



Water and Wastewater Operators' Certification Guidelines

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Foreword

The Alberta Environment Water and Wastewater Operators' Certification Guidelines (Guidelines) outline the Certificate of Qualification requirements for operators of waterworks and wastewater systems as per the *Environmental Protection and Enhancement Act*. These guidelines provide municipal officials and facility managers with the information necessary to determine certification requirements, and provide the operators the necessary details on applying for, and obtaining certification. Certificate criteria are included so that operators will be able to assess their positions with respect to certification.

The Alberta Environment & Sustainable Resource Development (ESRD) Water & Wastewater Operator Certification Program (Certification Program) is intended to ensure that qualified operators supervise the day-to-day operation of all municipal water and wastewater facilities. The Certification Program is for all municipal operators; however, certification is not always required for non-charge operators. The approval, registration or code issued by ESRD will include a facility classification and will specify the requirements for certified operators.

The benefits of such a program are:

- Assurance of a safe and adequate water supply;
- Protection of the aquatic environment;
- Optimum use of public funds and resources dedicated to water and wastewater facilities;
- Best use of existing technologies; and
- Recognition of water and wastewater facility operators and their important role in their communities.

A brief outline of the Certification Program is provided in **Part I – Program Summary**.

Details of the Certification Program are provided in **Part II – Program Guidelines**.

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Part I - Program

Section I – Program Basics

A. AUTHORIZATION

The *Alberta Environmental Protection and Enhancement Act (EPEA)* requires that specified water and wastewater facilities in the Province of Alberta have certified operators to supervise and/or carry out day-to-day operation. The approval, registration, or code for each facility will specify the certified operator requirements.

B. FACILITIES REQUIRING CERTIFIED OPERATORS

The *Alberta Environmental Protection and Enhancement Act* and its regulations indicate which activities and facilities are required to be approved or registered under the Act, and therefore, which facilities require CERTIFIED Operators.

For the purposes of the ESRD Water & Wastewater Operator Certification Program (Certification Program), these facilities have been broken into two categories, Municipal and Public. This is a summary only. Detailed definitions can be found in the appropriate parts of the legislation noted above or in Part II, Section 2 of the Guidelines.

Municipal Facilities – Facilities serving residential hamlets, summer villages, villages, towns, cities and municipal developments that include:

- Water Treatment Plants (WT);
- Wastewater Treatment Plants or Wastewater Lagoons (WWT);
- Water Distribution Systems (WD);
- Wastewater Collection Systems (WWC).

Public Facilities – Non-municipal facilities that provide treatment for potable water or treat domestic wastewater are required to have an approval or registration from ESRD. The types of facilities included are:

- Industrial facilities (only those with potable water, provide domestic wastewater treatment or wastewater collection systems that require certified operators by the Code);
- Provincial Parks;
- recreation developments and,
- institutions/Government facilities;

Exclusions

Specifically excluded are hamlet and municipal development water systems that do not require treatment for health-effect parameters (high quality groundwater source), and have less than 15 service connections and less than 3 km of distribution system.

Public facilities that have a water distribution system or a wastewater collection system are excluded. Operators working in a public wastewater collection system (no wastewater treatment), are eligible for Level I Wastewater Collection only.

Also excluded are wastewater systems that are regulated under the *Safety Code Act*.

C. FACILITY CLASSIFICATION

The level of operator certification is the same as the classification of the facility. For example, a Class II Water Treatment Plant requires a designated operator certified at Level II, Water Treatment.

All ESRD approved classification of facilities are reviewed by the Environment Water & Wastewater Operator Certification Advisory Committee. A classification review may be done at the written request of the facility owner or authorized representative.

D. TYPES OF CERTIFICATES AVAILABLE

1. Small System Certificate
2. Municipal Certificate
3. Public Certificate
4. Conditional Certificate

Section II – Obtaining Certification

To obtain certification at the required level, the operator/applicant must:

1. Meet the minimum requirements for each level as outlined below (Refer to Section 3 of the Certification Guidelines for the requirements for each level of certification).
2. Submit an application to write the certification exam(s) for that level.
3. Write and pass the appropriate certification exam.
4. Sign the Certified Operator Code of Conduct.

The successful operator/applicant will be issued the appropriate certificate.

Part II – Program Guidelines

Section 1 – Introduction

Municipal governments and the Government of Alberta invest millions of dollars annually in water and wastewater facilities and have infrastructure worth billions of dollars. To help ensure proper operation and maintenance of these facilities, and to protect the health of its citizens and the environment, the ESRD Water and Wastewater Operator Certification Program (Certification Program) was developed.

