that incorporated cities provide a map "*identifying an area of city impact within the unincorporated area of the county*". In addition, I.C. §67-6508 requires the creation, adoption, and ongoing update of a comprehensive plan for any incorporated city. The comprehensive plan will typically include maps identifying incorporated limits, areas of city impact, and other legitimate planning boundaries.

For types b and c municipal providers, the "established planning area(s)" language does not apply. Rather, the applicant may submit an approved preliminary plat or other approved planning type documents, Public Utility Commission approval documents, Idaho Department of Environmental Quality public drinking water system approval documents, irrigation district and water and sewer district annexation plan, or other official documents which demonstrate a RAFN service area within which the applicant has the authority or obligation to provide water.

Idaho Code §42-202B (8) states, "*Reasonably anticipated future needs shall not include uses of water within areas overlapped by conflicting comprehensive land use plans.*" When evaluating a proposed RAFN service

area where two or more municipal providers abut one another, the applicant should research adjacent community planning areas to confirm that overlaps in competing planning areas *specific to water service* do not exist. If overlaps in comprehensive land use planning areas specific to water service do exist between two different municipal providers, the area of overlap cannot be included in the proposed RAFN service area under consideration. As an example, if a subdivision intersects the planning boundaries of two separate municipal providers, and both entities indicate in their comprehensive land use plans the intent to serve the same subdivision with water, then neither entity can include the subdivision in a proposed RAFN water service area until the conflict has been resolved and one of the two entities relinquishes water service to the other. However, in another example, if an overlap exists in the comprehensive land use plans of two municipal providers, but only one plan addresses water service, and the other plan acknowledges that water service is provided by the other entity, then the area of overlap can be included in the RAFN service area of the entity providing water service.

When the applicant is a municipality with multiple municipal water service providers within its city limits or area of impact, the applicant should normally exclude the existing service areas of other municipal providers from the RAFN service area under consideration. However, if the RAFN applicant presents a sound argument and supporting evidence for the inclusion of competing existing water service areas within its own RAFN service area, Department staff may include them in the final RAFN service area delineation. As an example, if the systems of two water service providers are cross connected to allow for one system to provide water to the other during times of emergency, during periods of routine maintenance, or in support of peak water demands, it would be appropriate to include this demand in the RAFN analysis of the municipality that is providing water to the second water service provider, provided the established need is not already covered by an existing water right. If the established need is covered by an existing water right, a unique combined used limitation condition detailing the water supply relationship should be considered.

In conclusion, RAFN service areas should be delimited to include all existing contiguous and non-contiguous areas of water service (assuming they are combined) and adjacent areas poised for development and likely to occur within the established planning horizon time period. However, the proposed RAFN service area cannot include areas where water is not provided at the time of application if the proposed RAFN service area is overlapped by adjacent land use planning boundaries, or is already included within the existing service area of a municipal water provider other than the municipal provider under consideration. In addition, where the applicant is a municipality, the proposed RAFN service area cannot include areas where water is not provided at the time of application if the proposed service area is outside the municipality's currently adopted planning area. The appendix includes an example of a visual delineation of a RAFN service area based on underlying appurtenant boundaries (appendix Item 2).

Planning Horizon

Idaho Code §42-202B (7) defines the planning horizon for a municipal provider as follows:

“Planning horizon” refers to the length of time that the department determines is reasonable for a municipal provider to hold water rights to meet reasonably anticipated future needs. The length of the planning horizon may vary according to the needs of the particular municipal provider.

A municipal provider's planning horizon is the term of years over which it projects its population change and makes water service decisions based on its projection. At the time of application for RAFN municipal water use, the applicant will present a planning horizon time period, including a specified ending year. Department staff must evaluate, among other things, whether the proposed planning horizon is reasonable. Some additional items to consider include:

- The customary standards of practice for water infrastructure planning

- The planning period identified in any applicable Comprehensive Plan
- Planning periods identified by other applicable planning documents
- Regional planning studies

It is important to note that the maximum development period for beneficial use associated with a non-RAFN water right is five years, which can be extended an additional five to ten years for a total of ten to fifteen years. Therefore, a planning horizon of less than five years would not warrant a RAFN water right. The following table (Table 1) summarizes planning horizon durations as published in six water planning references.

Table 1 - Summary of Published Planning Horizon Periods

Published Reference*	Planning Horizon (years)
Fair 1971	10 - 50
Prasifka 1988	10 - 100
Dzurik 1996	< 50
Boumann 1998	< 50
Stephenson 2003	10 - 20
AWWA 2007	20 - 40

*Refer to Bibliography (Appendix Item 1) for reference details.

Table 2 summarizes planning horizons associated with actual water resource planning documents in the State of Idaho. The references summarized in Table 2 represent a variety of planning documents with unique objectives and planning areas. Some of the values are more applicable than others for use in comparison to proposed RAFN planning periods.

Table 2 - Summary of Actual Water Planning Documents and their Respective Adopted Planning Horizon Periods

Planning Area	Planning Horizon (years)	Planning Document Type
Ada & Canyon Counties	25	IDWR Water Demand Study
City of Coeur d'Alene	20	Comprehensive Water Plan
City of Lewiston	20	Master Water Plan
City of Meridian	50	Master Water Plan
City of Nampa	20	Master Water Plan
City of Pocatello	10	Master Water Plan
City of Rexburg	50	2008 Water System Tech. Memo
City of Twin Falls	30	Water Supply Improvement Plan
Rathdrum Prairie Aq.	50	CAMP Water Demand Projections Study
Treasure Valley	50	CAMP Future Water Demand Study
United Water Idaho	55	Water Demand Study

The data presented in Tables 1 and 2 suggest that planning horizons between 10 and 55 years are the standard amongst the planning profession and in the actual adoption of planning documents within the State of Idaho.

The Department must guard against over-appropriation of the resource and against speculative water right filings. Longer planning horizons increase the level of uncertainty associated with predicted values and must be considered by the Department with greater caution. Planning horizons of 15-20 years are generally reasonable and require little scrutiny unless there is substantiated competition for the resource or some other justification for additional scrutiny arises. Planning horizons greater than 20 years can be considered by the Department, but when proposed they should be supported by long-term planning documents such as those listed in Table 2 and by professionally prepared demographic studies substantiating the duration of the planning horizon period.

Idaho Code §42-202B (8) provides additional guidance regarding the evaluation of planning horizons as follows:

“Reasonably anticipated future needs” refers to future uses of water...reasonably expected to be required within the planning horizon of each municipality within the service area not inconsistent with comprehensive land use plans approved by each municipality.

As a final measure, the planning horizon period proposed by the applicant must not only be reasonable, but also consistent with the adopted Comprehensive Plan of the City. This can be interpreted to mean no greater in length than the planning horizon period associated with the Comprehensive Plan, if no other pertinent planning documents exist. When another pertinent planning document exists, such as a master water plan, then the planning document should be consistent with the master plan for the coincident period of time shared between the planning horizons of both documents.

Population Projection within the Planning Horizon²

Idaho Code §42-202B (8) indicates that RAFN should be based on “population and other planning data.” To establish its RAFN, a municipal provider must estimate its future population within its service area at the end of the planning horizon. For most municipalities, planning and demographic studies of one type or another have been completed, and often multiple relevant studies exist. At a minimum, Comprehensive Plans usually address population growth in some form as required by I.C. §67-6508 (b). The U.S. Census Bureau also provides population and demographic data for most municipalities in Idaho in a variety of formats. For communities where appropriate data exists, Department staff should expect the following components and considerations regarding population forecasts to be addressed and discussed in detail by the applicant.

1. A critical survey of existing contemporary population studies applicable to the local area to establish likely upper and lower boundaries for population growth.
2. Project population using standard technical methods, such as regression, extrapolation, or cohort survival models. To make extrapolation appropriate, one should account for geography, resource constraints, economic conditions, and other limiting factors or anticipated events, such as relocation of a commercial or industrial use.
3. Compare the results of the population projections from step 2 to the results of the critical survey from step 1 and apply professional judgment to evaluate whether the population projections are likely to occur within the planning horizon and are, therefore, reasonable.

Department staff should scrutinize population growth rates and projections that fall near or outside the upper boundary established in the critical survey. Staff should also scrutinize results based on short term trends in population growth. Where sufficient data exists population forecasts should be based on a minimum of thirty years of population data. The U.S. Census Bureau provides decadal populations for every county in Idaho. Since 1970 the population growth rate of the entire state of Idaho has been 1.91%. The maximum growth rate in that time was 3.72% in Teton County and the minimum growth rate was -1.20% in Shoshone County. Since 1970, growth rates in excess of 3.00% were only realized in five counties. Growth rates in excess of 2.50% were realized by less than 14% of Idaho counties. As such, applicants should provide extra justification for requested growth rates in excess of 2.50% annually.

In some instances when municipal providers are providing water to a rural or unincorporated community, existing population data specific to the community might be difficult to acquire or may simply not exist. In

² The ‘Population Projection within the Planning Horizon’ section of the RAFN handbook was prepared in conjunction with and under the review of Don Reading, Ph.D., a consulting economist with Ben Johnson Associates, Inc.

other instances the applicant may lack sufficient experience and/or expertise to forecast populations without assistance. In these select cases, the applicant may rely on a population forecasting tool that has been developed by the Department in Microsoft Excel to assist in population forecasting³. The tool summarizes dynamic ranges of U.S. Census Bureau population data by county and supports the regression of exponential and linear growth type models to the county census data to allow for the projection or forecasting of future populations. In addition, the spreadsheet tool allows for the development of exponential and linear population growth rate models based on user input population data. Forecasting conducted with this tool is only appropriate as a means of last resort and should not be used for communities where specific data and/or population and demographic studies already exist. The tool may also be useful directly to Department staff as a means of roughly verifying the population forecasts made by an applicant, allowing Department staff the opportunity to “double check” a proposed growth rate or population forecast.

For communities starting from zero or a very small base population, the method of relying on historical or analogous growth rates may not be applicable. In these instances, reliable growth or build-out projections provided by the applicant may be considered by the Department.

Water Demand

Water demand is the final component of a RAFN that must be considered and evaluated by Department staff. Water demand represents the future projected water use in a community. Water use can broadly be placed into two categories: (1) non-residential use and (2) residential use. Non-residential use consists of irrigation of open common spaces (parks, golf courses, etc.), public facility use, industrial use, commercial use, and any and all other municipal purposes. Residential use can be further broken down into in-home use, out of home use (landscape irrigation, car washing, etc.), and fire protection.

To prevent over-appropriation of water, fire protection flow requirements should not be used as justification for water demand as part of a RAFN application. Per Idaho Code §42-201, “[W]ater may be diverted from a natural watercourse and used at any time, with or without a water right to extinguish an existing fire on private or public lands, structures, or equipment, or to prevent an existing fire from spreading to private or public lands, structures, or equipment endangered by an existing fire...” If the Department were to allow fire protection flows to be included in estimating RAFN water demand for municipal purposes, it would result in a water right for municipal purposes in excess of the demonstrated continuous future needs. Water flow rates required solely for fire protection may be listed as a separate use on a RAFN application.

Similar to fire protection flows, an additional groundwater point of diversion used to provide redundant supply to a water distribution system should not be considered as justification for water demand on a RAFN application. The Idaho Rules for Public Drinking Water Systems require new community systems served by ground water to have a minimum of two points of diversion if they are intended to serve more than twenty-five connections (IDAPA 58.01.08.501.17). Though the Department recognizes the necessity and value of redundant ground water points of diversion, additional capacity associated with the redundant point of diversion does not constitute an additional increment of beneficial use, justifying a water right. The inclusion of the diversion capacity associated with a redundant point of diversion in the estimation of RAFN water demand results in a water right for municipal purposes in excess of the demonstrated continuous future needs.

