



Interior Health

December 3, 2010

FILE COPY

Glade Irrigation District,
2117 Glade Road,
Castlegar, BC, V1N 4R3

Attention: Rita Montgomery & Blake Sorrell

Dear Ms. Montgomery & Mr. Sorrell:

Re: Glade Irrigation District Water System: Boil Water Remediation Program for Small Water Systems– 2010 Conditions on Permit

Further to our discussion on Oct 12, 2010, the Interior Health - Boil Water Remediation Program was developed as an effort for Interior Health to work together with small water system operators toward improving drinking water quality and removing Boil Water Notices. As part of the program there is a set of typical conditions that may be put on your Permit to Operate a Water Supply System. Prior to finalizing these conditions on your operating permit, you have the opportunity to comment.

After our discussion, I completed a review of Glade Irrigation District water system referencing points of our discussion and inspections of your water system conducted under the inspection authority of Section 40 of the *Drinking Water Protection Act, [SBC 2001] Chapter 9*. This review indicates that your water system falls into the "high risk requiring boil water notice" category. The reason your water system is being called "high risk" is that the source water for your system is surface water and as such it requires an adequate level of treatment to address the water quality risks.

The risk profile of a water supply is measured using a standardized assessment tool that considers source water quality and existing treatment processes. In the assessment the unique factors of the water supply system that affect risk are considered.

It is recommended that Water Supply System's classified as high risk develop a *management strategy* and communicate it to consumers of the water supply. A *management strategy* is a tool that enables water suppliers to prioritize and measure the steps needed for reducing risk and compliance with the *Drinking Water Protection Act*.

Interior Health acknowledges the need for collaborative working relationships to achieve safe drinking water. The responsibility for operating, maintaining and monitoring water supply systems rests with the Water Supplier. Interior Health has a role to document and verify compliance with terms and conditions placed on your Operating Permit.

Bus: (250) 505-7209 Fax: (250) 505-7211
Email: paul.geisler@interiorhealth.ca
Web: interiorhealth.ca

HEALTH PROTECTION
Less Risk ~ Better Health

Nelson Health Centre
2nd Fl 333 Victoria Street
Nelson BC V1L 4K3

Following a period open for comments from you, the following terms and conditions will be placed on your Permit to Operate under Section 8 of the Drinking Water Protection Act. Please take note of the individual Target Completion Dates for the conditions. Once these conditions are placed on your Permit to Operate, you will receive an updated Permit to Operate and there is a legal requirement to comply with all the terms and conditions of the permit:

1. Maintain Public Notification to all users of the water system

Condition:	Provide public risk communication to all users every three months that includes the following information: <ul style="list-style-type: none">• A description of the source water quality and treatment deficiency resulting in the "high risk categorization requiring a boil water notice."• What consumers can do for the purposes of consumption, food preparation and dental hygiene
Purpose:	To enhance risk communication and risk management
Status:	Public Notification methodology is currently not documented. It is recommended that Management Plan reference frequency, language and methodology utilized for Public Notification.
Target Completion date:	Implement or enhance public notification by March 1, 2011. Please provide updated management strategy by March 15, 2011

2. Identify Funding Plans or Mechanisms for Treatment

Condition:	Provide a master financial plan for capital and life-cycle funding: <ul style="list-style-type: none">• What are the funding mechanisms available to the water supply governance? (present rates and tariffs, grants, etc)• Has a recent life cycle cost analysis of operating the water system been completed?• What are the range of costs for the water system to remove the boil water notice?
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Purpose:	To identify funding that will enable the water system to complete sustainable improvements to water quality and remove the boil water notice.
Status:	Risk Analysis Study completed in 1990 (Altus Eng) with cost outline for current chlorination/reservoir. Documentation of funding mechanisms and up-to-date cost assessment for needed improvements not currently available
Target Completion Date	Complete cost analysis and implement your financial plan by March 1, 2012. Provide updated management strategy by March 15, 2012

3. Collect Data to Identify Preferred Option to Reduce Risk

Condition:	Provide information to Interior Health identifying preferred options for removing the boil water notice. Please consider the following for guidance: <ul style="list-style-type: none">• Seasonally representative bacteriological monitoring for total coliforms and E. Coli, including the freshet period.• Seasonally representative turbidity sampling, including the freshet period.• Chlorination logs• Chemical and physical sampling of raw water quality. Water temperature, pH, water flows and other parameters may also be required to support design options for removing a Boil Water Notice.• Pilot testing of water treatment options may be required for new technology to demonstrate that the system will provide water quality that reduces the risk from microbial threats during all water conditions that may be experienced.• Other data may be required to support options for removal of a Boil Water Notice and may include:<ul style="list-style-type: none">• Improvements to distribution system;• Improvement plans for existing source water; and• Type of service connections: agriculture, industrial, institutional, commercial and residential.• Vulnerability and type of population served (eg. residential, commercial, institutional, etc)
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- Purpose:** To identify options that will reduce health risks and enable removal of the boil water notice in a reasonable period of time.
- Status:** Bacteriological sampling data is current. Documentation of physical, chemical, and turbidity data needed. Assessment and documentation of current chlorination process needed, in scope of possible conjunction with supplementary treatment processes and for optimization/upgrading of current chlorination process.
- Target Completion date:** Collect and provide assessment of data, to support preferred option for the water system to implement a plan to remove the boil water notice, by March 1, 2012. Provide updated management strategy by March 15, 2012

4. Identify Treatment to Move out of “High Risk requiring Boil Water Notification” Category and continually reduce risk

- Condition:** The water supplier should:
- Provide the information to a consultant or equipment supplier to identify suitable treatment and/or water system improvement options
 - Choose the best treatment option in consultation with Interior Health
 - Receive construction approval from Interior Health prior to any construction or alterations
- Purpose:** To use the information you collected under condition 2 and 3 to develop and choose appropriate options for treatment and/or water system improvements.
- Status:** Identify supplementary treatment processes and optimization/upgrading potential for current chlorination process.
- Target Completion date:** Identify treatment process data to move out of the “high risk requiring boil water notification category”, by March 1, 2013

5. Install Treatment

<i>Condition:</i>	<i>The water supplier should follow these general steps:</i> <ul style="list-style-type: none">• <i>Proceed through the construction permit application approval process</i>• <i>Construct the system as per your construction permit</i>
<i>Purpose:</i>	<i>To provide sustainable treatment that will reduce risk to consumers to the degree that an ongoing boil water notice is not necessary</i>
<i>Status:</i>	<i>Chlorination not currently providing sufficient water quality.</i>
<i>Target Completion date:</i>	<i>Complete installation/optimization of treatment and receive final approval from Interior Health by June 1, 2015</i>

To allow opportunity for you to provide comments, these conditions will be finalized on January 1, 2010. If you have preference, the identified target completion dates may be amended within reason to dovetail with your operational and governance schedule (eg. with consideration to AGM's, general meetings, seasonal factors, fiscal periods, etc). Once the conditions are finalized, an updated operating permit will be provided to you. If you have any comments or questions please don't hesitate to contact me.

Sincerely



Paul Geisler, C.P.H.I.(C.)
Environmental Health Officer,
Health Protection

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cc:

Joanne Edwards, Small Water System Specialist
Elizabeth Sigalet, Assistant Director, Drinking Water
Shaun Malakoe, Team Leader, KB HSDA
Marianne Crowe, Regional Public Health Engineer
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Attachments: Life cycle costs tool