A forerunner to the current Certification Program was established in 1969 in conjunction with the Western Canada Water and Sewage Conference (now Western Canada Water). In 1974, a committee of the Federation of Associations on the Canadian Environment (subsequently the Canadian Water and Wastewater Association) was established to consider compatible certification programs for all provinces. This was done in conjunction with the Association of Boards of Certification, an international organization of certifying authorities, headquartered in Ankeny, Iowa. This allowed for standardization and recognition of the certification program across North America.

In 1975, a Voluntary Certification Program was started in Alberta. In February 1982, the Clean Water (Municipal Plants) Regulations were amended to require that the day-to-day operation of all municipal plants be supervised by a certified operator.

In 1993, Alberta's Environmental Protection and Enhancement ACT (EPEA) was proclaimed to replace the existing environmental legislation including the Clean Water Act. The Regulations under EPEA require that the operation of waterworks systems, which include water treatment plants and water distribution systems, and wastewater systems, which include wastewater treatment plants and wastewater collection systems, be supervised by one or more persons certified in accordance with the approval or registration and outlined in the Water and Wastewater Operators' Certification Guidelines (Guidelines). Based on recommendations from the Certification Advisory Committee (see Section 7), further revisions, effective January 1, 2005, were implemented. The changes of significance include Mandatory Entry Level Training, CEU requirement for certification renewal, and the extension of renewal period.

Section 2 – Facility Classification

ESRD classifies all water and wastewater facilities based on staff recommendations and review by the Alberta Environment Water and Wastewater Operator Certification Advisory Committee. The owner or authorized representative may also request a review of a facility classification. The classification of Wastewater Collection (WWC) and Water Distribution (WD) systems is based upon the population served by the facilities while the classification of Water Treatment (WT) and Wastewater Treatment (WWT) facilities is based upon a range of points as determined by the degree of difficulty of operating a treatment facility. The Alberta system is similar to many used across Canada and the United States.

Table I – Facility Classification System

Facility	Based Upon	I	II	III	IV
Water Distribution (WD)*	Population Served	1500 or fewer	1501–15,000	15,001–50,000	50,001 or more
Water Treatment (WT)** /***	Range of Points	Based on degree of difficulty to operate the facility			
Wastewater Collection (WWC)*	Population Served	1500 or fewer	1501–15,000	15,001–50,000	50,001 or more
Wastewater Treatment (WWT)	Range of Points	Based on degree of difficulty to operate the facility			

Notes:

ESRD may adjust the classification of a facility if justified.

Water transmission and storage may be part of either water treatment or water distribution but, alone, it is not considered to be either water treatment or water distribution.

Wastewater pumping and transmission may be part of either wastewater treatment or wastewater collection but, alone, it is not considered to be either wastewater treatment or wastewater collection.

A Class I facility may have a small water or small wastewater operator requirement (not Level I) if it is an approved 'municipal' or privately owned 'public' facility **serving a population of less than 500**.

Small Water systems include water distribution systems or Class I water treatment plants such as iron and manganese removal facilities, water softening facilities using ion-exchange, or filtration/chlorination facilities. **Surface water treatment facilities (or Groundwater under the influence) are specifically excluded from small system category.** Small Wastewater systems include wastewater stabilization pond facilities with no discharge or seasonal discharge.

*Simple "in-line" treatment (such as booster pumping, preventive chlorination or odor control) is considered an integral part of the distribution or collection system.

**A groundwater supply with only preventative chlorination is not considered a water treatment plant.

*** Surface Water and Groundwater under the influence Facilities are a **Minimum** of Class II (Small Systems and Level I do not apply to Surface Water facilities)

SECTION 3 – CERTIFICATION: REQUIREMENTS & RESPONSIBILITIES

3.1 REQUIREMENT FOR HAVING CERTIFIED OPERATORS

The *Environmental Protection and Enhancement Act* requires that the day-to-day operation of specified **municipal** and **public water and wastewater facilities** be supervised by one or more persons who hold a valid certificate of qualification for the type and class of facility concerned. The approval, registration or code for each facility will state the required number of certified operators and their required level of certification.

