

Alpine Water System **Emergency Procedures**

Kicking Horse Mountain Resort Utility
Corporation

1. Failed Bacteriological Sample

EMERGENCY SUMMARY:

- Total Coliform Hit
The laboratory (ALS, Caro) will contact KHMRUC with the failed sample results.
- E. Coli Hit
The laboratory (ALS, Caro) will contact KHMRUC and the Interior Health Drinking Water Officer with the failed sample results.

ACTIONS:

- Contact the DWO for Interior Health. Depending on the nature of the failure a Water Quality Advisory, Boil Water Notice, Do Not Consume or Do Not Use Notice may be placed on the water system. ***All orders are placed and removed in close coordination with Interior Health.***

Water Quality Advisory

A Water Quality Advisory is used in situations in which the public health threat posed by the water supply system is modest. Actions can be taken to reduce the risks through means other than requiring a Boil Water Notice or Do Not Drink Water Notice. The risk is elevated for people with weakened immune systems.

Boil Water Notice

A Boil Water Notice is used in situations in which the public health threat posed by the water supply system is significant. The nature of the threat can be addressed by boiling the water for 1 minute

- Notify Food and Beverage Manager, Eagles Eye Manager, KHMR/RCR Management
- Place Signage at all Public Taps
- Chlorinate and flush the distribution system and reservoir. Follow the appropriate Safe Operating Procedure.
- Take water samples. Make sure you resample the same location of the failed sample. Submit them as an Emergency Sample. Call our lab account manager and let them know it is coming. A KHMR employee may be required to drive them if couriers are not available.
- Investigate any possible causes.

- If needed, arrange for a backup water supply. Kootenay pumping has a large water tender truck that provides potable water.

Do Not Consume Notice

This is used where the threat posed by the drinking water system is significant and cannot be mitigated by a Water Quality Advisory or a Boil Water Notice. The water contains harmful chemicals or other substances.

- Notify Food and Beverage Manager, Eagles Eye Manager, KHMR/RCR Management
- Place Signage at all Public Taps
- Chlorinate and flush the distribution system and reservoir. Follow the appropriate Safe Operating Procedure
- Take water samples. Make sure you resample the same location of the failed sample. Submit them as an emergency and let our Laboratory Account manager know. An employee may be required to drive them if couriers are not available.
- Investigate any possible causes.
- If needed, arrange for a backup water supply. Kootenay pumping has a large water tender truck that provides potable water. (See Procedure 6)

Rescinding a Drinking Water Notice/Advisory

All Drinking Water Notice/Advisories can only be rescinded after instruction from a Drinking Water Officer. The DWO will provide the criteria for rescinding the notice. A Do Not Consume Rescinded notice must be placed in all locations that the original notice was placed. Notify all stakeholders.

2. Power Outage

EMERGENCY SUMMARY:

Power Outage to some or all of the Drinking Water Infrastructure

ACTIONS:

- Notify Food and Beverage Manager, Eagles Eye Manager, KHMR/RCR Management
- Determine the reason for the outage. Is it local or regional? Check the BC Hydro website for info. Work with the KHMR Maintenance team and/or a contractor to determine the scope of the problem.

- Check the Reservoir level and determine how long the water will last. Enact water conservation if necessary.
- Contact DWO if the Water system is threatened.
If necessary, a generator can be rented to run the wells while the power issue is resolved. Coordinate with Golden installation or another vendor and KHMR Electrical Maintenance.

Generator Spec:

150KW 600 Volt, 3 phase 60 Hertz – Silent Mobile Diesel Generator • Prime rating at 135KW • 180 Amps at 600 volts

- Once the system is re-energized check that the pumps are working.
- WINTER TIME: To prevent freeze ups the line may require to be drained at the wellhouse using the 2" valve.
- Once the system is re-energized check that the pumps are working.
- Super Chlorinate the well and flush the Distribution pipe to the Eagles Eye Restaurant. Monitor chlorine residual at the blow off.
- Once satisfactory chlorine residual is obtained, redirect flow to the Restaurant's reservoir, and submit samples to laboratory, consecutive samples must pass and DWO must be notified.

