



WATER RATIONING POLICY

Policy No. 6

Date Implemented: April 6, 2009

PURPOSE OF POLICY

1. To protect the health of the general public by having guidelines in place to conserve treated water supplies.
2. To ensure timely communication of appropriate drinking water supply issues.
3. To assist in making consistent decisions regarding the drinking water supply.

POLICY STATEMENT

The North Red Deer River Water Services Commission recognizes that maintaining adequate treated water reserves is a prime consideration in the operation of their water treatment and distribution facilities. The Commission will maintain comprehensive guidelines for issuing and rescinding Water Rationing Notices in the event that the safety of the drinking water supply is threatened.

WATER RATIONING NOTICE GUIDELINES

Definitions:

- Notice: Any type of water advisory, order or information
- Order: Mandatory notice when water reserve supplies are threatened and conservation measures must be undertaken.
- Advisory: Precautionary measure when a potential problem exists, or only applies to a small section of the distribution system.

Abbreviations:

AEN	Alberta Environment
DTHR	David Thompson Health Region
CRD	City of Red Deer
PUBWK	Public Works Department
WTP	Water Treatment Plan
NRDRWS	North Red Deer River Water Services Commission

Reasons to issue a Water Rationing Notice:

Water Rationing Notices can be initiated:

1. If the WTP and the CRD cannot meet treated water demand due to water quality concerns or mechanical failure.
2. If treated water reserves are below the level required to meet emergency volume demand.
3. If there is a major transmission line break.
4. If a condition exists in the distribution system that compromises or threatens treated water reserves. I.e: major fire, pipeline break or loss of a treated water reservoir.

Each of these events would be classified as an Emergency Water Condition.

Emergency Water Condition Action Plan

In the event of an Emergency Water Condition, the following actions will be taken:

1. Trigger event or data from CRD indicating a potential problem with water supply and contact NRDRWSC.
2. NRDRWSC will initiate dialog with member communities, emergency services, and other affected clients.
3. CRD reviews the issue and examines all parameters and plant processes for correlating problems.
4. Evaluate Issue
 - a) Issue minor, within normal procedures, no further action
 - b) Uncertain risk to water supply – increase monitoring, re-evaluate situation, initiate temporary measures to reduce water demand if required. Temporary measures include:
 - Use of standby equipment
 - Voluntary restrictions on outdoor watering
 - Reduced distribution system pressure
 - Restrict internal member community use where possible. Ie: fire training, washing roads and signs, and line flushing
 - c) Suspected risk to water supplies – consider issuing advisory or water rationing order. These restrictions could include, but not be limited to the following areas:
 - Outdoor watering
 - Recreational water (pools)
 - Bulk water sales/carwashes
 - Industry and manufacturing
 - Total ban on water use except for human consumption

Responsibilities

CRD

- Ensures that the water treatment facility meets all volume requirements for the treated water supply.

- Ensures the timely investigation, monitoring and reporting of water quantity issues.
- Implements corrective actions to ensure that the treatment process or distribution system recovers to acceptable performance.
- Provides direct information concerning water restriction issues to NRDRWSC.

NRDRWSC

- Issues and rescinds Water Restriction Notices to member communities
- Provides direct information concerning water restriction notices to stakeholders including the general public, DTHR, and AEN.

Parameters of Concern

Parameters of concern for Water Rationing Notices include major failure of the water treatment facility and water volume demand exceeding supply capacity.

I. Major Failure of the Treatment Facility

Discussion on emergency action would be required if:

- a) Treated water quality exceeded the guidelines set out in the Municipal Waterworks Approval to Operate.
- b) The Treatment facility is disabled due to electrical or mechanical failure, or natural disaster.
 - **Issue Minor** – If the confident prediction of recovery is less than 6 hours from loss of ability to produce, plant staff will continue to monitor and optimize plant performance. No water rationing notice issued.
 - **Uncertain Risk** – If the confident prediction of recovery is greater than 6 hours, evaluate other parameters for level of risk (demand patterns, reserve volumes, etc), and consider issuing a water rationing notice.
 - **Issue Major** – If the treatment facility is disabled for more than 12 hours, then consider issuing a water rationing notice.

Localized or short duration emergencies, such as mechanical or electrical failure, are managed by utilizing standby equipment and maintaining adequate spare parts inventory.

Responsibilities

CRD

- Reviews and assesses treatment facility and distribution system operating data and reports.
- Approves and recommends corrective actions to the treatment process and distribution system.
- Ensures timely investigation, monitoring, and reporting of water supply problems.
- Implements corrective actions to ensure that the water treatment process or the water distribution system recovers to acceptable performance.

NRDRWSC

- Assesses the level of risk to the water supply.
- Issues and rescinds water restriction notices.