Unaccounted for water (UAW) makes up a third category of water. UAW is considered the difference between a water utility’s production and its water sales to consumers. Often municipal water providers authorize some types of UAW, including unmetered uses from fire hydrants, street washing, main flushing, sewer cleaning and storm drain flushing, authorized unmetered connections, and reservoir seepage and evaporation. Examples of

³ The Microsoft Excel file is titled “PopForecastTool.xlsx” and is available to the applicant from the Department upon request.

unauthorized UAW include water distribution system leakage, unauthorized use by theft, abandoned services, and inaccurate or incorrectly read meters. For typical public water supply systems some engineering references estimate a minimum of 2.0% UAW can be anticipated (Prasifka 1988). United Water Idaho maintains monthly accounting of non-revenue water with values typically reported between 3.0-5.0% (Carr 2009). California Department of Water Resources' Urban Water Use in California Bulletin 166-3 reports that the largest percentage of cooperating agencies reported approximately 10.0% UAW in their water supply systems (CDWR 1994). For existing facilities, UAW values greater than 10% should only be approved by the Department as part of a water demand analysis, when the application includes historical diversion records and a technical engineering discussion of the above normal UAW values. For new systems, UAW values greater than 10% are not acceptable. Planning for UAW values in excess of 10% for a new system is contrary to the requirement for conservation of the water resources of the state.

Residential Water Demand Forecasting Methodologies

There are a number of standard recognized approaches for forecasting residential water demand (i.e. RAFN) including judgment based prediction, time extrapolation, disaggregate requirements analysis, single coefficient model development, multi-coefficient model development, econometric demand model development, or a hybrid of one or more of these approaches. Of these approaches, judgment based predictions or water demand based on time extrapolation forecasts are generally viewed as inadequate forecast approaches. Judgment based predictions are simply forecasts of water demand based on the recommendation of an "expert" familiar with the system, who in theory has an "intuitive" feel for water demand specific to the municipal system through prolonged experience with the system. Time extrapolation relies on the prediction of water demand where the only predicting variable is time. For example, 100,000 GPD were needed in the first 10 years, 200,000 GPD were needed in the second 10 year period, and therefore 300,000 GPD will be needed in the third 10 year period. Both of these forecasting techniques lack a technical rigor that is appropriate and necessary when evaluating RAFN water right applications.

Of the remaining methods, one of the most widely implemented approaches, and the one that is presented in detail in this document, is the per capita requirements method, which is a form of the single coefficient model approach. To determine RAFN utilizing this method projected per capita or per household water demand must be applied to the estimated future population within the service area at the end of the planning horizon.

Per Capita Requirements Method

Municipal water demand is often considered a function of population and per-capita consumption⁴ (Prasifka 1988). The per capita requirements method relies on the following components to estimate future water demand: (1) projected future number of people or residential services, (1a) if necessary a conversion factor between people and residences⁵, (2) average historical water use per capita, and (3) peaking factor(s). A combined future water demand is equal to the product of historical per capita demand, the total number of people or connections, and an appropriate peaking factor.

Per Capita Water Demand

⁴ Strictly speaking the "per capita" metric refers to water use per individual person per unit time. The strict and rigorous use of this "per capita" definition is not always in evidence by water right applicants. Oftentimes municipalities do not know specifically how many people are served and thus employ the potentially more useful "per dwelling unit" metric. The terms "single family residence", "single family service connection", "single family dwelling unit" and "equivalent residential unit" can be synonymous with the term dwelling unit. An essential detail of the RAFN application should be the strict definition of the base water demand metric employed by the municipality.

⁵ Population forecasts always predict a future population, depending on whether the city is forecasting water demand by person or by service connection the applicant will need to know the number of people per home in order to convert forecast population values into forecast service connections. The U.S. Census Bureau provides data on "persons per household" in their State and County QuickFacts data sets.

Per-capita water consumption is highly variable from region to region and even from one system to another within the same region. Factors that affect per capita water consumption include metering, lot size, climate, age of system, residential irrigation demand, fire protection demand, water rate structure,⁶ and physical characteristics of the system. Table 3 summarizes various published values for estimating per capita consumption.

Table 3 - Summary of Published Values of Average Residential Daily Consumption

Published Reference*	Avg. Daily Consumption per Person (GPD)	Avg. Daily Consumption per Home (GPD)
Linaweaver 1967	100	400
Fair 1971	100 – 150	--
Stephenson 2003	50 – 80	150 - 800
Boumann 1998	--	200
Cook 2001	--	194

*Refer to Bibliography (Appendix Item 1) for reference details.

Residential irrigation can have a dramatic effect on per capita water demand. By some estimates water demand to meet peak residential irrigation needs can be 700% of average daily water demand without irrigation (Linaweaver 1967). Many municipal systems provide residential irrigation. However, a growing number of communities and municipalities do not support residential irrigation or have a separate utility specific to irrigation. It is important when evaluating the reasonableness of water demand values to know for certain whether residential irrigation is included in the demand.

Whenever possible, design flows for community water systems (municipal, community, or residential subdivisions) should be based on historical records or studies of similar water use in the area to be served—ideally historical records within the same system will be used. For established municipalities, historical records should be the primary means of evaluating and determining per capita requirements. When a wealth of historical records are available to draw upon, the applicant should rely on the most contemporary values, as they are most likely to reflect future water usage practices.

Frequently, recent data reflect lower per capita usage than older data. This decreasing trend evident in Idaho communities is consistent with national trends over the past three decades and is primarily due to a declining number of residents per household and an increasing pervasiveness of water-conserving (low flow) appliances in the home.⁷

⁶ Water rate structures are the frame work in which municipal water providers set the prices for their retail water sales. Examples include flat rate and increasing block rate structures. In a flat rate structure the water user is charged a flat rate regardless of how much water is used. In an increasing block rate structure the unit price for water increases as the volume consumed increases, with prices being set for each block of water use. An increasing block rate structure is much more likely to communicate the value of water and encourage the efficient use of water amongst the users.

⁷ For national trends see: Rockaway, P.A. et. al. Residential water use trends in North America. Journal AWWA, 103:2, February 2011. In Idaho, United Water (Boise and SW Ada County) reported that from 2003 to 2011, the average UW customer's water usage has fallen nearly 23 percent. Greg Wyatt, United Water Idaho Vice President and General Manager, attributed the reduced consumption to "successful implementation of a conservation program, as well as weather patterns, plumbing codes and the economy" (United Water 2011). In addition, the City of Meridian has seen not only a reduction in per capita demand, but also in total potable water demand since 2007, despite a rising population. Research conducted for the City's Water Master Plan showed that residents served surface water for irrigation used about 112 gpcpd of potable water while residents that use potable water for irrigation used about 224 gpcpd of potable water (both figures based on ADD). Because all new customers will be served using surface water for irrigation, the overall per capita demand should continue to drop without conservation measures (City of Meridian 2011).

It is not always possible, especially for newer communities, to estimate design flow from historical records as described above. On a case by case basis, the Department can accept calculated estimates for individual systems. There are several “per capita” estimation methods outlining practices and guidelines for estimating domestic design flows currently supported by the Idaho Department of Environmental Quality and the Department. Item 3 of the appendix includes a discussion and comparison of the various methodologies. Item 3 also describes and recommends a method that can be relied upon by the applicant to estimate demand as a last resort when actual historical data does not exist. It is worth emphasizing that the preference in determining per capita demand is always given to actual historical records and that it is only in rare instances that relying upon an artificial means of estimating water demand by the methodology presented in appendix Item 4 is appropriate.

Peaking Factors

In the long term, water demand requirements can vary widely, increasing and decreasing in direct correlation with changes to the population base that is served. Wide variation in water demand occurs in the short term as well. Based upon the transient needs of a static population base, water demand will vary seasonally, daily, and hourly. For example, water demand may be greater during the irrigation season as opposed to the non-irrigation season. Daily in-home demand also increases during times of high use at the start and end of the workday, with daily lows occurring during the middle of the night and early morning. These fluctuations in demand are normally estimated in terms of peaking factors or multipliers, which are often expressed as a percent of average demand.

In general, distribution systems are traditionally designed to carry peak hour flows that typically amount to 200-300 percent of the average day demand, with higher rates usually associated with smaller systems (Robinson and Blair 1984).

When discussing peaking factors, it is important to distinguish between average daily demand (ADD), maximum day demand (MDD), maximum monthly average day demand (MMAD), peak hourly demand (PHD), and peak instantaneous demand (PID). All or some of these terms will often be used in the discussion of a municipal water supply system and as they are used by the Department these terms are defined below. Table 4 summarizes several published ranges of values for residential peaking factors.

Table 4: Summary of Published Peaking Factor Values

Published Reference*	MDD: ADD	PHD: ADD
Dewberry 2002	1.5 - 3.0: 1	2.25 - 4.50: 1
Fair 1971	1.5 - 3.5: 1	1.5 - 3.5: 1
Harberg 1997	1.4 - 1.7: 1	2.0 - 4.0: 1
Linaweaver 1967	2.0: 1	5.0 - 7.0: 1
Lindeburg 1999	1.5 - 1.8: 1	2.0 - 3.0: 1
Mays 2000	1.5 - 3.5: 1	2.0 - 7.0: 1

*Refer to Bibliography (Appendix Item 1) for reference details.

Average Daily Demand (ADD):

The average daily demand is the average of the daily volumes for a continuous 12 month design period expressed as a volume per unit time (typically gallons per day). Often municipal records will only contain monthly or yearly diversion values. In these instances average daily demand for the system is equal to annual diversion volume or the sum of the monthly diversion volumes for one year divided by the number of days in the year.

Maximum Month Average Daily Demand (MMAD):

The maximum monthly average daily demand is the average daily demand from the peak demand month, which is typically July or August when out of home residential water use is at its peak. This value can only be calculated when municipal records contain monthly diversion data. It is obtained by dividing the monthly diversion volume by the number of days in the month, for each month, and selecting the largest monthly value.

Maximum Day Demand (MDD):

The design maximum day flow is the largest volume of flow to be received during a continuous 24 hour period in a calendar year, expressed as a volume per unit time. In order to determine this value, diversion records must have a daily recording interval. Often daily records are not available. In these instances MDD values can be estimated by multiplying ADD or MMAD values by an appropriate peaking factor. If storage is used by the water provider to meet peak demands, then the MDD value represents the maximum diversion rate that should be authorized by the RAFN water right permit.

Peak Hourly Demand (PHD):

The design peak hourly flow is the largest volume of flow to be received during a one hour period expressed as a volume per unit time. In order to determine this value, diversion records must have an hourly recording interval. Municipal data with an hourly recording interval usually does not exist for the entire water system and may only exist for a representative sample of the existing service area for the specific requirement of determining peaking factors. In instances where hourly data does not exist at all, an alternative means of estimating the peaking factor must be employed. If storage is not used by the water provider, then the PHD value represents the maximum diversion rate that should be authorized by the RAFN water right permit.

Peak Instantaneous Demand (PID):

The peak instantaneous demand is a municipal water supply system's anticipated maximum instantaneous water flow. PID is typically met through a combination of direct diversion from surface water and/or wells and the release of storage water. PID should not be confused with the maximum diversion capacity of some or all points of diversion associated with a municipal water supply system (flow into the system), which is an altogether different value that has historically been used by the Department during field examinations as a quantification of beneficial use. In municipal systems PID usually exceeds diversion capacity, with storage releases making up the difference. The PID design value can be appropriate in the sizing of water mains, storage capacity, and other appurtenances associated with a municipal water supply system, but it is not typically recognized in the field of water supply planning and forecasting as an appropriate design standard for projecting future system demand. As such, the use of PID in establishing a diversion rate in association with a RAFN application is generally considered unsound and unlikely to be approved by the Department. This position is consistent with the Idaho Rules for Public Drinking Water Systems, which require that public drinking water system be designed to provide either PHD or the MDD plus equalization storage (IDAPA 58.01.08 501.03).

Ideally, an engineering report or comprehensive plan should be submitted to the Department, which includes the records, studies, and considerations used in arriving at design flows, including all relevant peaking factors. In the absence of historical data or studies, the peaking factor(s) used to determine the diversion rate of the RAFN permit could be estimated from an analogous system. To be considered analogous, water systems should have similar characteristics including demographics, housing sizes, lot sizes, climate, water rate structure, conservation practices, use restrictions, and soils and landscaping. If neither historical data nor an analogous system can be found to estimate peaking factors, then the default peaking factors summarized in Table 5 may be used by the applicant.