3. Production Well Pump Fail

EMERGENCY SUMMARY:

Drinking water pump failing to deliver water to the Reservoir

ACTIONS:

- Notify Food and Beverage Manager, Eagles Eye Manager, KHMR/RCR Management
- Troubleshoot. Is the issue Electrical or mechanical?
- Contact: DWO if the Water system is threatened, KHMR Maintenance, KHMR Management.
- Check the Reservoir level and determine how long the water will last. Enact water conservation if necessary. Continue to monitor closely.
- Arrange for replacement of the pump. A certified pump installer will be required. There is a back-up pump located in the wellhouse

- WINTER TIME: To prevent freeze ups the line may require to be drained at the wellhouse using the 2" valve.
- Once the pump is installed and operating. Super Chlorinate the well and flush the Distribution pipe to the Eagles Eye Restaurant. Monitor chlorine residual at the blow off.
- Once satisfactory chlorine residual is obtained, redirect flow to the Restaurant's reservoir, and submit samples to laboratory, consecutive samples must pass and DWO must be notified.

4. Broken Water Main

EMERGENCY SUMMARY:

Water line ruptures at KHMR

ACTIONS:

- Notify Food and Beverage Manager, Eagles Eye Manager, KHMR/RCR Management
- Make sure the area is safe. Place signs and direct traffic.
- Contact DWO and let them know your plan.
- If needed, arrange for a backup water supply. Kootenay pumping has a large water tender truck that provides potable water. (See Procedure 6)
- Check the Reservoir level and determine how long the water will last. Enact water conservation if necessary. Continue to monitor closely.
- Order 2x 2" couplers capable of 300psi. Make sure the couplers are compatible with 2" PVC.
- Mobilize an excavator to the Alpine pump house
- Locate the Watermain Break. Use the pressure at the wellhouse to estimate the elevation. The KHMR Main Map on AutoCAD has elevations. Most breaks happen between the 25kV powerline and the Ten road (30-50PSI In the well house)
- Make the repair.
- Once the system is operational Super Chlorinate the well and flush the Distribution pipe to the Eagles Eye Restaurant. Monitor chlorine residual at the blow off.
- Once satisfactory chlorine residual is obtained, redirect flow to the Restaurant's reservoir, and submit samples to laboratory, consecutive samples must pass and DWO must be notified.

- Take water samples and report to the DWO. We require consecutive samples to start using the water at the restaurant.

5. Emergency Water Conservation Measures

EMERGENCY SUMMARY:

Due to water shortage Eagles Eye Restaurant must limit their usage.

ACTIONS:

- Enforce water conservation measures
- Notify DWO, KHMR/RCR Management
- Arrange for Kootenay Pumping to haul water. (See Procedure 6)

6. Using a Water Tender to fill the reservoir - Summer

EMERGENCY SUMMARY:

A Contractor needs to be used to deliver potable water to the reservoir.

ACTIONS:

- Contact Kootenay Pumping or another contractor that can deliver potable water
- Ensure the contractor is using a truck Designated "Drinking Water Only"
- Ensure the contractor has 4" hose, preferably 10m, with a male Cam-Lock end.
- Meet the driver at the maintenance shop and escort them to the Eagles Eye restaurant. Coordinate this work with Maintenance and Mountain Safety. If the resort is open to Mountain Bikers ask for assistance from Mountain Safety. They may want to hold traffic back at the top while you travel from G7 Corner to Stairway Base
- Once at the top, back down to the NE basement door connect the 4" hose
- Close the 2" valve to isolate the Alpine Well waterline. Open the valve for the 4" Cam-Lock Manual fill port. Both of these valves are located just inside the NE Basement door.
- Start to manually fill the line. Pump slowly!!! Too much flow can damage the system
- Check Chlorine residual in the system

7. Using a Water Tender to fill the reservoir - Winter

EMERGENCY SUMMARY:

A Snow Cat needs to be used to deliver potable water to the reservoir.

