

**PROTOCOL FOR UPDATING
CERTIFICATES OF APPROVAL
FOR WATER WORKS**

April 2002



Ministry of the Environment

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INTRODUCTION

The Ministry of the Environment (the “Ministry”) has a broad mandate of restoring, protecting and enhancing environmental quality in Ontario. Certificates of Approval (CsofA) are one way that the Ministry works to achieve its environmental protection objectives.

For the first time, the Ministry has documented its Protocols for Updating CsofA to provide a “one stop” information source on *how* and *when* CsofA are updated through a continuous improvement cycle. These Protocols will:

- ❑ Clearly communicate to clients in the regulated community and to the public the Ministry’s objectives and processes for updating specific types of CsofA.
- ❑ Outline the Ministry’s current approach for updating CsofA that it reviews. While this approach may change over time, this information will assist clients to understand which CsofA are more likely to be considered for updating.
- ❑ Improve the administration of the approvals process by encouraging consolidation of CsofA.
- ❑ Actively encourage pre-application consultation with clients to explain the environmental protection requirement of the project.
- ❑ Promote consistency in the approvals process.
- ❑ Provide opportunities for public transparency in Ministry decision making and foster continuous improvement.

These Protocols for Updating CsofA will continue to take a balanced approach that looks at both the benefits of enhanced performance requirements *and* the cost of implementing new requirements to achieve those benefits.

While the Protocols outline the Ministry’s approach for updating CsofA, the Director’s decision is made on an individual basis using his or her discretionary authority in the application of the Protocol.

The Ministry has produced four *Protocols for Updating Certificates of Approval*, each targeted to one of the following environmental media:

- ❑ Sewage Works
- ❑ Air Emissions
- ❑ Water Works
- ❑ Waste Management

Each Protocol contains the same basic information regarding the overall review process and is customized for the specific type of Certificates of Approval.

This is the *Protocol for Updating Water Works Certificates of Approval* ("Protocol").

Information in the Protocol is organized in four sections:

- Introduction
- What Are Certificates of Approval?
- Protocol for Updating Water Works Certificates of Approval
- Assessment Criteria for Water Works

Additional information can be obtained from:

Ministry of the Environment
Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

Telephone: (416) 314-8001 or Toll Free: 1-800-461-6290
Fax: (416) 314-7030

Or visit the Ministry website at: www.ene.gov.on.ca.

What are Certificates of Approval?

Certificates of Approval are required by the *Environmental Protection Act* and the *Ontario Water Resources Act* for specific activities related to sewage works, air emissions, waste management activities and water works.

The primary purpose of CsofA is to assess potential impacts to the environment as early as possible in the planning phase of a facility so that appropriate environmental standards are in place from the beginning of its operation to:

- Protect human health and the environment by preventing potential harmful effects.
- Require a facility to conform to generally accepted engineering practices with the potential to operate reliably.
- Provide minimum requirements for compliance with Ministry standards as set out in acts, regulations, policies, objectives and guidelines.
- Outline minimum responsibilities of facility owners and operators.

Each CofA is site-specific and tailored to the individual circumstances and characteristics of the facility and its local environment. The CofA places legally-binding requirements on the owner/operator of the facility intended to prevent or manage environmental impacts.

A CofA reflects the Ministry's environmental protection requirements in effect at the time it is issued. New environmental protection requirements continue to be developed over time and are reflected in Ministry policies, guidelines, procedures, and legislative/regulatory frameworks. One of the purposes of this Protocol is to formalize a continuous improvement cycle so that existing CsofA keep pace with these changes.

Protocol for Updating Water Works CsofA

What are the Objectives of the Protocol?

The assessment of the existing CofA is done using the criteria described in this Protocol (discussed in the next section), based on input from Ministry field and technical staff. The review will determine the extent to which the CofA meets the following requirements:

- Current human health and environmental standards, guidelines and policies.
- Standard up-to-date operating requirements.
- Relevant monitoring and reporting requirements.