**Table 5 - Department Standard
Default Peaking Factors (PF)**

Ratio	PF
MDD:ADD	2.0
MDD:MMAD	1.3
PHD:ADD	3.0

As an example on how to use the peaking factors in Table 5, if the applicant has a known ADD value, the MDD value can be determined by multiplying the ADD value by two. For peaking factors greater than described in Table 5, the applicant will need to provide a technical engineering discussion supporting the numbers. It is insufficient for an applicant to simply reference a published value or claim a value as a standard of engineering practice in defense of values greater than those presented in Table 5.

Storage and the Affects of Storage on Peaking Factors

Municipal water systems can apply a number of strategies to meet the system's peak demand. Some municipalities rely exclusively on the source (surface water diversions and/or wells and booster pumps) to meet peak demand, while other municipalities may rely on a combination of source and storage facilities to meet peak demand. Storage is a component of a municipal system consisting of tanks and reservoirs that physically store water to provide water pressure, equalize pumping rates, equalize supply and demand during periods of high consumption, and provide water for fire fighting and other emergencies during periods of power outages⁸. In some places, authorities overseeing water system design mandate that storage be included in a water supply system and that peak demands be met partially by storage. As an example, the Washington State Department of Health requires that demands in excess of the MDD (i.e. PHD and PID) be met by storage (WSDOH 2009). In Idaho, the Idaho Department of Environmental Quality (DEQ) requires storage if source capacity is less than PHD, in these instances storage is required such that the difference between source demand and PHD is made up by equalization storage⁹. Some references consider it poor engineering practice for a public drinking water system to provide no storage capacity whatsoever (Lindeburg 1999).

It is important for the Department to identify to what extent storage will be utilized by a municipality to meet demand. The diversion rate associated with a RAFN application should reflect whether source alone will meet PHD or whether a combination of source and storage will meet PHD.

Per Capita Demand Conclusion

In conclusion, the following steps can be used to forecast the residential water demand utilizing the per capita demand forecasting approach:

1. Establish the ADD per capita water demand unit (person or residence) and quantity, preferably from historical diversion records.
2. Select the design demand value, typically PHD when source alone will meet the demand or MDD when a combination of source and storage will meet demand.

⁸ The storage being discussed should not to be confused with a seasonal storage component of a water right, which is water stored for use at some time in the future and is described on the water right as storage.

⁹ Design File Note: Reservoir Sizing – Public Water Systems (April 30, 1998) states, “The source capacity of a water supply must at least equal [MDD]...If the source capacity is equal to or greater [than] [PHD], then no storage is needed other than pressure tanks to prevent frequent cycling. If the source capacity lies between [MDD] and [PHD], then storage is required as defined in this Guidance.”

3. Multiply the ADD by the appropriate peaking factor to establish the per capita water demand design value.
4. Establish the projected future total population.
5. If needed divide the population projection by the “persons per home” value to arrive at the total number of residences to be served.
6. Multiply the total number of people or residences by the per capita water demand design value to determine the total system-wide residential demand.
7. Apply necessary unit conversions to obtain the permitted rate units of cubic feet per second (CFS)

Non-Residential Forecasting

For many municipal systems residential water demand makes up the vast majority of total demand. As such, many water supply systems, especially smaller systems, are designed mostly to serve single family residences. If non-residential water is identified as being a significant portion of total demand it can be taken into consideration when establishing RAFN. Described below are two methods for estimating this demand.

The first method utilizes the concept of an equivalent residential unit (ERU). An ERU is a unit of measure used to represent the amount of water consumed by a typical full-time single-family residence (WSDOH 2009). ERUs are synonymous with equivalent domestic units (EDU) as defined by the Idaho Department of Environmental Quality (IDAPA 58.01.08 033.42). ERUs can be used to equate non-residential uses and/or multi-family residential uses to the amount used by a single-family residence. ERUs associated with all non-residential uses are determined and added to the ERU count derived from actual single-family residences to arrive at a total demand.

The disaggregate requirements forecasting technique is another common approach to estimating non-residential water demand. In disaggregate forecasting the water user identifies the demand of water associated with any non-residential uses such as irrigation, commercial facilities, industrial facilities, public facilities, recreation uses, etc. and sums them to arrive at a total non-residential water use demand. Historical records are often the best source, and the source preferred by the Department, for estimating the demand associated with non-residential uses. A qualified analogous system can be another recognized source of information for estimating disaggregate water demands.

A tabular summary of average daily demands for a variety of disaggregate uses (Table 6) is presented in Appendix Item 4. Table 6 has been adapted from a number of sources and does not represent the final authority on the water demand values presented. It should be noted that the values in Table 6 are average daily values. It may be necessary to apply a peaking factor or multiplier to the values to obtain a MDD or PHD equivalent value.

Other sources of disaggregated water demand values that may provide additional guidance include individual engineering references, individual water demand studies, the Uniform Plumbing Code, the American Water Works Association, and the Idaho Department of Environmental Quality. When properly referenced and applied, all of the sources previously described can be used if historical or analogous data are missing.

Regarding RAFN demand for the irrigation of lawns within community open spaces, parks, golf courses, cemeteries, etc., and the evaporative loss of water associated with decorative and aesthetic ponds, demand can be established by the appropriate evapotranspiration (ET) values as published by ET_Idaho (Allen and Robison 2009). In recognition of the contribution of precipitation to irrigation requirement it is appropriate to use the precipitation deficit (P_{def}) values in place of actual ET (ET_{act}). Appropriate values would include utilizing data from the nearest ET_Idaho station and as available, using the categories of “*Precipitation Deficit (Grass – Turf (lawns) – Irrigated)*” for P_{def} associated with lawns and grass and “*Precipitation Deficit (Open water-*

shallow systems (ponds, streams))” for P_{def} associated with municipal ponds and water features. When estimating diversion rates associated with P_{def} it is appropriate to use the 20% exceedance (80th percentile) 3-day moving average rate from the month with the largest ET rates. In light of the conservative methods allowed in determining P_{def} , quantification of the demand associated with ET loss from lawns and open water bodies should not include the use of peaking factors or multipliers.

3. Permitting RAFN Water Rights

For an application for RAFN to be accepted by the Department it must include a current application correctly and completely filled out, a municipal water right application checklist¹⁰ completely filled out, the appropriate fees, and a detailed narrative or report summarizing the methods used to determine RAFN. The report must specifically address the four fundamental components of RAFN as identified in section 2 of this document. Lastly, the application package must contain a summary of the applicant’s existing municipal water rights portfolio and some form of gap analysis.¹¹

Existing Municipal Water Rights Portfolio

In order for an applicant to formulate a requested RAFN proposal, understanding of the future demand is only half the equation. The applicant must also understand the existing supply of water available to it. Therefore, an evaluation or accounting of all existing municipal water right permits, licenses, decrees, and claims is needed to establish the water supply authorized on paper. This includes the review of water right permits and water rights designated municipal, as well as existing permits and rights with other designations that are beneficially used under the contemporary “municipal purposes” umbrella as defined in I.C. §42-202B (6).

Final Determination of RAFN Permit Diversion Rate (Gap Analysis)

An application for RAFN should contain completed analyses of the future water demand (residential, non-residential, and UAW) and the existing water right portfolio. The future water demand calculations should not include current or future fire flow requirements, as Idaho Code does not require a water right to engage in fire fighting activities (§42-201). Neither should the requirement of redundant groundwater points of diversion be used as justification for an additional increment of future beneficial use.¹² The final RAFN water right permit diversion rate is typically calculated by taking the combined projected demand of residential and non-residential water use, multiplied by a factor to account for UAW, less the total diversion rate of water already provided in the applicant’s current water rights portfolio.¹³

$$\begin{aligned} & (\text{Municipal Demand in Ending Year}) \times (\text{UAW Factor}) - (\text{Existing WR Diversion Rate}) \\ & = (\text{RAFN Permit Diversion Rate}) \end{aligned}$$

The municipal provider’s water rights portfolio must include the water rights already held by the provider for municipal purposes and may also include any of the following:

- Rights held by the municipal provider for other purposes such as irrigation

¹⁰ A copy of the municipal water right application checklist is included in the appendix as Item 5.

¹¹ Gap analysis is used in this instance to refer to the analysis of the difference (gap) between what will be needed and what is currently provided for by the existing water right portfolio.

¹² Each point of diversion, including alternate points of diversion to provide a redundant supply, requires authorization under a valid water right.

¹³ Alternatively, some municipal water systems with mixed sources of water supply divert water under the authority of water rights with late water right priority dates. This leaves the municipal provider susceptible to curtailment, a regulation based on water right priority date. In such a case, when the curtailment of water rights associated with one source (ex. surface water) do not limit the exercise of water rights diverting from a second source (ex. ground water), the Department may find the municipal provider will use its RAFN water right as an alternative supply. This would result in combined flow limits between the existing municipal water rights and a RAFN permit.

- Rights held by other entities, such as homeowner's associations for municipal use within the proposed RAFN service area
- Rights held by other entities for non-municipal uses within the proposed RAFN service area

The RAFN applicant should explain the assumptions regarding the inclusion or exclusion of these rights in the gap analysis. If the rights will be used for future municipal demand within the proposed RAFN service area, regardless of ownership, the rights must be subtracted from the reasonably anticipated future needs projection or counted among the water rights available to meet the reasonably anticipated future needs.

Item 6 of the Appendix is a detailed example of the determination of RAFN for a hypothetical RAFN application including analysis of RAFN service area, planning horizon, population projection, water demand, and existing water right portfolio.

Final Determination of RAFN Permit Volume

RAFN water right permits should not be limited by volume except in those instances where a volume limitation is necessary to protect the water supply source.

RAFN Permit Approval Conditioning

When issuing a RAFN water right permit the Department will include standard approval conditional language that identifies the permit for reasonably anticipated future needs (X64). All permits that do not have a condition designating RAFN status will be deemed as non-RAFN permits by the Department. All RAFN permits shall include approval conditions requiring the following:

- Filing of the proof of beneficial use no sooner than 4.5 years after the permit is issued (standard condition 236)
- Full system capacity constructed by the date the permit holder submits proof of application of water to beneficial use (standard condition 909),
- Inclusion of an updated RAFN analysis with the submittal of the proof of beneficial use (standard condition 237),
- Capacity installed for redundancy or for fire protection should be excluded when quantifying the amount of water developed for municipal purposes (standard condition 926),
- Submittal of a field examination and report conducted and prepared by a Certified Water Rights Examiner (CWRE) with the proof of beneficial use (standard condition 910).

Amending a permit from non-RAFN to RAFN

Consistent with Application Processing Memo #18 (Administrative Memo adopted October 19, 2009) and Department policy, a permit issued to a municipal provider that does not provide for RAFN cannot be later amended to gain the benefits of a RAFN permit.

4. Licensing RAFN Water Rights

With the submittal of proof of beneficial use in association with a RAFN water right permit, the permit holder is required to submit a field examination report completed by a CWRE. As required by I.C. §42-217, the statement of completion for proof of beneficial use shall include a description of the extent of use and a revised estimate of RAFN, containing a revised description of the RAFN service area, a revised planning horizon, and appropriate supporting documentation. Appropriate supporting documentation means a revised analysis of the same RAFN support material submitted at the time of application reflecting the system as it exists at the end of the permit development period. Also included should be a revised gap analysis including an updated portfolio of existing water rights. If proof is not submitted by the proof due date and an extension to the permit development period has not been granted, as provided under Idaho Code §42-204, the permit shall lapse and be of no further force nor effect as required under Idaho Code 42-218a.

Review of the Description of the Extent of Use

At the time of licensing the Department must first review the “description of the extent of use”, including accompanying evidentiary material, and make a determination of the extent of beneficial use that has occurred and whether the permit should be licensed in part or in full. If the permitted amount has been beneficially used already, because the provider experienced unexpected rapid growth, no further review is needed and the full permitted amount can be licensed.