ACTIONS:

- Contact Kardash Plumbing and Golden Installation and purchase: a 1000 Gallon New Septic Tank or equivalent tank, a 1.5" or bigger transferring pump.
- Super chlorinate the hoses, pump and tank with a 200PPM mix for 24 Hours
- Flush the components.
- Maintenance will attach the tank to a snowcat trailer
- Travel with the snow cat operator to the Alpine Well House. Use a disinfected hose attached the 2" valve in the wellhouse to fill the tank.
- Add Sodium HypoChlorite 6% (Household Bleach). For a 1000 Gallon tank add 65mL for 1mg/L of chlorine dosage
- Travel up to the NE basement door
- Connect the tank outlet to the pump and the pump to the 4" manual fill port beside NE basement door
- Close the 2" valve to isolate the Alpine Well waterline. Open the valve for the 4" Cam-Lock Manual fill port. Both of these valves are located just inside the NE Basement door.
- Check Chlorine residual in the system

8. Contamination of source

EMERGENCY SUMMARY:

Water system is threatened with contamination.

ACTIONS:

- Notify DWO/MHO for Interior Health. Depending on the nature of the contamination a Water Quality Advisory, Boil Water Notice, Do Not Consume Notice or Do Not Use Notice may be placed on the water system.

Water Quality Advisory

A Water Quality Advisory is used in situations in which the public health threat posed by the water supply system is modest. Actions can be taken to reduce the risks through means other than requiring a Boil Water Notice or Do Not Drink Water Notice. The risk is elevated for people with weakened immune systems.

Boil Water Notice

A Boil Water Notice is used in situations in which the public health threat posed by the water supply system is significant. The nature of the threat can be addressed by boiling the water for 3 minutes.

Do Not Consume Notice

This is used where the threat posed by the drinking water system is significant and cannot be mitigated by a Water Quality Advisory or a Boil Water Notice. The water contains harmful chemicals or other substances. The water is still safe for external uses such as irrigation, showers, toilets etc.

Do Not Use Notice

This is used where the threat posed by the drinking water system is significant. The water contains harmful chemicals or other substances. Customers should not turn the tap on for any reason.

- Notify Food and Beverage Manager, Eagles Eye Manager, KHMR/RCR Management
- Place signs at all public taps.
- Take water samples. Make sure you resample the same location of the failed sample. Submit them as Emergency Sample and call our Account supervisor and let them know it is coming in. An employee may be required to drive them if couriers are not available. The parameter to be tested should be coordinated with the DWO at Interior Health.
- Investigate any possible causes.
- If needed, arrange for a backup water supply. Kootenay pumping has a large water tender truck that provides potable water.

9. Forest Fire/ Mudslide/Avalanche/Flood Other Emergencies

- **Refer to KHMR Emergency Procedure Manual**

MASTER CONTACT LIST

Interior Health Drinking Water Officer

Jennifer Beverley: Cell: 250-342-5658
Jennifer.Beverley@interiorhealth.ca

ALS Account Manager

Patryk Wojciak: Direct:403-407-1799, Cell: 403-407-1800
Patryk.wojciak@alsglobal.com

KHMRUC Operators

Travis Jobin: cell: 250-344-8442, Home: 250-439-1990

Charles Laumet: cell: 250-344-1145

Regional Utilities Supervisor

Patrick Majer: cell: 403-861-8730, Office: 403-256-8473

KHMR Area Director

Mike Rubenstein: cell: 403-861-8730, Office: 403-256-8473

Accounts Receivable

Brenda Plonka: Office:250-439-5501, cell: 250-344-0441

Contractors

Kootenay Pumping: Office:250-344-6410

Bugaboo Plumbing: Cell:250-439-9119

Mearles Machine Shop: Office:250-763-0109

Golden Installations: Office:250-344-5566

Kardash Plumbing and Heating: Office: 250-344-6887

BOIL WATER NOTICE

This notice applies to all users of the water system at Kicking Horse Mountain Resort.