3.1.1 Municipal Facilities

Facilities included are water treatment plants, wastewater treatment plants, water distribution systems, and wastewater collection systems that serve residential type developments such as hamlets, summer villages, villages, towns, cities, and municipal developments. All require certified operators except where specifically excluded in the approval or registration or by ESRD. (See Section 3.1.3)

3.1.2 Public Facilities

These are facilities that do not serve residential developments but do provide treatment for potable water or domestic wastewater and are required by their approval or registration under the *Environmental Protection and Enhancement Act* to have a certified operator. See Section 3.1.3 for exclusions. The types of developments that are considered to have Public Facilities are:

- industrial facilities (potable water and/or domestic sewage treatment only);
- provincial parks;
- institutions/Government facilities;
- recreation developments.

The water and wastewater systems serving Public Facilities that are affected by these Guidelines are:

- surface water treatment plants;
- groundwater treatment plants with treatment processes for health-effect parameters;
- mechanical wastewater treatment plants;
- aerated lagoons with continuous discharge; and
- other facilities designated by ESRD.

3.1.3 Exclusions

Water Facilities

Specifically excluded are hamlets and municipal developments that utilize a high quality groundwater source with no treatment for health-effect parameters and have less than 15 service connections and less than 3 km of distribution line.

Public facilities with a water distribution system are excluded and operators working in such facilities do not qualify for water distribution certification.

Wastewater Facilities

Specifically excluded are wastewater systems that are regulated under the *Safety Codes Act*.

Public facilities that have a wastewater collection **and** a wastewater treatment system are excluded and operators working in such facilities do not qualify for wastewater collection certification. Operators working in public facility with a wastewater collection system (no treatment), and are required under the code to have a certified operator are limited to Level I Wastewater Collection.

3.2 RESPONSIBILITY OF OPERATORS

It is the responsibility of certified operators to know the terms and conditions in the approval or registration for their facility. It is also their responsibility to understand the certification requirements for operators of their facilities as indicated by the approval, registration, code, or by the Certification Guidelines.

Certified operators are also responsible to establish or understand contingency plans for each facility that ensure that the approval or registration requirements, with respect to certified operators, are met at all times. This is important during normal operation or in the cases of planned absences (e.g. vacation), unplanned absences (e.g. illness), or change of staff (e.g. retirement).

3.3 RESPONSIBILITY OF FACILITY OWNERS

It is the legal responsibility of the owner or manager of each facility to be aware of the requirements for certified operators and to ensure that the requirements are met. The approval, registration or code issued by ESRD will designate the minimum number and level of certification of key operations personnel. It is important that facility owners or managers develop an internal program so that substitute or replacement personnel are available when necessary.

It is also important that each facility must have a contingency plan so that certified operator requirements are met in cases of planned absences (e.g., vacation), unplanned absences (e.g. illness), or change of staff (e.g. retirement).

3.4 FACILITY STAFFING REQUIREMENTS - CERTIFIED OPERATORS

The approval, registration, or code issued by ESRD will specify the minimum number and level of certified operators required for each facility.

For **Class I Water Treatment, Water Distribution, Wastewater Treatment, and Wastewater Collection facilities**, there **must** be a certified Level I (or higher) operator in charge of the day-to-day operation of that facility. The exception to this is when the approval or registration states that an operator with a Small Systems certificate is acceptable. A back-up certified operator is **recommended**.

For **Class II Water Treatment, Water Distribution, Wastewater Treatment, and Wastewater Collection facilities**, there **must** be a certified Level II (or higher) operator in charge of the day-to-day operation of that facility. It is **recommended** that an assistant operator with Level I or II certification be available.

For **Class III Water Treatment or Wastewater Treatment facilities serving a population under 1,500**, there **must** be a certified Level III (or higher) operator in charge of the day-to-day operation. It is further **recommended** that other operators be certified.

For **Class III Water Treatment or Wastewater Treatment facilities serving a population of 1,501 – 15,000**, there **must** be a certified Level III (or higher) operator in charge of the day-to-day operation. There **must** also be at least one other operator certified at Level I or higher. It is

further **recommended** that other operators be certified.

For Class III Water Treatment or Wastewater Treatment facilities serving a population of 15,001 – 50,000, there **must** be a certified Level III (or higher) operator in charge of the day-to-day operation. There **must** also be at least one other operator certified at Level II or higher. It is **recommended** that other operators be certified.

For Class III Water Distribution or Wastewater Collection systems serving a population of 15,001 – 50,000, there **must** be a certified Level III (or higher) operator in charge of the day-to-day operation. There **must** also be at least one other operator certified at Level II or higher. It is **recommended** that other operators be certified.