Idaho Code §42-219(B) states “A license may be issued to a municipal provider for an amount up to the full capacity of the system **constructed or used** in accordance with the original permit...” (*emphasis added*). IDWR interprets the restrictive language in §42-219 to limit the authority of the agency to only license RAFN permits up to the *full capacity of the system constructed or used*. Full capacity constructed means significant infrastructure has been constructed to accommodate delivery of water throughout the RAFN service area. Full capacity constructed entails more than engineering plans or in-place financing.

Components of significant infrastructure will always include at least the following:

- For ground water diversions a constructed well or series of wells and their associated capacities, for surface water diversions constructed diversion facilities and their associated capacities, or for mixed sources some combination thereof.
- Storage tanks when included as an integral part of the design.
- Trunk lines (major supply conduits) sized and constructed to anticipate service beyond the physically constructed limits of the delivery system at the time proof of beneficial use is submitted.

Significant infrastructure does not have to include the following:

- Service laterals (i.e. stub outs to lots that have not been built out)
- Main line and/or lateral line extensions beyond the physically constructed limits of the delivery system at the time proof of beneficial use is submitted.
- Water quality treatment facilities for diversions in excess of the demand at the time proof of beneficial use is submitted.
- Pumping capacity for diversion in excess of the demand at the time proof of beneficial use is submitted.

Significant infrastructure will never include the following:

- Diversion works and distribution system capacity available for fire protection and/or redundant supply. (The additional capacity provided does not require a water right, so licensing the additional capacity would unintentionally increase the estimated demand to provide for unsupported future growth.¹⁴)

Therefore, when reviewing the “description of the extent of use” and accompanying documentation, Department staff must review the improvements that have been made, which will typically lie somewhere between full system build out and no system build out, to determine to what extent the RAFN permit should be licensed.

Review of Revised RAFN Characteristics Including Diversion Rate

With the proof of beneficial use submittal the permit holder should submit a revised description of the RAFN specifically addressing each of the four fundamental components of a RAFN package: (1) service area; (2) planning horizon; (3) population projections within the planning horizon; and (4) water demand. Department

¹⁴ Small municipal systems may not be designed for peak demand and fire flow. In such a case, the available capacity might justify the full capacity of the system.

staff shall review the revised RAFN in a manner similar to the application review process as detailed in sections 2 and 3.

At the time of licensing, department staff can update the RAFN service area, the planning horizon, and diversion rate as appropriate based on the review of new material and the field examination report. Diversion rate and planning horizon can only be amended downward to reflect a revised lowered future water demand. If new RAFN analysis at the time of licensing indicates an increase in water demand the additional diversion rate and/or longer planning horizon associated with the increased demand must be pursued under a new application for permit or transfer.

Final Determination of RAFN License Volume

RAFN water right licenses should not be limited by volume except in those instances where a volume limitation is necessary to protect the water supply source.

RAFN License Approval Conditioning

When issuing a RAFN water right license the Department will include standard approval conditional language that identifies the license for reasonably anticipated future needs (X64). All licenses that do not have a condition designating RAFN status will be deemed as non-RAFN licenses by the Department. All RAFN licenses shall also include approval conditions requiring that all future needs must be constructed and used by the end of the planning horizon (109) and that the place of use (POU) associated with a RAFN water right shall not be changed to a location outside of the service area (110).

Nonuse of RAFN Water Rights

If sufficient proof of beneficial use is submitted before the end of the permit development period and the municipal water right is licensed for an amount of water for RAFN, the requirement that the system needed to provide water for the RAFN be fully constructed and used by the end of the municipality's planning horizon will continue as a condition of the license. If the municipal provider fails to construct and use the complete system by the end of the permit planning horizon, or the anticipated future needs do not materialize by the end of the planning horizon, the quantity of water under the license may be revised to reflect the needs that actually exist at the end of the planning horizon.

5. Transfer of RAFN Water Rights

The portion of any water right described with a beneficial use of RAFN cannot be transferred or modified to have a beneficial use other than RAFN. However, water rights with beneficial uses other than RAFN can be transferred or modified to a RAFN use.

Idaho Code §42-222 governs the transfer of water to and from RAFN status. When a transfer proposes changing the nature of use of a water right to municipal purposes for RAFN, the municipal provider shall provide to the Department sufficient information and documentation to establish the transfer applicant qualifies as a municipal provider at the time of application, is providing water to a municipality or municipalities, and that the RAFN, the service area, and the planning horizon are consistent with Idaho Code. Supporting documentation must be included with the transfer application including the same RAFN support material that would be submitted with an RAFN application as outlined and described in Section 2 of this document. As discussed in Section 3, gap analysis including a current portfolio of existing water rights must also be included with the transfer application. A transfer application proposing to use a RAFN water right as an alternate source in times of curtailment should include justification for the proposal with the application.

Water rights or portions of water rights that identify RAFN as the beneficial use shall not be changed to a place of use outside the RAFN service area or to a new nature of use (I.C. §42-222). The effect of this statutory

language eliminates the modification of a RAFN water right by transfer for anything other than the addition of a point or points of diversion.

Final Determination of RAFN Transfer Volume

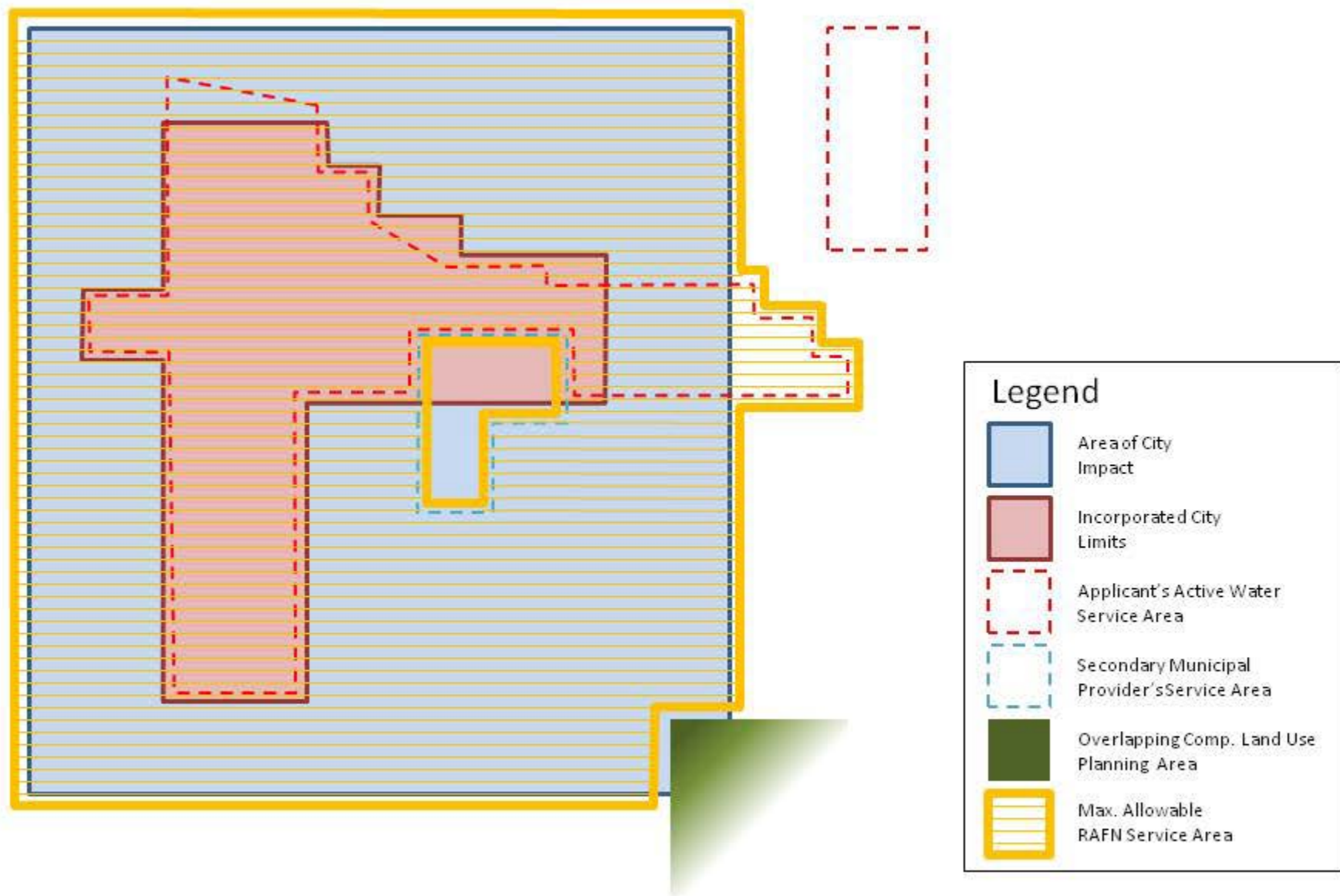
RAFN water rights created by transfer from an existing non-RAFN municipal right should not be limited by volume except where a volume limitation existed in connection with the water right's use prior to the transfer. A transfer to change the nature of use of an established water right from non-municipal to municipal purposes for RAFN shall limit the volume of water to the historic consumptive use established prior to the change.

RAFN Transfer Approval Conditioning

When issuing a RAFN water right transfer the Department will include standard approval conditional language that identifies the water right for reasonably anticipated future needs (X64). All transfers that do not have a condition designating RAFN status will be deemed as non-RAFN water rights by the Department. All RAFN transfers shall also include an approval condition requiring that the system must be fully constructed and used by the end of the planning horizon (109). Finally, all RAFN transfers shall include an approval condition limiting the RAFN to use within the service area and restricting a change in the purpose of use (110).

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Appendix Item 2 - Illustrative Example of Delineation of Maximum Allowable RAFN Service Area

Appendix Item 3

Comparison of the Idaho Department of Water Resources and the Idaho Department of Environmental Quality Methodologies for Quantifying Residential In-Home Use

The Department's Administrative Memorandum Application Processing #22 (AP22) dated June 4, 1980, addresses the 'Definition of Domestic' and provides guidance, in the form of a chart (Figure 1), for quantifying the rate of flow necessary for the in-house culinary use for multi-household systems. The memo states, "*The flow identified on this graph should be used as a guideline in determining and reviewing domestic use rates of flow on applications for permit with more than one hookup. Greater flow can be accepted if justified.*" Figure 1 is titled "Maximum Instantaneous Water Requirements for Domestic Use" and depicts a power function relationship between the number of houses served (N) and the water demand (Q) in cubic feet per second (CFS). The following equation represents the relationship depicted on Figure 1 of AP22 and allows for the calculation of Q strictly as a function of N.

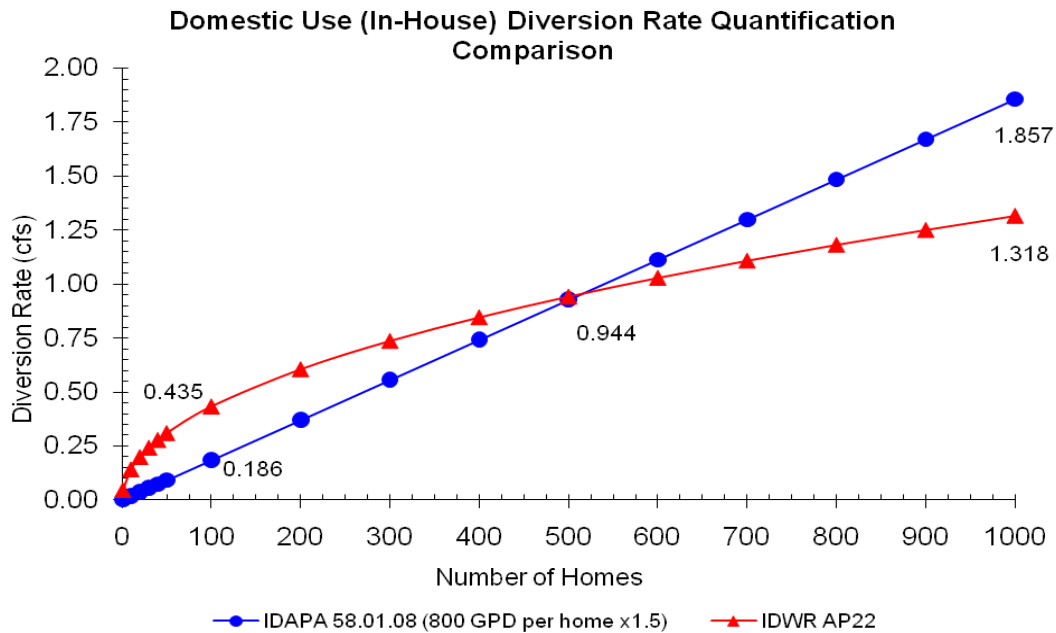
$$\text{Eqn. 1: } Q \text{ (CFS)} = 0.0473 * (N)^{0.4817}$$

AP22 does not make clear whether "maximum instantaneous water requirement" is equivalent to peak hour demand (PHD), peak instantaneous demand (PID), or some other value. Nonetheless, for communities ranging from 2 to 1,000 homes this has historically been the equation that Department staff used to quantify the permitted diversion flow rate specific to in-home domestic use when no other rate was justified. It does not account for demand associated with out-of-home uses, namely irrigation.