2. Excessive Demand

Discussion on emergency action would be required if:

- a) Treated water reserves are approaching levels of concern.
 - b) An emergency situation such as a major fire or a transmission main break.
- **Issue Minor** – If treated water reserves are decreasing, corrective action shall be taken to increase production. Additional testing to monitor effectiveness shall be done and the daily average must meet the minimum storage recharge requirements.
 - **Uncertain Risk** – If treated water reserves are decreasing and cannot be replenished in a normal time frame, look at other parameters for level of risk (major fire, drought), and consider a water restriction notice.
 - **Issue Major** – Treated water reserves are at risk of being depleted below emergency reserve levels and cannot be replenished in a normal time frame.

Localized or short duration emergencies are managed by utilizing standby equipment and maintaining adequate emergency reserve storage.

Responsibilities

CRD

- Reviews and assesses treatment facility and distribution system operating data and reports.
- Approves and recommends corrective actions to the treatment process and distribution system.
- Ensures the timely investigation, monitoring, and reporting of water supply problems.
- Implements corrective actions to ensure that the water treatment process or the water distribution system recovers to acceptable performance.

NRDRWSC

- Assesses the risk to the drinking water supply.
- Issues and rescinds water rationing notices.

Rescinding a Water Rationing Notice

Water rationing notices will be rescinded when treated water reserve capacity is at required levels or when the system fault has been corrected and normal operation resumed.

Responsibilities

CRD

- Ensures timely investigation, monitoring and reporting of water demand parameters.
- Examines operating data from the treatment facility and the distribution system and determines if requirements are being met.

NRDRWSC

- Evaluates level of risk.
- Rescinds water rationing notices

Emergency Contacts

NRDRWSC Office (403) 782-1236

Public Works (403) 342-8238 Ask for Public Works Manager
(403) 346-5511 After Hours

Water Treatment Plant (403) 342-8321 (24 hrs.)
Ask for Treatment Plant Supervisor

Treated Water Storage

Town of Blackfalds

Reservoir 1
Reservoir 2
Total 2

Town of Lacombe

Reservoir 1
Reservoir 2
Reservoir 3
Total 3

Town of Ponoka

Reservoir 1
Reservoir 2
Total 2

Emergency Operating Protocols

Stage 1

Trigger event occurs or 80% of treated water supply capacity is reached, or emergency and fire reserves are approaching levels of concern.

- CRD reviews all parameters and evaluates the level of risk.
- Voluntary water rationing advisory is issued if required.
- High use community departments are notified of the water supply issue.
 - i) Outdoor watering permitted on odd or even days only corresponding to street address numbers. Use of a handheld hose with spring-loaded shutoff valve or handheld container recommended. Voluntary action only.
 - ii) Sprinkler watering is not recommended.

Stage 2

Trigger event occurs or 85% of treated water supply capacity is reached, or emergency or fire reserves are approaching levels of concern.

- CRD reviews all parameters and evaluates the level of risk.
- Mandatory water rationing order is issued if required.
- High use community departments are notified of the water supply issue.
 - i) Outdoor watering of shrubs, trees and gardens on alternate days only. Use of a handheld hose with spring-loaded shutoff valve, or a handheld container is mandatory.
 - ii) Lawn watering is not allowed, with the exception of new sod or newly seeded lawns.
 - iii) Sprinkler watering is not permitted.
 - iv) Hand washing of vehicles is permitted only when using a handheld hose with a spring-loaded shut-off valve or with a handheld container.
 - v) Commercial and industrial users are notified of the need to conserve water supplies.
 - vi) High-risk facilities such as hospitals, long-term care facilities and childcare centers are notified of the need to conserve water supplies.

Stage 3

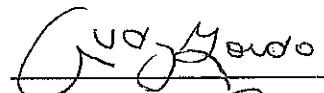
Trigger event occurs or 90% of treated water capacity is reached, or emergency and fire reserves are approaching levels of concern.

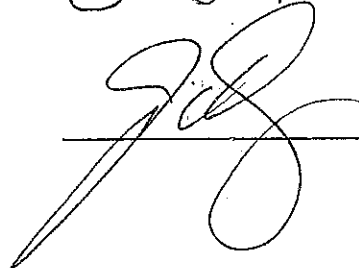
- CRD evaluates all parameters and evaluates the level of risk.
- Mandatory water rationing order is issued if required by NRDRWSC.
 - i) Household consumption/usage of water is permitted
 - ii) Outdoor watering is not permitted.
 - iii) Watering of green areas and parks is not permitted.
 - iv) Residential swimming or wading pools, fountains and hot tubs may not be filled.
 - v) Bulk water sales and car washing are not permitted.
 - vi) Commercial and industrial customers are notified of the need to implement water conservation plans.
 - vii) High-risk facilities such as hospitals, long-term care facilities and childcare centers are notified of the need to implement water conservation plans.

Stage 4

Trigger event occurs or 100% of treated water capacity is reached or emergency and fire reserves are at critical levels.

- CRD evaluates all parameters and assesses the level of risk.
- Mandatory water rationing notice is issued if required by NRDRWC.
 - i) Human consumption of water only is permitted.
 - ii) Bulk water is transported to the member communities from outlying communities and is distributed at water rationing stations.


_____ Chairman


_____ Manager