The review will also:

- Include requirements to ensure a facility is capable of meeting the requirements set out in the Ontario Drinking Water Standards and/or can provide disinfection to meet the requirements set out in the Chlorination of Potable Water Supplies in Ontario procedure.
- Encourage consolidation of certificates where appropriate.
- Identify other site-specific requirements as appropriate.

The Ministry recognizes that a balanced approach that considers both the benefits of enhanced requirements as well as the cost is important.

This Protocol contributes to an overall cycle of continuous improvement so that the requirements for existing CsofA will be made more consistent with the requirements placed on newly issued CofAs.

When will the Protocol be used to update a CofA ?

When the Ministry reviews an existing CofA for any reason, this Protocol will be used to determine if any changes to requirements should be incorporated. An outline of this process is presented in Figure 1.

The Ministry may review an existing CofA when:

- an owner makes an application to the Ministry for a change to the existing equipment, processes, production rates or for an expansion of plant capacity (excluding applications for minor changes and administrative amendments); or
- Ministry staff, through the course of compliance, inspection or enforcement activities, identifies a facility that is appropriate for a more in-depth assessment.

In addition, the Ministry may also target specific sectors and/or types of facilities with more significant potential environmental or health impacts based on overall Ministry and government environmental protection priorities.

There is also an existing mechanism under the *Environmental Bill of Rights* (EBR) through which the public may make an application to review an existing Certificate of Approval.

What is the Process?

Regardless of the mechanism used to trigger the CofA review, this Protocol will be used to determine the scope of the update. The more assessment criteria that apply to a CofA (details in next section), the more likely it is that a CofA update will be required.

When a project with an existing Certificate of Approval comes forward with an application to modify or expand its current operation, the Ministry will work and communicate directly with the facility owner throughout the process. Pre-application consultation is an important component of the application process. It can include discussing the extent to which the Ministry may require new or amended requirements in an updated CofA. By actively engaging in dialogue, the Ministry and the client can work together to define the environmental protection requirements of the project (e.g., effluent requirements, establishing general acceptability of the proposed technology, identifying any special approval-related requirements and determining the need for public consultation or notification).