The Idaho Rules for Public Drinking Water Systems administered by DEQ mandate the capacity of public drinking water systems to be a minimum of 800 gallons per day (GPD) per residence (IDAPA 58.01.08 552-01(a)). This is equivalent to 0.6 gallons per minute (GPM) and 0.001 CFS. The rules define this amount as the "design maximum day demand" (MDD) exclusive of irrigation and fire flow requirements (IDAPA 58.01.08 552-01(a.i)). The rules go on to say that the MDD may be "*less than 800 GPD if the water system owner provides information that demonstrates to the [Department of Environmental Quality's] satisfaction the maximum day demand for the system, exclusive of irrigation and fire flows, is less than 800 GPD per residence*". The value of 800 GPD per residence was likely initially derived from the Federal Housing Administration's minimum design standards (FHA 1965). The rules do not address peaking factors. However, if we use the standard values from Table 5 we can determine a PHD of 1,200 GPD per residence (PHD = 1.5*MDD). The following figure compares the water demand functions for 1 to 1,000 homes as derived from AP22 and the Idaho Rules for Public Drinking Water Systems.

At first glance it appears there is a conflict between AP22 and the Idaho Rules for Public Drinking Water Systems. This conflict could potentially lead to a deficient municipal water supply system with a combined water right diversion rate, less than the diversion rate mandated by the Idaho Rules for Public Drinking Water Systems. However, such a conflict does not exist for two reasons. First, the Idaho Rules for Public Drinking Water Systems address the concept of "storage" and the ability of equalization storage, in sufficient quantity, to compensate for differences between a water system's maximum pumping capacity and peak hour demand. Furthermore, the rules also address the ability of equalization storage plus fire suppression storage, both in sufficient quantity, to compensate for the difference between a water system's maximum pumping capacity and peak demand plus fire flow, in those systems that provide fire flow (IDAPA 58.01.08 003-71). Secondly, the 800 GPD in-home use value is only valid when MDD flows in the system are equal to or greater than 800 GPD. If actual MDD flows are less than 800 GPD they can be recognized as a valid demand for the system (IDAPA 58.01.08 552-01(a.iii)).

One obvious deficiency in both methods is their lack in quantifying an irrigation demand component, leaving the task of determining total residential demand only partially completed. Another deficiency in the Idaho Rules for Public Drinking Water System is their treatment of demand as a linear function, as it is commonly accepted that for larger communities, demand is not linear with respect to number of homes (Ameen 1965).



It is desirable for the Department to have a single recommended method for quantifying residential demand that addresses both in-home and out of home uses including irrigation. Such a method was developed by the U.S. Department of Housing and Urban Development (DHUD) in their publication titled *A Study of Residential Water Use* (Linaweaver 1967). This method has the added advantage of being currently adopted and under implementation by the Idaho Department of Environmental Quality (DEQ 2005). The DHUD method is presented below in detail and it is recommended that this method be used by applicants and the Department in determining residential demand for those communities for which actual historical demand data does not exist.

The DHUD method calculates the maximum daily demand (Q_{MDD}) and peak hourly demand (Q_{PHD}) as functions of average daily in-home use (Q_{ADD}), consumptive use associated with residential irrigation, and the variability associated with the magnitude of the input factors influencing the demand and the diversity effect associated with the number of dwelling units or residences. The following equations (equations 2 through 8) have been derived from the DHUD publication with some modifications specific to Idaho and the Department. The following equations express the steps necessary to determine values for Q_{MDD} and/or Q_{PHD} .

Eqn. 2: $Q_{MDD} = Q_{ADD} + C \cdot (L_s) \cdot (P_{def}) + 2 \cdot (\sigma_{MDD})$, where

Q_{MDD} : maximum daily demand (GPD)

Q_{ADD} : average daily in-home demand per residence (GPD)

C: unit conversion constant

L_s : average irrigable area in acres per unit

P_{def} : precipitation deficit for irrigated turf grass, i.e. lawn (inches)

σ_{MDD} : variability in magnitude of factors and the number of dwelling units

Equation 3 allows for the calculation of Q_{ADD} as a function of average home value from 1965. Equation 4 is used to adjust contemporary home values by inflation to determine historical home values from 1965. When desired for simplicity or lack of data, a Q_{ADD} value of 250 GPD can be substituted for the results of Equation 3 if desired by the applicant.

Eqn. 3: $Q_{\text{ADD}} = 3.46 * V_{1965} + 157$, where

V_{1965} : average market value in \$1000 per residential lot in 1965.

Eqn. 4: $V_{1965} = V_{2010} / (1.044)^{46}$, where

V_{2010} : average market value in \$1000 per residential lot in 2010.

Equation 5 is used to calculate the average irrigable area term (L_s) and assumes that irrigation practices are uniform across the entire community. If a source other than the municipal water system is used for irrigation (i.e. surface water irrigation water rights) the L_s term should equal zero.

Eqn. 5: $L_s = 0.803 * (W)^{-1.26}$, where

W = gross housing density in dwelling units per acre

Equation 6 is used to calculate the variability term, σ_{MDD} .

Eqn. 6: $\sigma_{\text{MDD}} = [(1,090 + 166,000 * L_s^2) + (5,480,000/n)]^{1/2}$, where
 n : number of residences or residential lots

The method presented herein also supports the calculation of a Q_{PHD} as a function of the Q_{MDD} value previously determined. The following equation allows for the calculation of Q_{PHD} .

Eqn. 7: $Q_{\text{PHD}} = 2.02 * (Q_{\text{MDD}}) + 334 + 2 * \sigma_{\text{PHD}}$, where
 σ_{PHD} : variability in magnitude of factors and the number of dwelling units

Equation 8 is used to calculate the variability term, σ_{PHD} .

Eqn. 8: $\sigma_{\text{PHD}} = [(2.02 * (1,090 + 166,000 * L_s^2)) + (12,300,000/n)]^{1/2}$, where
 n : number of residences or residential lots

The method presented and described above is automated in a spreadsheet tool prepared by the Department titled "ResidentialDemandCalculator.xlsx" and is available from the Department upon request.

Appendix Item 4

Table 6 - Summary of Average Daily Non-Residential Water Uses

Description of Water Use	Water Consumption	Units
Airport (per passenger)	3-5	GPD
Apartment, multiple family (per residence)	50	GPD
Bank (per SF)	0.05	GPD
Barbershop (per chair)	55	GPD
Bathhouse (per bather)	10	GPD
Beauty Salon (per station)	95	GPD
Boardinghouse (per boarder)	50	GPD
Camp:		
Construction, semi-permanent (per worker)	50	GPD
Day, no meals served (per camper)	15	GPD
Luxury (per camper)	100-150	GPD
Resort, day and night (per camper)	50	GPD
Tourist, central bath and toilet (per person)	35	GPD
Car Wash (per SF)	4.9	GPD
Cottage, seasonal occupancy (per resident)	50	GPD
Club		
Country (per resident member)	100	GPD
Country (per nonresident member present)	25	GPD
Highway Rest Area (per person)	5	
Hotel		
Private baths (2 persons per room)	50-68	GPD
No private baths (per person)	50	GPD
Institution other than hospital (per person)	75-125	GPD
Hospital (per bed)	200-400	GPD
Laundry/Laundromat		
Self-serviced (gallons per customer)	50	GPD
Self-serviced (gallons per machine)	400-500	GPD
Livestock Drinking (per animal)		
Beef, yearlings	20	GPD
Brood sows, nursing	6	GPD
Cattle or steers	12	GPD
Dairy	20	GPD
Dry cows and Heifers	15	GPD
Goat or sheep	2	GPD
Hogs/swine	4	GPD
Horse or mules	12	GPD
Livestock Facilities		
Dairy Sanitation (milk room)	500	GPD
Floor flushing (per 100 SF)	10	GPD
Sanitary Hog Wallow	100	GPD
Motel		
Bath, toilet, and kitchen (per bed space)	65-100	GPD
Bed and toilet (per bed space)	50	GPD

Table 6 Continued - Summary of Average Daily Non-Residential Water Uses

Description of Water Use	Water Consumption	Units
Parks		
Overnight, flush toilets (per camper)	25	GPD
Trailer, individual bath units, no sewer connection (per trailer)	25	GPD
Trailer, individual baths, connected to sewer (per person)	50	GPD
Picnic Ground		
Bathhouses, showers, and toilets (per picnicker)	20	GPD
Toilet facilities only (gallons per picnicker)	10	GPD
Poultry (per 100 birds)		
Chicken	5-10	GPD
Ducks	22	GPD
Turkeys	10-25	GPD
Restaurant		
Toilet facilities (per patron)	7-10	GPD
No toilet facilities (per patron)	2.5-3	GPD
Bar and cocktail lounge (add. quantity per patron)	2	GPD
Toilet facilities (per seat/chair)	24-50	GPD
School		
Boarding (per pupil)	75-100	GPD
Community college (per student and faculty)	15	GPD
Day, cafeteria, gym, and showers (per pupil)	25	GPD
Day, cafeteria, no gym or showers (per pupil)	20	GPD
Day, no cafeteria, gym, or showers (per pupil)	15	GPD
Service Station		
Service Station (per vehicle)	10	GPD
Service Station (per SF)	0.18	GPD
Store/Retail		
Department, no food service (per SF)	0.04	GPD
General (per bathroom stall)	400	GPD
General (per SF)	0.05	GPD
Shopping Center/Malls (per SF)	0.25	GPD
Swimming pool (per swimmer) maintenance (per 100 SF)	10	GPD
Theater		
Drive-in (per car space)	5	GPD
Movie (per auditorium seat)	5	GPD
Worker		
Construction (per person per shift)	50	GPD
Day (school or offices per person per shift)	15	GPD
Factory (gallons per person per shift)	15-35	GPD

Table 6 has been adapted from the following sources: Dewberry 2002, Prasifka 1988, and WSDOH 2009.

Appendix Item 5

Municipal Water Right Application Checklist

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
MUNICIPAL WATER RIGHT APPLICATION CHECKLIST
FOR AN APPLICATION TO APPROPRIATE WATER FOR MUNICIPAL PURPOSES

An application to appropriate water for municipal purposes must be prepared in accordance with the requirements listed below to be acceptable for processing by the Department. There are two types of permits for municipal water use. The first type of municipal permit provides water for reasonably anticipated future needs (RAFN) over a defined planning horizon.¹ The second type of municipal permit, called non-RAFN, provides water solely for use to meet needs that will arise in the near-term (five years).² A non-RAFN permit may have an annual volume limitation associated with it. Each type of municipal water use has a distinct set of review requirements.