REASON FOR THIS NOTICE

This Notice is being issued because a drinking water sample taken by Kicking Horse Mountain Resort Utility Corp. (KHMRUC) on _____ tested positive for _____ bacteria.

ACTION BEING TAKEN BY THE WATER COMPANY

- KHMRUC will be conducting an emergency disinfection and flushing of the water system, in order to remove the contamination.
- KHMRUC taking more samples and investigating what may have caused the positive sample result.

RECOMMENDATIONS FOR CONSUMERS

The Drinking Water Officer recommends the following steps be taken to minimize the risks associated with this water system.

- Use boiled or bottled water for drinking, brushing teeth, washing fruits and vegetables that will not be cooked, and making ice or beverages.
- If boiling water, be careful. Hot water can cause severe scalds and injury. Bring the water to a rolling boil for one minutes and allow it to cool before use.
- Disinfect water following the procedures given in BC Health Files, Number 49b, How to Disinfect Drinking Water.

OBLIGATION OF OWNERS OF PUBLIC PREMISES

Owners of public premises served by this water system must:

- Notify the public that the water is not potable water by posting a sign at every sink or drinking water fountain accessible to the public.
- If normal business practices provide an opportunity, verbally advise any person who may use the domestic water system for a domestic purpose that the water is not potable water.

DURATION OF THIS NOTICE

This Notice remains in effect unless and until another public notice is issued upon the request of a Drinking Water Officer advising that the Notice has been amended or may be rescinded.

QUESTIONS

If you have any questions concerning this notice, please contact:

- Patrick Majer (403) 861-8730, Travis Jobin (250) 344-8442, Charles Laumet (250) 344-1145
- Jennifer Beverley, Drinking Water Officer, at (250) 342-5658

NAME _____ TITLE _____



BOIL WATER NOTICE (BWN)

Kicking Horse Mountain Resort WATER SYSTEM HAS ISSUED AN ADVISORY DUE TO: REASON FOR ADVISORY

Boil water before using it for drinking, making ice, cooking, washing food, or brushing teeth. Use a hand sanitizer after washing hands.

Until notified, all users are advised to:

1. Bring water to a rolling boil for at least 1 minute, or
2. Use an alternate, safe source of water.

For more information contact KHMRUC:

Patrick Majer: 403-861-8730

Travis Jobin: 250-344-8442

Charles Laumet: 250-344-1145

Boil Water Notice **RESCINDED**

The public is hereby advised that as of _____ local time, the Boil Water Notice for Kicking Horse Mountain Resort Utility Corp. (KHMRUC) which was issued _____ date/time _____, is rescinded.

This notice is issued in accordance with the directive of the Interior Health Authority Drinking Water Officer who has determined that the results of bacteriological analysis of water samples taken from the water system on ___date.1___ and ___date.2___ are satisfactory.

Chlorination of the system will continue until further notice, which may result in a change in coloration and taste, depending upon location within the system.

Kicking Horse Mountain Resort Utility Corporation would like to thank the community for its patience and understanding during this time.

Any further questions regarding this issue may be directed to Kicking Horse Mountain Resort Utility Corporation.

Patrick Majer (403)861-8730, Travis Jobin (250) 344 8442, Charles Laumet (250)-344-1145

WATER QUALITY ADVISORY

This notice applies to all users of the water system at Kicking Horse Mountain Resort.

REASON FOR THIS NOTICE

This Notice is being issued because a drinking water sample taken by Kicking Horse Mountain Resort Utility Corp. (KHMRUC) on _____ tested positive for _____ bacteria.

ACTION BEING TAKEN BY THE WATER COMPANY

- KHMRUC will be conducting an emergency disinfection and flushing of the water system, in order to remove the contamination.
- KHMRUC taking more samples and investigating what may have caused the positive sample result.

RECOMMENDATIONS FOR CONSUMERS

The Drinking Water Officer recommends the following steps be taken to minimize the risks associated with this water system.

- Persons with compromised immune systems should boil water prior to drinking, washing vegetables and making ice.
- If boiling water, be careful. Hot water can cause severe scalds and injury. Bring the water to a rolling boil for one minutes and allow it to cool before use.
- Disinfect water following the procedures given in BC Health Files, Number 49b, How to Disinfect Drinking Water.