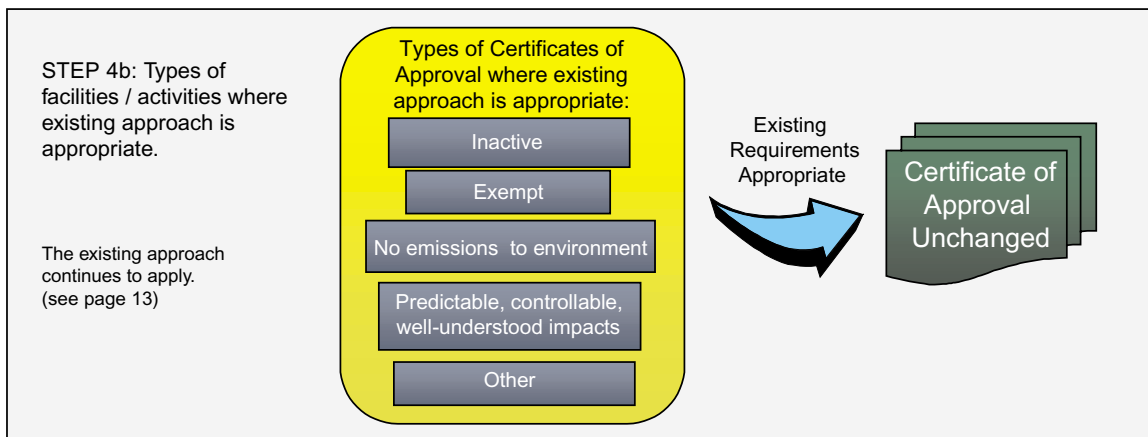
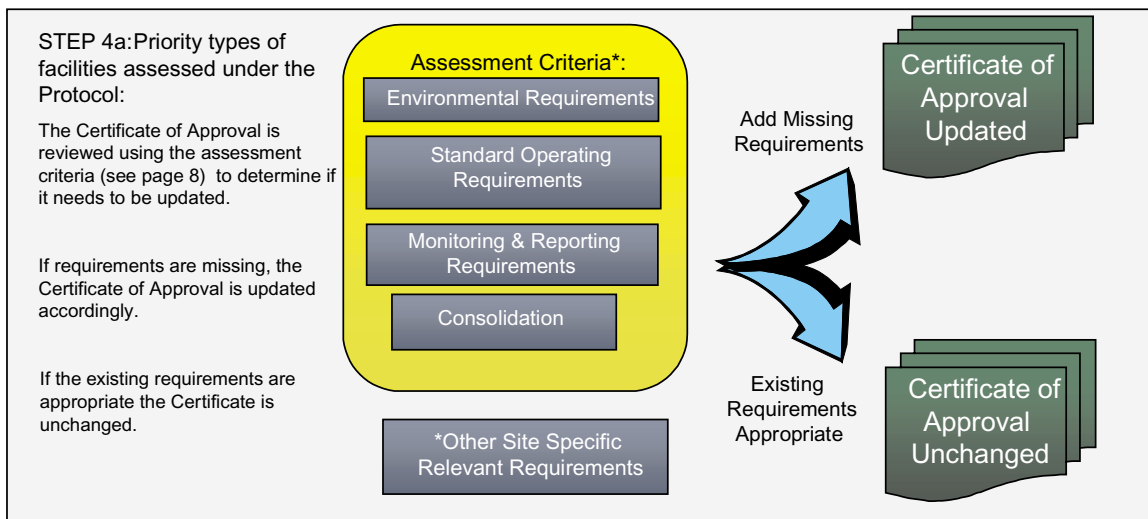
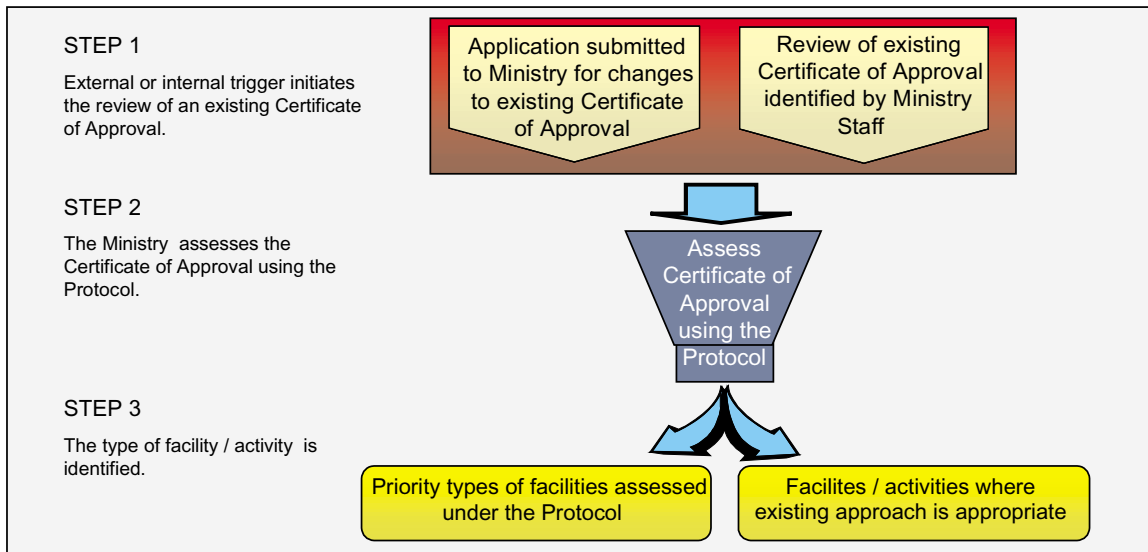
Once an application is submitted, the facility owner will receive an acknowledgement letter from the Ministry. This will reference the Ministry's intent to update the CofA in accordance with the Protocol. As well, when required by the *Environmental Bill of Rights*, the proposal for the CofA application will be posted on the Environmental Registry for public comment.