Applicant Name: _____

1. Type of Municipal Provider. Applicant must qualify as a Municipal Provider to obtain a municipal water right. See Idaho Code § 42-202B (5). Check one:

- ☐ Type 1 – Municipality
☐ Type 2 – Franchise or political subdivision supplying water to a municipality
☐ Type 3 – Corporation or association regulated as a “public water supply” system by IDEQ
☐ Attach documentation of qualification as a Municipal Provider. See Idaho Code § 42-202(2).

2. List existing Water Rights (permits, licenses, decrees, and beneficial use claims) available to the applicant for municipal needs. These rights may or may not have a purpose of use expressly defined as “municipal”. Include a separate attachment as needed.

Right Number	Nature of Use	Diversion Rate (cfs)	Annual Vol. (acre-feet)	Service Area
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

3. List the total diversion rate from Item 2. Be sure to account for any combined diversion rate limits in the approval conditions of each right listed. _____ CFS (total from 2)
4. List the total volume from Item 2. Be sure to account for any combined volume limits in the approval conditions of each right listed _____ AF (total from 2)

¹ For a thorough discussion of RAFN water rights, see IDWR’s *Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer*.

² For a thorough discussion of non-RAFN water rights, see IDWR’s Application Processing Memorandum No. 18.

5. Planning Horizon. See Idaho Code § 42-202B (7). Check one:

- ☐ RAFN. Specify planning horizon: ____ years. Ending year: 20____. Go to Item 6.
☐ Non-RAFN (≤5 years). Go to Item 7.

6. If application is for RAFN:

- ☐ Attach justification for planning horizon. See Idaho Code § 42-202(2) and § 42-202B(7).
☐ Attach description of service area. See Idaho Code § 42-202(2) and § 42-202B(9).
☐ Attach population projection within the service area over the planning horizon. See Idaho Code § 42-202(2) and § 42-202B(8).
☐ Attach evaluation for demand within the service area over the planning horizon. See Idaho Code § 42-202(2) and § 42-202B(8).
☐ Attach any supporting documentation relevant to the RAFN application, such as comprehensive plans or other planning documents.

Does demand exceed the totals listed in Items 3 and 4?

Y N

- ☐ ☐ Rate?
☐ ☐ Volume?

If the answer is “No” to both rate and volume and a new point of diversion is needed, file a transfer application pursuant to Idaho Code § 42-222(1).

7. If application is for non-RAFN:

When submitting proof of beneficial use, non-RAFN permit holders will be required to show that water was diverted for an additional increment of beneficial use over existing water rights during the authorized development period, which may be up to five years from the date of approval. Do existing demand and short term needs exceed the combined authorizations from the existing water rights listed in Items 3 and 4?

Y N

- ☐ ☐ Rate?
☐ ☐ Volume?

If the answer is “No” to both rate and volume and a new point of diversion is needed, file a transfer application pursuant to Idaho Code § 42-222(1).

Appendix Item 6

Example Determination of RAFN for a Small Rural Municipality

Description of Municipality

Gem City is in the process of acquiring grant money to create a master water plan and expand their existing municipal water system. It has taken this opportunity to apply for a permit for RAFN water rights by conducting a thorough analysis of the future projected demands and their existing water right portfolio. Gem City is located in Benewah County. Gem City currently uses storage to meet demands in excess of their maximum day demand (MDD) and plans to continue this practice into the future. Gem City has recently updated their comprehensive plan (comp plan) including updates to their incorporated city limits and their area of city impact as depicted in Appendix Item 3. The planning horizon associated with the recently adopted comp plan is 20 years. Gem City does not have a current master water plan.

Gem City has rigorously defined their non-residential water use as follows: one hospital (20 beds), one barber shop (5 chairs), one beauty salon (5 stations), one car wash (1,000 square feet (SF)), one Laundromat (10 wash machines), one motel (30 bed spaces), three restaurants (combined seating 80), one elementary school with cafeteria and no gym or showers (100 students), one middle school with cafeteria, gym, and showers (60), and one high school with cafeteria, gym, and showers (60 students), one service station (1,000 SF), and 45,000 square feet of existing retail space. For the next 20 years Gem City has projected an additional development of 30,000 SF of retail space and two factories employing 30 people per shift per day apiece. Gem City has a single 2-acre park within the city limits and a 10-acre cemetery outside the city limits.

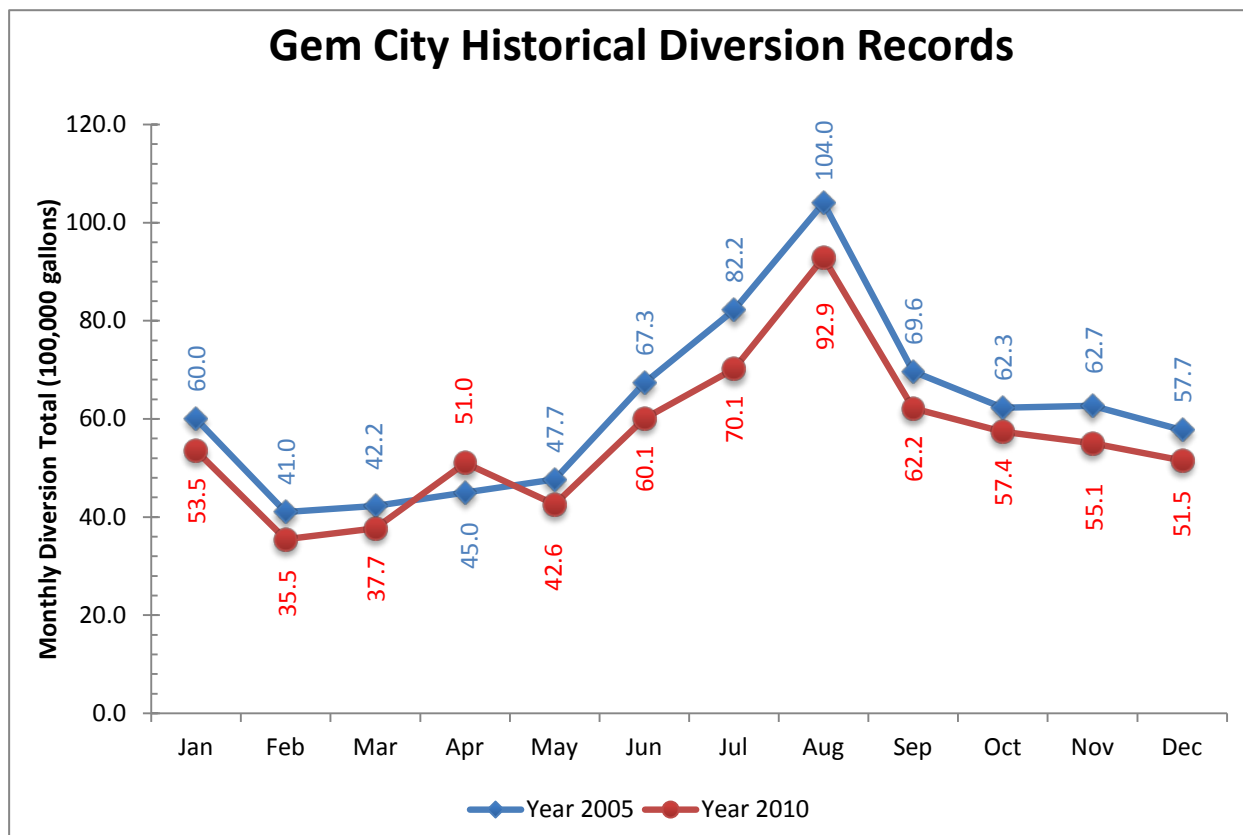
U.S. Census Bureau data for Gem City for the last four censuses conducted is summarized in the following table. The U.S. Census Bureau also reports average persons per household for Gem City at 3.14 in the year 2000 and 2.81 in the year 2010.

Gem City, ID

Year	Population*
1980	610
1990	804
2000	990
2010	1044

*US Census Data

Gem City's monthly municipal water system diversion volumes for years 2005 and 2010 are summarized in the following figure. Gem City does not have a separate irrigation utility and all residential irrigation is provided for by the municipal water system. Gem City does not have diversion data with a finer recording interval than monthly. They have no understanding of their MDD:ADD or PHD:ADD peaking factors, nor adequate data to support the analysis and derivation of these values.



The following table summarizes Gem City's existing water rights portfolio.

Gem City Water Right Portfolio

WR No.	Beneficial Use Desc.	Diversion Rate (cfs)	Annual Diversion Vol. (AF)
95-123	Municipal	0.20	N/A
95-1234	Municipal	0.20	N/A

Analysis – Service Area

Gem City's proposed RAFN service area can include all areas within the existing area of city impact (largest planning boundary that has been adopted by the City). It can include areas outside of the city's area of impact where water service is currently provided through interconnection. It cannot include proposed service areas outside the area of city impact where water service is not already provided. In addition, it cannot include the service area of other municipal water providers and it cannot include areas included in an overlapping comprehensive land use planning area as adopted by another municipality. For the sake of the example we will assume that appendix Item 2 illustrates the service area for the RAFN.

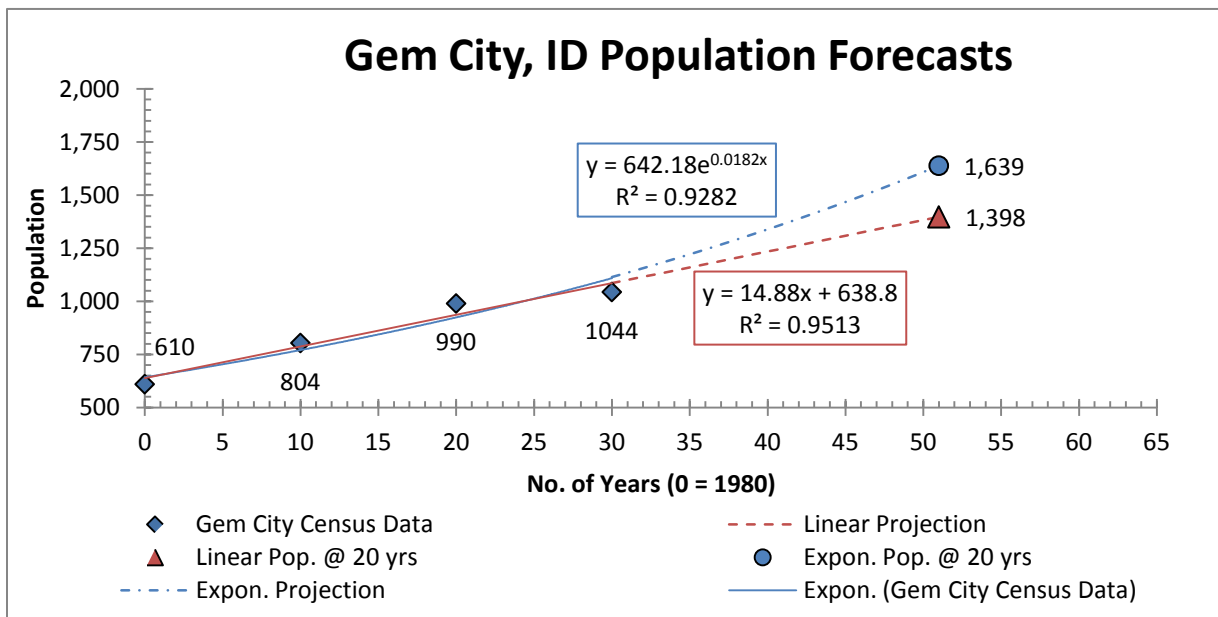
Analysis – Planning Horizon

Gem City has recently adopted a new comp plan with a 20 year planning horizon associated with the document. There are no other appurtenant planning documents such as a master water plan from which to reference an alternative planning horizon. Since a RAFN planning horizon cannot be inconsistent with comprehensive land use plans adopted by the City, the planning horizon is limited to 20 years. In addition, 20 years is consistent with the values presented in Tables 2 and 3 further confirming it as an appropriate value for

use with this RAFN proposal.