For Class III Water Treatment or Wastewater Treatment facilities serving a population over 50,000, there **must** be a certified Level III (or higher) operator in charge of the day-to-day operation. There **must** also be another operator certified at Level II or higher to act in the absence of the charge operator and at least one other operator certified at Level I or higher. There **must** be at **least** one certified operator (any level) for each shift when shift operation is required. It is **recommended** that other operators be certified.

For Class IV Water Treatment or Wastewater Treatment facilities serving a population up to 200,000, there **must** be a Level IV operator in charge of the day-to-day operation. There **must** also be two Level III (or higher) operators to act in the absence of the Level IV operator. There **must** be at least one Level II or higher certified operator for each shift when shift operation is required. It is **recommended** that other operators be certified.

For Class IV Water Distribution or Wastewater Collection systems serving a population of 50,001 or more, there **must** be a Level IV operator in charge of the day-to-day operation. There **must** also be two Level III (or higher) operators to act in the absence of the Level IV operator. There **must** be at least one Level II or higher certified operator for each shift when shift operation is required. It is **recommended** that other operators be certified.

For Class IV Water Treatment or Wastewater Treatment facilities serving a population over 200,000, there **must** be a certified Level IV operator in charge of the day-to-day operation. There **must** be at least one other certified Level IV operator to act in the absence of the charge operator. There **must** be a third operator who is certified at either Level III or IV and there **must** be at least one Level II (or higher) certified operator for each shift when shift operation is required. It is **recommended** that other operators be certified.

SECTION 4 – QUALIFYING FOR CERTIFICATION

4.1 CERTIFICATE TYPE

Application forms for certification are available from ESRD:

<http://esrd.alberta.ca/water/forms-applications/drinking-water-and-wastewater-certification-forms.aspx>

Small Water and Wastewater System Certificates: This certificate is issued to an operator who meets the training, experience and examination requirements for a small water system or small wastewater system certificate.

Small system certificates are valid for Class I facilities that serve a population of less than 500. Surface water treatment facilities (or Groundwater under the influence) are specifically excluded from the Small Systems category.

Municipal Certificates: This is a certificate issued when an operator meets the complete education, training, municipal experience and examination requirements of the Certification Program. Municipal certificates are valid for Municipal or Public facilities as defined in Section 3.1.

Public Certificates: This certificate is issued to a person who meets the education, training and examination requirements of the Certification Program and has operating experience only in a public facility as defined in Section 3.1. This certificate will have a "P" designation in the certificate number.

The Public Certificate is **not valid** for Municipal facilities. It may be upgraded, upon application, to a Municipal Certificate after at least 6 months of approved current municipal facility operating experience. Operators operating Public Facilities are restricted to Water Treatment and/or Wastewater Treatment Certification. They are not eligible for Water Distribution or Wastewater Collection Certification. Except, if working in a wastewater collection system only (no treatment), then operators are eligible for Level I Wastewater Collection.

Conditional Certificates: Conditional Certification of an operator may be considered, at the discretion of the Department, when there is **no other alternative** for the facility owner to meet the requirements of the approval or registration. The certificate is issued only to the operator(s) designated by the owner as responsible for the facilities as required by the approval or registration and is valid only for those facilities. Conditional Certification is temporary, once only, and intended mainly for small systems where a special need can be shown. Certificates are issued for a **Maximum of two (2) years**.

A Conditional Certificate will be valid for a specific time period to allow a facility owner to either hire a fully certified operator or to permit an operator to upgrade to the required level. Conditional certification will be issued as a letter. Applications for Conditional Certificates are not available on-line. Applicants must contact the Certification Section of ESRD to request an application. Applications for Conditional Certification must be submitted jointly by the operator applicant and by the facility owner (or representative).

4.2 OPERATOR QUALIFICATIONS

To qualify for writing certification exams, the applicants must meet minimum education, experience and training requirements for each level as indicated in the following sections. Substitutions, with limitations, are allowed for both experience and education in Levels II, III and IV. (see Sections 4.3.3 and 4.4.2).

Small System

- six hours of applicable approved training; and
- six months of acceptable operating experience in a small system.

Level I

- High School Diploma, GED (General Educational Development) transcript or High School Equivalency Diploma;
- one year of acceptable operating experience in a Class I or higher facility; and
- 1.2 CEUs of applicable approved entry-level training.

Level II

- High School Diploma, GED (General Educational Development) transcript or High School Equivalency Diploma; and
- three years of acceptable operating experience in a Class I or higher facility.