When an updated Certificate of Approval is drafted, a copy of the draft updated CofA is sent to the facility owner for further review, as appropriate.

If an update to a CofA is triggered by Ministry staff, through the course of their compliance, inspection or enforcement activities, the Ministry will either require that an application be submitted or initiate the update.

Upon completion, the final version of the CofA is issued. When required, a decision posting on the Environmental Registry will reflect the manner in which the Certificate of Approval has been updated at the end of the process.

Figure 1: Process for Updating CsofA



ASSESSMENT CRITERIA FOR WATER WORKS

In this first phase of implementation, the focus of the *Protocol for Updating Water Works Certificates of Approval* is on **facilities for the treatment and supply of water for human consumption and parts of the distribution system that provide treatment in the form of disinfection**. This includes the following groups of facilities:

- Facilities under the Drinking Water Protection Regulation (Regulation 459/00): Large municipal or private facilities serving more than 5 residences or supplying more than 50,000 litres of water per day and capable of supplying water at a rate of 250,000 litres per day;
- Facilities defined under the Drinking Water Protection Regulation – Small Water Works Serving Designated Facilities (Regulation 505/00) which continue to require a Certificate of Approval because they use surface water or groundwater under the influence of surface water; and
- Other public or private water treatment and supply facilities not covered by the regulations that require a Certificate of Approval under the *Ontario Water Resources Act*.

The Ministry may also choose to assess and update other types of CsofA issued for water works based on site-specific information or to support other environmental protection priorities at any time.

The detailed assessment criteria used by the Ministry to determine new or changed requirements that will be included in an updated Water Works CofA are discussed below.

Criteria 1: Ontario Drinking Water Standards

At a minimum, if the treatment facility is not capable of meeting the requirements set out in the Ontario Drinking Water Standards and/or cannot provide disinfection to meet the requirements set out in the Chlorination of Potable Water Supplies procedure, then the following requirements may be added to the Certificate of Approval:

- Site-specific requirements to undertake any physical improvements or upgrades to the facility to provide appropriate treatment, together with a raw water characterization, as appropriate.
 - The updated CofA will require submission of an application and provision of information to the Ministry by a specified date for the required physical improvements or upgrades to the facility. This application information will be reviewed and an update to the CofA issued.

In addition:

At a minimum, if the relevant environmental protection requirements set out in existing Ministry policies, guidelines and objectives are not included, they may be added to the Certificate of Approval. These requirements include:

- Any relevant environmental protection requirements set out in the key Ministry documents for Water Works listed in Appendix A.

Criteria 2: Standard Operating Requirements

At a minimum, the Ministry will assess whether or not the CofA has up-to-date standard operating requirements. If not, the update to the CofA may include:

- Approved maximum flow rates for operation of the facility.
- Requirement to provide proper disinfection for treated water quality if the maximum flow rate is exceeded to meet an unusual demand for fire fighting and in the event of interruption of the water supply that results in negative pressure conditions in the distribution system.
- Sampling and analysis of the raw water source, in-process parameters, treated water and backwash/wastewater, as appropriate.
- Continuous water quality analyzers and indicators with alarm systems for chlorine and turbidity and fluoride, as appropriate.
- Requirement for all chemicals used in the treatment process to meet quality and safety criteria as set out in published standards.
- Operations and maintenance manuals, contingency and emergency response plans and documented complaint procedures.
- As appropriate, effluent performance limits for the discharge of backwash / wastewater into a water body.
- As constructed (if available) and up-to-date record drawings and a Process and Instrumentation Diagram for the facility.
- Notification of any changes to the information concerning the identity or location of the owner or operator.
- Requirements for the period of time records must be retained.
- A signed responsibility agreement with the municipality for privately-owned water treatment facilities.