Analysis – Population Projections within the Planning Horizon

Gem City does not have any studies of population growth or demographics specific for their community. Therefore, U.S. Census Data represents the only available data regarding the population and demographics of Gem City. To avoid skewing population predictions to ephemeral trends within the census data, it is appropriate to look at a minimum of three decades worth of census data. The following figure is an x-y scatter plot of Gem City population data and years (blue diamonds). Exponential (blue line) and linear (red line) relationships have been molded to the census data and are depicted on the figure illustrating two different models between population and time.



Statistically speaking both models can be considered highly significant with coefficient of determination (R^2) values of 0.9513 for the linear model and 0.9282 for the exponential model. Presented independently either model could be considered reasonable. However, when the two models are presented together, allowing for comparison, the linear model establishes a better fit. As such, the linear relationship should be selected to forecast future populations. Since application for RAFN is being made in 2011 and the planning horizon has been established at 20 years, we are interested in forecasting the population for the year 2031 (or year 51 when 1980 = year 0). The following calculation establishes the future population at the end of the planning horizon.

$$P_{2031} = 14.88 \cdot (51) + 638.8 = 1,398 \text{ people}$$

Analysis – Water Demand

Gem City has presented data for two different water service years, 2005 and 2010. Consistent with state wide and national trends, even though the service population of the town went up from 2005 to 2010, the demand went down, slightly. Since 2010 best captures existing demand characteristics, which are most likely to translate forward in time, it is appropriate to use data from 2010 to establish water demand.

Gem City has presented total diversion records and a breakdown of non-residential demand. They have not provided a breakdown of residential demand exclusive of non-residential demand nor have they presented

data on unaccounted for water (UAW). Without a breakdown of residential demand it is hard to make use of the non-residential demands. From the total diversion data it is possible to derive a per capita water use, but this value will incorporate or carry with it the non-residential demand component. Because of the lack of data exclusive to residential demand the applicant should not utilize the non-residential data in forecasting water demand.

The following table summarizes monthly water demand diversions for 2010. It also summarizes per capita monthly average daily demand, which was calculated by assuming a static population over the entire course of the year of 1,044 people.

Gem City 2010 Municipal Water Supply System Diversion Records

Month	No. Days	2010 Monthly Div. (gal)	Monthly ADD (GPD)	Monthly ADD per Capita (GPD)
Jan	31	5,354,690	172,732	165
Feb	28	3,547,730	126,705	121
Mar	31	3,771,120	121,649	117
Apr	30	5,102,560	166,752	160
May	31	4,259,420	137,401	132
Jun	30	6,009,070	200,302	192
Jul	31	7,014,390	226,271	217
Aug	31	9,285,620	299,536	287
Sep	30	6,216,640	207,221	198
Oct	31	5,737,530	185,082	177
Nov	30	5,507,040	183,568	176
Dec	31	5,151,590	166,180	159
Annual	365	66,957,400	--	--

From this data we can calculate the average daily demand (ADD) per capita by dividing the total diversions (66,957,400 gallons) by 365 days by 1,044 people. For 2010 ADD equals 176 gallons per day (GPD) per capita. We can also determine the maximum monthly average daily demand (MMAD) per capita by dividing monthly total diversions by the number of days in the month by 1,044 people and selecting the largest value. For 2010 we can see that the MMAD is equal to 287 GPD per capita and this value occurred in August, which is logical, as this is the month likely to necessitate the greatest irrigation demand on the system. Sufficient data does not exist to calculate maximum day demand (MDD) or peak hourly demand (PHD). Therefore, to determine these values, in consideration of the fact that historical data and analogous systems are insufficient to derive actual values for this example, we will rely upon the peaking factor values presented in Table 3. Utilizing values from Table 3 we can calculate MDD from MMAD by multiplying MMAD by 1.3, this calculation yields a MDD per capita value of 373 GPD. Alternatively we could calculate MDD from ADD by multiplying ADD by 2.0, this calculation yields a MDD per capita value of 352 GPD.

To calculate the total projected future water demand we must multiply the future population at the end of planning horizon (1,398 people) by the selected per capita demand value. Since Gem City relies on storage to meet peak hourly demand, the maximum day demand represents the design demand value for forecasting future water demand. Since estimations of MDD from ADD and MMAD are both valid approaches it is appropriate to use the larger of the two values. With these considerations in mind the projected future MDD water demand is equal to 362 gallons per minute (GPM) or 0.81 cubic feet per second (CFS). Gem City does not have any data on UAW. In this event we can use a maximum UAW value of 10% of total diversions.


Therefore, after accounting for UAW the projected future MDD water demand can be adjusted to 0.91 CFS ($0.83 + 0.10 \times 0.83$).

Review of Gem City's existing water right portfolio indicates that the city already has 0.40 cfs of diversion rate. This value must be subtracted from the projected future MDD water demand to determine the diversion rate value that will be included on the new RAFN water right, in this instance the final RAFN diversion rate value will be 0.51 CFS ($0.91 - 0.40$).

Gem City's proposed RAFN service area will include a municipal water right for 0.20 cfs currently owned by a homeowner's association within the proposed service area. The disposition of this water right should be addressed in the RAFN application.

ADMINISTRATOR'S MEMORANDUM

To: Regional Offices
Water Allocation Bureau
Application Processing No.75
Permit Processing No. 21
Licensing No. 14

From: Jeff Peppersack 

Re: Term Limits for Hydropower Use

Date: January 13, 2014

INTRODUCTION

House Bill No. 50 from the 2013 legislative session amended Idaho Code § 42-203B. The statute was amended in response to a footnote in *Idaho Power Company v. Idaho Department of Water Resources*, 151 Idaho 266 (2011), suggesting that IDWR's traditional hydropower term condition may not comport with the statute because it does not set a fixed termination date for the water right.

The revised statute no longer requires the Director to limit a hydropower permit or license only to a "specific term" but instead expands the Director's conditioning ability by providing that the Director may "limit a permit or license for power purposes to a term, which may be in the form of a fixed date or by reference to a Federal Energy Regulatory Commission (FERC) license or other authorization issued or contract executed, in connection with the power project." *Idaho Code § 42-203B(6)*.

The revised legislation provides for modification of the water right if the Director decides to review the water right and issues an order modifying it prior to the expiration of the term. The legislation provides for the automatic extension of the term if the Director chooses not to review the water right.

This memo addresses how IDWR will determine the lengths of terms for hydropower water rights given the new legislation and how the terms will be stated in the conditions of future water rights for power generation. This memo is intended to serve as general guidance. Situations may arise that justify variance from this memo. If an applicant seeks a term condition different from the conditions used in this memo, or if a different condition seems warranted for some other reason, staff members are encouraged to consult their regional manager, section manager, or bureau chief.

CATEGORIES OF HYDROPOWER FACILITIES

The amended statute requires the Director to evaluate the following factors, **among others**, when setting a term:

- The term of any FERC license for the hydroelectric project.
- The term of a power purchase contract associated with the hydroelectric project.

- Existing downstream water uses.
- The policy and authority of the Idaho Public Utilities Commission (IPUC) to enforce the Public Utility Regulatory Policies Act of 1978 (PURPA).¹

To facilitate selecting the most appropriate term condition, we can classify most water rights for power purposes into one of three categories.

Category I -- Water rights for hydroelectric projects that require a FERC license.

Category II -- Water rights for FERC exempt hydroelectric projects with power purchase contracts subject to IPUC review.²

Category III -- Water rights for hydroelectric projects that are outside the jurisdiction of the FERC and the IPUC.

DEFINITIONS OF THE TERM CONDITION CATEGORIES

Category I -- Hydroelectric projects that require a FERC license.

According to FERC:

A license from FERC is required to construct, operate, and maintain a non-federal hydroelectric project that is or would: (a) be located on navigable waters of the United States; (b) occupy U.S. lands; (c) utilize surplus water or water power from a U.S. government dam; or (d) be located on a stream over which Congress has Commerce Clause jurisdiction, where project construction or expansion occurred on or after August 26, 1935, and the project affects the interests of interstate or foreign commerce.³

¹ The Idaho Public Utilities Commission has jurisdiction over electric utilities, pursuant to the authority and power granted it under Title 61 of the Idaho Code and the Commission's Rules of Procedure, IDAPA 31.01.01.000 *et seq.*, and the Public Utilities Regulatory Policies Act of 1978 (PURPA). The IPUC has the authority under PURPA and the implementing regulations of the Federal Energy Regulatory Commission (FERC) to set avoided costs, to order electric utilities to enter into fixed term obligations for the purchase of energy from qualifying facilities, and to implement FERC Rules. Reference 18 C.F.R. Section 292. PURPA established a class of generating facilities which would receive special rate and regulatory treatment. They are known as Qualifying Facilities (QFs). Through a provision of PURPA, regulated utilities are required to offer to buy energy from Qualifying Facilities. Although it is a federal law, states determine the rates paid to the Qualifying Facilities. It is the authority that the IPUC has under PURPA which puts power contracts under their purview.

² A few FERC-exempt projects do not benefit from a power purchase agreement and so are not subject to IPUC authority. The terms for these projects can be set like Category III projects. See pages 4-5 of this memo.

³ From <http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/get-started/exemp-licens.asp>

Test (d) includes linking a hydroelectric project to the interstate transmission grid.⁴

A FERC license is issued with an expiration date and must be renewed at the end of each term. An “original” license authorizes the construction and operation of a project and is issued for a term of up to 50 years. A “subsequent” or “new” license, (a.k.a. a relicense), authorizes the continued operation of a previously licensed project. The new license term is 30 to 50 years, depending on the costs that were incurred to develop the project.⁵

As indicated above, the amended statute authorizes IDWR to take the term of the FERC license into account when setting the water right term, and it indicates that the water right term may be established by reference to the term of the FERC license.

Category II -- FERC exempt hydroelectric projects with power purchase contracts subject to IPUC review.

FERC issues two types of development authorizations -- licenses (discussed above in Category I) and exemptions. “Exempt” projects are not exempt from federal and state review and permitting. An exemption is a permit process like a FERC license, but with fewer steps. Unlike a FERC license, a FERC exemption has no expiration date. It is issued in perpetuity.

To determine which projects fit into this category, IDWR will rely on the types of FERC exemptions available when the water right application is filed. FERC currently issues two types of exemptions:⁶

1. 5-MW Exemptions:

Hydropower projects which are 5 megawatts or less may be eligible for a

⁴ Quoting from the Federal Power Act (16 USC§§ 796):

(11) “project” means complete unit of improvement or development, consisting of a power house, all water conduits, all dams and appurtenant works and structures (including navigation structures) which are a part of said unit, and all storage, diverting, or forebay reservoirs directly connected therewith, the primary line or lines transmitting power therefrom to the point of junction with the distribution system or with the interconnected primary transmission system, all miscellaneous structures used and useful in connection with said unit or any part thereof, and all water-rights, rights-of-way, ditches, dams, reservoirs, lands, or interest in lands the use and occupancy of which are necessary or appropriate in the maintenance and operation of such unit. See <http://www.gpo.gov/fdsys/pkg/USCODE-2011-title16/pdf/USCODE-2011-title16-chap12-subchapl-sec796.pdf>

⁵ During the water right application phase, staff may also encounter a preliminary permit issued by FERC. Before applying for a FERC license, a hydropower developer may apply to FERC for a preliminary permit. A preliminary permit is like staking a claim. Preliminary permits maintain a permittee’s priority to file a license application while he gathers data and studies the feasibility of a project at a particular site. Preliminary permits typically expire after three years, and they do not authorize any land-disturbing activities or project construction. During the term of the permit, the permittee prepares an application for an original hydropower license.

⁶ For a chart that shows the major differences between a FERC license, a conduit exemption, and a 5-MW exemption, see [Project Comparison Chart](http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/get-started/exemp-licens/project-comparison.asp) or <http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/get-started/exemp-licens/project-comparison.asp>

5-MW exemption. The applicant may install or add capacity to a project located at a non-federal, pre-2005 dam, or at a natural water feature. The project can be located on federal lands but cannot be located at a federal dam. The applicant will have all the real property interests or an option to obtain the interests for any non-federal lands.