Level III

- High School Diploma, GED (General Educational Development) transcript or High School Equivalency Diploma;
- two years or 90 CEUs of approved post-secondary education in the environmental field, engineering, or related science; and
- four years of acceptable operating experience, at least two of which must be in a Class II or higher facility including at least two years of DRC experience.

Level IV

- High School Diploma, GED (General Educational Development) transcript or High School Equivalency Diploma;
- four years or 180 CEUs, of approved post-secondary education in the environmental field, engineering, or related science; and
- four years of acceptable operating experience, at least two of which must be in a Class III or IV facility including at least two years of DRC experience in a Class III or IV facility.

A minimum of one year must have elapsed between writing and passing one level of certification exam and applying to write the next level of certification (i.e., one year between Levels I and II).

Operators may qualify for certification at **one** Level above the class of the facility where operating experience is gained. The **exception** is that operators with wastewater treatment operations experience at lagoon facilities only do **not** qualify for Level II wastewater treatment certification.

Operators of Class I or Class II water distribution systems may qualify for Level I Water Treatment Certification after obtaining Level I Water Distribution Certification and accumulating an additional one year of experience.

TABLE 2 – SUMMARY OF EDUCATION AND EXPERIENCE REQUIREMENTS

Operator Level	Requirements	WT	WD	WWT	WWC
Small Systems	Training (CEUs)	0.6 CEUs approved applicable training		0.6 CEUs approved applicable training	
	Experience	6 months		6 months	
Level I	Education (years)	12	12	12	12
	Experience (years)	1	1	1	1
	Training (CEUs)	1.2	1.2	1.2	1.2
Level II	Education (years)	12	12	12	12
	Experience (years)	3	3	3	3
Level III	Education (years)	14	14	14	14
	Experience (years)	4*	4*	4*	4 *
Level IV	Education (years)	16	16	16	16
	Experience (years)	4*	4*	4*	4*

Notes:

*For Level III and IV Certification, the 4 years of experience must include at least 2 years of DRC experience.

Substitutions, with limitations, are allowed for both experience and education in Levels II, III and IV.

4.3 EXPERIENCE REQUIREMENTS

4.3.1 Operating Experience

Operating experience is defined as the time spent working at a water or wastewater facility in satisfactory performance of operation duties or in supervision of persons performing operation duties.

In order to qualify to challenge a certification examination, an operator will be required to meet the minimum **OPERATING** experience requirements.

For the purposes of the Certification Program experience gained while in remote process control cannot be used towards the experience requirement for Certification Levels I, II, or III. For Level IV Certification a **maximum** of 1/3 of experience gained through remote process control may be used towards the Level IV experience requirement.

Limited substitution of post-secondary education for experience applies only to Levels II, III, or IV.

Small Water and Wastewater Systems

Six months of current applicable experience in an approved or registered water or wastewater system.

Level I

Minimum of 1 year of current operating experience in an approved or registered water or wastewater facility or system.

Level II

Minimum of 3 years current operating experience in an approved **or** registered water or wastewater facility or system, or, 2 years of operating experience plus 1 year post-secondary education (45.0 CEUs). You must also obtain at least one year of experience after obtaining your Level I certification.

Level III

For Level III certification, minimum of 4 years current operating experience in an approved facility or system, at least two of which must be in a Class II or higher facility or system including at least two years of DRC experience. You must also obtain at least one year of experience after obtaining your Level II certification.

Level IV

For Level IV certification, minimum of 4 years current operating experience in an approved facility or system, at least two of which must be in a Class III or IV facility or system, including at least 2 years of DRC experience in a Class III or IV facility. You must also obtain at least one year of experience after obtaining your Level III certification.

4.3.2 Direct Responsible Charge (DRC) Experience Requirements

Direct Responsible Charge (DRC) experience means experience gained through accountability for and:

- a) performance of, or
- b) supervision of

daily, on-site operational duties for a plant (facility/system) or operating shift, but can only occur when the Operator has been authorized or identified by the Owner as being in control of the facility or operating shift.

An operator will gain DRC when he/she has been authorized to perform, on a day-to-day basis, the following types of duties:

1. Review and establish operational parameters for the facility/system, or
2. Control the on-site operations of the facility/system including monitoring, evaluation, and adjustment of the facility or process, or
3. Provide on-site supervision of operators performing either #1 or #2 above.

Notes:

When shift operation is required, DRC experience can be earned in accordance with the above requirements for each operating shift.

DRC experience is a function of the **position** within the employing organization. An operator can gain DRC during a temporary (e.g. vacation/illness replacement) assignment that meets the above requirements.

More than one person can gain DRC during an operating shift if **each** person meets the above requirements.