Criteria 3: Monitoring and Reporting Requirements

At a minimum, if monitoring and reporting requirements appropriate for the type of water works are not in the existing CofA, requirements that may be added include:

For all types of water facilities:

- Monitoring program for flow measurement, chlorination, turbidity. Monitoring program for fluoride if water treatment includes fluoridation.
- Daily record keeping of flow rates and continuous water quality analysis for chlorination and turbidity.
- Notification procedures for the Medical Officer of Health and the Ministry.
- Annual report including details of compliance with the requirements of the Certificate of Approval, any non-compliance events together with the corrective action(s) taken, summary of flow measurements, all sampling and analyses and the usage of treatment chemicals.
- Special sampling and reporting requirements for the water distribution system, as appropriate.

In addition to the above, for facilities serving municipalities under Ontario Regulation 459/00:

- A resolution of council that the annual compliance report has been presented to council.
- Submission of an Engineer's Report, prepared in accordance with the Ministry's published Terms of Reference by an independent third party, within a three year period.

Criteria 4: Consolidation

During the assessment, the Ministry will consider consolidating multiple existing Certificates of Approval issued to a single water works.

A decision to consolidate Certificates of Approval is based on whether sufficient information is readily available from:

- Ministry information systems;
- the Engineer's Report submitted by facilities under Ontario Regulation 459/00;
- supporting documentation submitted by the facility owner; and
- information reasonably obtained from the facility owner during the technical review.

The submission of detailed technical information required to support consolidation may require additional time to prepare. In this case, the update to the CofA may include a condition requiring that the information be submitted to the Ministry by a specified date for subsequent review.

NOTE: If other relevant site-specific requirements (not listed above) are not included in a CofA, the Ministry may decide to update the CofA to address these issues on a case-by-case basis.

Water Works Where Existing Approach/Requirements are Appropriate

It is unnecessary for proponents to use this *Protocol for Updating Water Works Certificates of Approval* where the existing approach/requirements are appropriate. These include:

- Facilities that have ceased operating or are no longer in business. If the facility owner makes an application to the Ministry to revoke a CofA, the Ministry will direct site closure and decommissioning activities that are to be undertaken, as required.
- Some types of water facilities and equipment with minimal environmental impacts no longer require a Certificate of Approval due to exemptions under regulation. For example, under Ontario Regulation 525/98, exemptions cover the following:
 - Service connections from the existing watermains to the property line within the public right of way and minor components of the water distribution system that do not affect the system's performance, including appurtenances (e.g., valves, fire hydrants, flow meters);
 - Relining or replacing existing watermains to restore aging pipes.
- Certificates of Approval required for the storage and/or distribution of treated water that do not provide additional disinfection.
 - Additional requirements for the protection of human health are generally not required for these CsofA as minimum human health protection requirements are applied at time of construction and have not fundamentally changed over time. Such facilities include watermains, forcemains, high lift and booster pumping stations, reservoirs and elevated tanks. However, these facilities may be assessed on a case-by-case basis when it is determined that disinfection should be added.
 - Operation and maintenance of the water distribution system is the responsibility of the owner and/or operating authority.

Despite the foregoing, the Ministry retains the authority to review and require new or amended requirements in an existing water works CofA at any time.

APPENDIX A: KEY MINISTRY DOCUMENTS RELATED TO WATER WORKS

- B5-1 Ontario Drinking Water Standards
- B13-3 Chlorination of Potable Water Supplies in Ontario
- Terms of Reference: Engineer's reports for water works
- D5-2 Application of Municipal Responsibility for Communal Water and Sewage Services”
- Other applicable Ministry documents.

Many of these documents can be found at the Ministry of Environment’s web site:
<http://www.ene.gov.on.ca/envision/gp/index.htm>