2. Conduit Exemptions:

Hydropower projects which are 15 megawatts or less for non-municipal project and 40 megawatts or less for a municipal project may be eligible for a conduit exemption. The conduit (such as an existing canal or pipeline), has to have been constructed primarily for purposes other than power production and be located entirely on non-federal lands. The applicant will have all the real property interests necessary to develop and operate the project or an option to obtain the interests.

Because FERC exemptions have no fixed term, IDWR must use other criteria to set the term of a water right in this category. Among the criteria set forth in Idaho Code § 42-203B, the expiration date of a power sales/purchase contract is the most applicable.

Power sales/purchase contracts are effective for a specific term. 1980s vintage contracts were often written for terms of 35 years. The IPUC limits the term of contemporary contracts to 20 years. A developer may choose a shorter term, but a power sales contract is usually important for financing of a hydroelectric project, so most developers choose a 20-year term.

Category III – Hydroelectric projects with neither a FERC license nor a power purchase contract subject to IPUC review.

Although FERC has broad authority, it does not have jurisdiction over all hydropower projects. IPUC's authority over hydropower facilities is also limited. IPUC is responsible for reviewing power purchase contracts which involve a utility company, but other power purchase arrangements do exist. Therefore, a third category is needed. Category III is a catch-all category for hydropower projects that do not fit into Category I or II.

Most hydropower projects in Category III will be for personal use. These micro hydroelectric projects will be completely contained within the right holder's property. Often the project will be a battery-based system with a single, turbine-generator unit. Due to limitations in the AC to DC technology, the unit will generate less than 4 kW of electrical power, and the power will be consumed by the owner.

Category III includes FERC-exempt hydropower projects that do not benefit from a power sales agreement. Either the project produces power too intermittently to be described by a power sales agreement, or all the power is consumed by the developer rather than sold. In the former case, the power can still be purchased by a utility but the

purchase will be in accordance with that utility's tariff schedule (which can be revised every year) rather than through a long-term agreement.

Also in Category III are projects developed by the Bureau of Reclamation or by a non-federal developer who has entered into a Lease of Power Privilege (LOPP) agreement with the Bureau of Reclamation. These projects do have operational constraints, but they are not accountable to the agencies which have the authority to set the Category I and II fixed term obligations.

The statute allows the Director to employ a range of criteria to set a term for Category III projects. One of the most practical is the useful life of the power generating equipment. IDWR can expect a custom built, conscientiously maintained, large-scale, turbine-generator system to have a 45 – 50 year lifespan. 'Personal use' micro hydros are not as rugged, but a well maintained system can be expected to last 20 - 25 years.

TIMING CONSIDERATIONS

Category I

FERC's pre-authorization processes and IDWR's water rights application processes may overlap in time. However, pursuant to Water Appropriation Rule 45.01.c,⁷ the Department will not necessarily require the FERC license to have been issued before a water right permit is issued for the same hydropower project.

Ideally, a FERC order granting an exemption or issuing an original license would be in place before IDWR issues a permit. However, if the term cannot be established at permitting because the FERC review process is not complete, the statute directs IDWR to set the term "as soon thereafter as practicable". In the past, IDWR has considered the act of licensing to be the most practicable point in time. However, delayed water right licensing has resulted in criticism of IDWR's practice. Therefore, IDWR will strive to collect the information needed to set the term when processing proof of beneficial use statements, and IDWR will strive to issue licenses shortly after the proof of beneficial use statement has been submitted. For this reason, term conditions for permits will, in some cases, be different than term conditions for the corresponding water right licenses. Nevertheless, even for permits, IDWR will employ conditions explaining that terms may automatically renew.

⁷ c. Criteria for determining whether the application is made in good faith. The criteria requiring that the Director evaluate whether an application is made in good faith or whether it is made for delay or speculative purposes requires an analysis of the intentions of the applicant with respect to the filing and diligent pursuit of application requirements. The judgment of another person's intent can only be based upon the substantive actions that encompass the proposed project. Speculation for the purpose of this rule is an intention to obtain a permit to appropriate water without the intention of applying the water to beneficial use with reasonable diligence. Speculation does not prevent an applicant from subsequently selling the developed project for a profit or from making a profit from the use of the water. An application will be found to have been made in good faith if:.....

ii. The applicant is in the process of obtaining other permits needed to construct and operate the project;....

Category II

The developer of a hydropower facility will know in advance whether the facility will generate power in excess of his needs. The negotiations of a power purchase contract between the developer and a regulated electric utility should precede a project's first energy date. But the Department will likely issue a permit to the developer of a qualifying facility before the IPUC concludes its review and closes the case on the relevant power contract.

The first energy date is a prerequisite to the execution of a power purchase/sales agreement. It is also the first instance of beneficial use. Therefore, it is reasonable to expect that an executed power sales/purchase agreement will be effective when the Proof of Beneficial Use statement is submitted.

Category III

In most cases, it will be impossible to know the plant's first energy date when the permit is issued. Therefore, the term will be calculated from the year of permit issuance. For ease of administration, the term ending date should be December 31 of the year of expiration.

IDWR PERMIT AND LICENSE TERM CONDITIONS

Category I a) -- A FERC license is required but not yet issued.

For permits issued for hydropower projects in this category, apply the following term condition. Because a FERC license will be a prerequisite for the power generation that constitutes beneficial use, this condition will not be applicable to water right licenses.

The term of this permit shall coincide with the term of the license issued by the Federal Energy Regulatory Commission (FERC) for this hydropower project. The term shall automatically extend to run concurrently with any annual renewals of the project's FERC license. Prior to the issuance of a subsequent or new FERC license for the project, the Director may review the water right permit or subsequent water right license and may issue an order canceling all or any part of the use, establishing a new term, or revising, adding or deleting conditions under which the water right may be exercised. The order shall take effect on the date the current term, as may be extended through annual renewals, expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the project's subsequent or new FERC license and any prior conditions on the water right permit or subsequent water right license shall remain in effect.

Also apply the following new condition requiring that FERC license information be submitted with the proof statement:

If it has not been previously provided, the permit holder shall submit a copy of the FERC licensing order for this project in conjunction with the Proof of Beneficial Use statement.

Category I b) -- A FERC license has been issued.

For some permits in Category I and for all water right licenses in Category I, a FERC license will have been issued already. In such cases, apply the following term condition:

The term of this <permit> <water right> shall run concurrently with <FERC Project Name> license <FERC Docket Number> issued by the Federal Energy Regulatory Commission (FERC), which expires on <Expiration Date>. The term shall automatically extend to run concurrently with any annual renewals of the project's FERC license. Prior to the issuance of a subsequent or new FERC license for the project, the Director may review the <water right permit or subsequent > water right license and may issue an order canceling all or any part of the use, establishing a new term, or revising, adding or deleting conditions under which the water right may be exercised. The order shall take effect on the date the current term, as may be extended through annual renewals, expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the project's subsequent or new FERC license and any prior conditions on the <water right permit or subsequent > water right license shall remain in effect.

Category II a) -- IPUC review of the power purchase agreement required but not yet completed.

For some projects in Category II, IDWR will issue a permit before the power purchase contract is complete. In such cases, apply the following term condition. Because the power purchase contract, when finalized, will coincide with beneficial use of water, there should be no water right licenses that fall into this subcategory.

The term of this permit shall run concurrently with the length of any effective energy sales agreement between the right holder and a purchasing utility. Prior to the expiration of the term, the Director may issue an order canceling all or any part of the use authorized herein, may establish a new term, or may revise, delete, or add conditions under which the water right permit or subsequent water right license may be exercised. The order shall take effect on the date the current term expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the prior term and any prior conditions on the water right permit or subsequent water right license shall remain in effect.

Also apply the following new condition requiring that information be submitted with the proof statement:

If it has not been previously provided, the permit holder shall submit a copy of the FERC exemption order and a copy of the effective energy sales/purchase agreement for this project in conjunction with the Proof of Beneficial Use statement.

Category II b) -- A power sales agreement has been approved by IPUC.

For permits and licenses for hydropower projects in this category, apply the following term condition:

The term of this <permit> <water right license> shall run concurrently with energy sales agreement <IPUC Case number, Order number> approved by the Idaho Public Utilities Commission, which expires on <Expiration Date>. Prior to the expiration of the term, the Director may issue an order canceling all or any part of the use authorized herein, may establish a new term, or may revise, delete, or add conditions under which the <water right permit or subsequent> water right license may be exercised. The order shall take effect on the date the current term expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the prior term and any prior conditions on the <water right permit or subsequent> water right license shall remain in effect.⁸

Category III -- Outside of FERC and IPUC processes.

The statute allows the Director to employ a range of criteria to set a term for Category III projects. One of the most practical is the useful life of the power generating equipment. If the Department finds no other relevant criteria on which to base the term for a Category III hydropower project, it may be based on the expected equipment life of a well maintained system. As noted above, a conscientiously maintained, large-scale, turbine-generator system can have a 45 – 50 year lifespan, and a typical ‘personal use’ micro hydro can be expected to last 20 - 25 years. IDWR staff members issuing approvals are authorized to exercise professional discretion in estimating the lifespan of a hydropower system and whether it is necessary to require the water right owner to provide additional information about the potential lifespan.

Unless other criteria are used, such as the term of an LOPP agreement with the Bureau of Reclamation, the term for Category III projects can be based on the expected

⁸ IDWR intends that a term date based on a power sales agreement will always anticipate the expiration of the contract. It is not uncommon, however, for projects to obtain approved power sales agreements but subsequently fail to meet first energy or scheduled online dates. In these cases, contract amendments are common to extend the term of the power sales agreement beyond the term specified in the original agreement. For projects that have an approved power sales agreement which is subsequently amended to extend the term of the agreement, the amended term can be addressed when a water right license is issued.

equipment life of a well maintained system. Permits and licenses in this category should be issued with the following term condition:

The term of this <permit> <water right license> shall extend to [(permit issued year + expected equipment lifespan) = specific date]. Prior to the expiration of the term, the Director may issue an order canceling all or any part of the use authorized herein, may establish a new term, or may revise, delete, or add conditions under which the <water right permit or subsequent> water right license may be exercised. The order shall take effect on the date the current term expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the project's prior term and any prior conditions on the <water right permit or subsequent> water right license shall remain in effect.

WHERE TO FIND DOCUMENTATION

Going forward, the owners of water right permits for power use will be expected to have the documents which will establish the term and to submit copies of them in concert with their applications for permit or their Proof of Beneficial Use statements. Water right files for hydropower use that pre-date this memo will often lack documentation for the basis of a term. Either the field examiner or the reviewer will need to locate these foundational documents and provide copies of them for the water right file. The most straightforward method may be to ask the permit holder to provide the documents. Information may also be found at the locations described below.

Category I -- Term dates are based on FERC license expiration.

A complete list of the FERC issued licenses or a list of issued exemptions is available as an Excel spreadsheet and can be accessed from:

[Complete list of Issued Licenses](#)  or <http://www.ferc.gov/industries/hydropower/gen-info.asp>

[Issued Exemptions](#)  or <http://www.ferc.gov/industries/hydropower/gen-info.asp>

Category II -- Term dates are based on power purchase contracts under the IPUC's authority.

A list of Qualifying Facility contracts is maintained by IPUC personnel as an Excel spreadsheet. Although the information is public, the spreadsheet is not currently posted where the public or IDWR can access it.

In the absence of access to this IPUC list, IDWR agents will need to either request a copy of any energy sales agreement from the right holder or query the IPUC website, <http://www.puc.idaho.gov> for individual case records.

Category III -- Term dates are based on equipment life expectancy or other considerations.

The small personal use projects will likely be known only to IDWR.

New large-scale, federal hydropower projects are rare. Existing federal hydropower projects may add turbines which would increase the amount of water used for power generation. Existing federal dams in Idaho which have hydropower are: the U.S. Bureau of Reclamation projects at Anderson Ranch, Black Canyon, Boise Diversion, Minidoka, and Palisades; and the Army Corps of Engineers project at Dworshak.

A site list of potential LOPP projects in the Pacific Northwest can be found at <http://www.usbr.gov/power/CanalReport/PN%20Maps.pdf>