DRC Experience may only be gained after an operator obtains Level II Certification.

There are no DRC experience requirements for Small Systems, Level I, or Level II certification.

Level III

For Level III certification, at least two years of DRC must be gained after obtaining a Level II certificate, and at least two years DRC experience must be gained in a Class II or higher facility. A maximum of one year of DRC experience in a Class II (or higher) facility may be substituted for one year of the post-secondary formal education requirement for Level III certification.

Level IV

For Level IV, at least one year of DRC experience must be gained after receiving a Level III certificate, and at least two years DRC experience must be gained in a Class III or IV facility. A maximum of two years of DRC experience gained in a Class III or IV facility after obtaining Level III certification may be substituted for two years of the post-secondary formal education requirement for Level IV certification.

4.3.3 Substitutions of Education for Experience

Level I - No substitution for the experience requirement is permitted.

Level II, III, or IV Post-secondary education may be substituted for required experience for Levels II, III, and IV, but with the limitation that 50 per cent of any stated experience requirement must be met by actual on-site operating experience in a plant or system. Minimum experience requirements must also be met.

Formal Education Substituted for Experience

School – High school education cannot be credited for substitution value toward any experience requirement since high school education is a basic requirement for certification Levels I to IV.

Post-secondary – One year of approved relevant formal academic education at the post-secondary or college/university level may be substituted for a maximum of one year of operating experience (Not DRC Experience) except for Level I and Small Systems certification within the limitation noted above.

Note:

Education applied in substitution for an experience requirement **cannot** also be applied to the education requirement.

DRC Substitution for education cannot also be used to meet the experience requirement.

Operator Training Substituted for Experience

Approved specialized operator training courses, seminars, workshops, technical conferences, etc., may be substituted for operating experience requirements, subject to the minimum experience requirements previously described. Calculation will be based on Continuing Education Units (CEUs) with 45 considered equal to 1 year.

4.3.4 Other Experience

PARTIAL credit toward operating or DRC experience requirements MAY be approved by ESRD for other related experience. Examples of “related experience” may include work in maintenance, laboratories, different utilities, different certification categories, other related occupations or trades, etc.

4.4 EDUCATION REQUIREMENTS

Minimum education requirements are specified for all levels. Other than for Small Systems Certification, the minimum requirement is successful completion of Grade 12. Subsequent levels require Post-secondary Education and/or additional CEU's (See Table 2 – Summary of Education and Experience Requirements). Limited substitution using DRC experience or specialized operator training courses are outlined in Section 4.4.2.

4.4.1 Formal Education

Grade 12 (12 Years) Successful Completion – The following* may be considered equivalent to Grade 12

- a) Grade 12 Diploma, GED , or
- b) *Successful completion of relevant trades program (trade qualified), or
- c) Successful completion of post-secondary degree program from a recognized institution, or
- d) Successful completion of diploma program from a recognized institution.

Note: There shall be no substitution of experience for high school requirement.

***If the completion of relevant trades program is used for verification of Grade 12 it cannot be used for post-secondary education.**

The Certification Advisory Committee may chose not to ask for Grade 12 diploma or transcripts verification if the operator has completed any relevant two-year diploma with ASET Technologist Designation, relevant University Degree, an APEGGA Registered Professional Engineer.

Equivalencies may be approved by Alberta Education. **It is the responsibility of the applicant to obtain an evaluation of equivalency from Alberta Education**

<http://www.education.alberta.ca/students/hsed.aspx> - (Phone 780-422-5713)

14 Years – The formal education requirement of 14 years for Level III Certification includes the basic 12 years plus an additional 2 years of approved related, relevant post-secondary formal education, or specialized training (90 CEUs), or a combination of formal education and training.

16 Years – The formal education requirement of 16 years for Level IV includes the basic 12 years plus an additional 4 years of approved related, relevant post-secondary formal education, or specialized training (180 CEUs), or a combination of formal education and training. Maximum post-secondary credit allowed it 4 years

Approved Post-Secondary – ESRD may approve related or relevant post-secondary programs. These could include degree, diploma and certificate programs from recognized post-secondary institutions. Maximum post-secondary credit allowed it 4 years

The following courses* are considered acceptable for Post-Secondary requirements

- Successful completion of relevant trades program (if not used for Grade 12 equivalency-see approved list for % granted), or
- Successful completion of post-secondary degree program from a recognized institution, or
- Successful completion of diploma program from a recognized institution, or
- Partial completion of relevant trades, post-secondary degree, or diploma programs or completion of short courses, evaluated on a case by case, or
- Correspondence courses.