OBLIGATION OF OWNERS OF PUBLIC PREMISES

Owners of public premises served by this water system must:

- Notify the public that the water is not potable water by posting a sign at every sink or drinking water fountain accessible to the public.
- If normal business practices provide an opportunity, verbally advise any person who may use the domestic water system for a domestic purpose that the water is not potable water.

DURATION OF THIS NOTICE

This Notice remains in effect unless and until another public notice is issued upon the request of a Drinking Water Officer advising that the Notice has been amended or may be rescinded.

QUESTIONS

If you have any questions concerning this notice, please contact:

- Patrick Majer (403) 861-8730, Travis Jobin (250) 344-8442, Charles Laumet (250) 344-1145
- Jennifer Beverley, Drinking Water Officer, at (250) 342-5658

NAME _____ TITLE _____



Kicking Horse Mountain Resort WATER SYSTEM HAS ISSUED AN ADVISORY DUE TO: REASON FOR ADVISORY

People with weakened immune systems, and/or wishing additional protection should take precautions when drinking, washing fruits & vegetables, making beverages or ice, or when brushing teeth.

Until notified, these users are advised to:

1. Bring water to a rolling boil for at least 1 minute, or
2. Use an alternate, safe source of water.

For more information contact KHMRUC:

Patrick Majer: 403-861-8730

Travis Jobin: 250-344-8442

Charles Laumet: 250-344-1145

WATER QUALITY ADVISORY RESCINDED

The public is hereby advised that as of _____ local time, the Water Quality Advisory for Kicking Horse Mountain Resort Utility Corp. (KHMURUC) which was issued _____date/time_____, is rescinded.

This notice is issued in accordance with the directive of the Interior Health Authority Drinking Water Officer who has determined that the results of bacteriological analysis of water samples taken from the water system on ___date.1___ and ___date.2___ are satisfactory.

Chlorination of the system will continue until further notice, which may result in a change in coloration and taste, depending upon location within the system.

Kicking Horse Mountain Resort Utility Corporation would like to thank the community for its patience and understanding during this time.

Any further questions regarding this issue may be directed to Kicking Horse Mountain Resort Utility Corporation.

Patrick Majer (403) 861-8730, Travis Jobin (250) 344-8442, Charles Laumet (250) 344-1145

EMERGENCY WATER CONSERVATION NOTICE

This notice applies to all users of the water system at Kicking Horse Mountain Resort.

REASON FOR THIS NOTICE

This Notice is being issued because Kicking Horse Mountain Resort Utility Corp. (KHMRUC) is currently experiencing water shortages due to _____.

ACTION BEING TAKEN BY THE WATER COMPANY

- KHMRUC is taking steps to rectify the source of this situation by _____.
- KHMRUC is recommending that all water users minimize their water use as much as possible to conserve the water, which is stored in the reservoir so that it is available for essential drinking and hygiene purposes and so that water remains available for firefighting if it should be needed.

RECOMMENDATIONS FOR CONSUMERS

For all consumers: Effective immediately please

- cease all non-essential water uses
- cease irrigation - override the timer where one is installed
- limit cleaning using water to essential hygiene activities only
- do not refill or add water to pools, saunas and hot tubs - close down if necessary
- cease laundry activities
- run dishwashers and glass washers on economy cycle, run dishwashers and glass washers only when full, where possible use disposable beakers, plates and cutlery
- take short showers instead of long showers or baths
- not start any fires (garden burning, etc.) which might require water suppression

Additional information for Hotels and Restaurants: Please advise all customers of problems and ask for their cooperation.

Additional information for Construction Crews: Please cease all operations, which require water.

QUESTIONS

If you have any questions concerning this notice, please contact:

Any further questions regarding this issue may be directed to Kicking Horse Mountain Resort Utility Corporation.

Patrick Majer (403)861-8730, Travis Jobin (250) 344-8442, Charles Laumet (250) 344-1145