Note: Course work shall be broadly related to drinking water and/or wastewater operator's duties. The programs accepted for post-secondary requirements are courses in the following areas:

- Degree programs accepted at face value Including, but not limited to, Science, Engineering, Agriculture, Biology, Chemistry, Physics, Mathematics, Laboratory Studies, Hydrogeology, or
- Diploma programs accepted at face value Including, but not limited to, Applied Science and Technology, Environmental Technician or Technologist, Laboratory Studies, or
- Academic portion of Applicable Trades accepted at value assigned by certifying authority (see approved list for % granted) – Including, but not limited to, Power Engineering, Instrumentation, Plumbing, Electrical, Millwright, Mechanics, or
- Relevant short course work accepted at value assigned by certifying authority, or
- Completion of other 4 year University Degree Programs accepted at a maximum of 450 contact hours.

Note: Other courses will be reviewed on an individual basis. The course content of these shall be directly related to the delivery of water and wastewater programs.

Note: CEUs are considered "post-secondary equivalent", therefore CEUs are not awarded for training taken as part of on-the-job training.

Out of Country Education - Degrees, diplomas, or certificates from institutions outside of Canada may be compared to similar Canadian programs. Partial degrees or diplomas are not necessarily approved based number of completed years. It is the responsibility of the applicant to have such post-secondary education evaluated. It is up to the applicant to ensure that they have all appropriate documentation. Applicants can contact the following organization for more information:

International Qualification Assessment Service (IQAS)

9th Floor, 108 Street Building
9942 - 108 Street
Edmonton, AB T5K 2J5
Telephone: (780) 427-2655
Fax: (780) 422-9734

<http://www.humanservices.alberta.ca/AWonline/ETS/4342.html>

Specialized Training/In-house Training – Applicants lacking in formal post-secondary education can take advantage of specialized operator training courses, or other courses, which have been evaluated and accepted as relevant, and assigned CEU's by the Certification Advisory Committee. ESRD maintains a list of such courses. Other courses will be evaluated on request and may be assigned CEUs if they are applicable to the Program. Requests for evaluations are available from ESRD and must include the following information:

- sponsor;
- certificate, degree or diploma awarded;
- topics covered;
- hours per topic; and
- facilitator or instructor (Name and/or position description – institution programs may provide generic instructor position descriptions).

In order for in-house training to be considered for CEUs the training must have the following components:

- Written detailed course description including if the material is site specific or applicable to the operation of similar facilities, hours spent on each topic, objectives, outcomes, and evaluation.
- Student must be in a learning environment
- Equipment used for training must not be in service.

One Continuing Education (CEU) Unit is defined as ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction.

- An **approved** operator training course of 36 contact hours = 3.6 CEUs.
- Forty-five CEUs are considered equivalent to 1 year of formal education.
- Courses that are less than three hours will not be assigned CEUs.

CEUs will not be given for duplicate training. (i.e. an operator will not receive CEU credit for repeating the same course).

Information and Control System Courses (computer courses) and Administration Course (Management) CEUs are limited to 10 for Level III Certification and 20 for Level IV Certification.

4.4.2 Substitutions for Formal Education

DRC Experience Substituted for Education

Substitutions may be made for required formal education, subject to the following criteria:

Level III – A maximum of 1 year of DRC experience in a Class II (or higher) facility may be substituted for one year of the post-secondary formal education requirement for Level III certification.

Level IV – A maximum of 2 years of DRC experience gained in a Class III or IV facility after obtaining Level III certification may be substituted for 2 years of the post-secondary formal education requirement for Level IV certification.

Note: DRC substitution for education cannot also be used to meet experience requirements or the one-year minimum specified in Section 4.3.2.

Operator Training Substituted for Education

Specialized operator training courses, seminars, workshops, technical conferences, etc., as recommended by the Certification Advisory Committee and approved by ESRD, may be substituted for formal post-secondary education without limitation. Calculation will be based on CEUs. A list of approved courses is available from ESRD.

4.5 MANDATORY TRAINING REQUIREMENTS

Mandatory entry-level training is required for Small Systems Certification and Level I Certification.

Small Systems Certification

Six hours or 0.6 CEUs of mandatory **approved** training are required for each category, i.e., small water systems and small wastewater systems. This can be the Small Water Systems or Small Wastewater Systems courses approved by ESRD or other training as approved by ESRD.

Level I Certification

Twelve hours or 1.2 CEUs of approved Mandatory Entry Level Training are required for Level I Certification. This can be the AWWOA Entry Level Training course developed by ESRD, the Entry Level Training offered by Portage College (Lac La Biche), the Level I Certification Preparation Course or graduation from the NAIT Water and Wastewater Technician Program.

4.6 CERTIFIED OPERATOR CODE OF CONDUCT

All operators who successfully challenge a certification exam will be required to sign the Certified Operator Code of Conduct **before** they receive their Certificate of Qualification. As well once an operator is certified he or she will be required to re-sign with each Certificate renewal. Operators who break the code may experience disciplinary actions, including but not limited to, the revocation or suspension of their Certificate of Qualification.

SECTION 5 – EXAMINATIONS

5.1 QUALIFYING TO WRITE A CERTIFICATION EXAM

To qualify to write a certification exam, an operator must meet the minimum applicable education, experience, and training requirements for each type and level of certification, PRIOR to writing the appropriate exam. Application forms for each type or category of exam are available from ESRD and outline the specific requirements that must be met to qualify to write. Exams are available in each of the following categories:

Small Systems - Small Water Systems and Small Wastewater Systems
Levels I through IV - Water Treatment, Wastewater Treatment, Water Distribution and Wastewater Collection

5.2 EXAM FORMAT

ESRD schedules examination sessions. Candidates must apply to take an examination before the scheduled deadline for each exam session. These deadlines are **approximately** 45 days before the scheduled exam date and allow time for the applications to be received, processed, and reviewed by the Certification Advisory Committee and for follow-up letters to be sent to the applicants within a reasonable time frame prior to the exam dates. A list of current exams can be found at:

<http://environment.alberta.ca/01629.html>

Small Water System and Small Wastewater System

The exams for Small Water and Small Wastewater certification consist of 50 questions each. The questions relate to the operation of small water treatment and distribution systems or small wastewater treatment and collection systems. The pass mark for each exam is 70%.

Levels I and II

The exams for Levels I and II consist of three “common”, mandatory modules:

1. General
2. Support Systems
3. Administration

and one or more specific modules consisting of:

4. Water Treatment (WT) Quality Control
5. Water Distribution (WD) Quality Control
6. Wastewater Collection (WWC) Quality Control
7. Wastewater Treatment (WWT) Quality Control

Each module consists of 25 questions. All exams include modules 1, 2, and 3, and one or more of the “specific” modules (4 through 7). The first 3 modules are common for all four categories.

To be certified for WT, WWT, WD, or WWC, the examinee must obtain an average mark of at least 70% on the first three modules plus the appropriate specific module. The marks from the first three modules are combined with the mark from each of the specific modules to obtain an average mark for that category. The mark in each individual module must be at least 50% in order to achieve a passing grade.

Candidates for Level I Certification are permitted to write as many as 175 questions (i.e., all seven modules) in one exam session, **but this is not recommended** as it may be difficult to finish within the 2 hour time limit.

Candidates for Level II Certification are restricted to a maximum of 125 questions at one exam session (i.e., the first three modules plus any two of the four specific modules). The pass mark of 70% is determined in the same manner as for Level I.

Levels III and IV

Level III and IV exams have 100 questions each and consist of four sections: General, Support Systems, Administration, and Quality Control. The sections do not have equal numbers of questions. The pass mark is 70%.

5.3 REWRITES OF CERTIFICATION EXAMS

If a candidate does *not* pass a certification exam, a rewrite is possible with the following restrictions:

1. A candidate who is unsuccessful in an examination attempt may, on written request, rewrite the exam **at least 6 months**, but not more than one year, after the unsuccessful attempt. After one year, a new application will be required.
2. A candidate is eligible for a *maximum* of two rewrites following the initial attempt.
3. Should a candidate be unsuccessful in his/her third OR subsequent attempt at an exam, he/she must submit a complete new application showing the acquisition of at least *five* relevant CEUs since the last attempt. All current education and experience criteria must be met at the time of a new application.

5.4 EXAMINATION CODE OF CONDUCT

Alberta Water and Wastewater Operators are expected to act honestly, competently and with integrity, with a view to ensuring the safety of human health and the protection of the environment. In support of these expectation, the Alberta Water and Wastewater Operator Certification Program's Examination Code of Conduct is to be adhered to by applicants throughout the certification examination process. If an examinee refuses to sign the Code of Conduct approval to write the Certification exam will be withdrawn. By signing the agreement the examinee agrees to refrain from participating in any of the following activities or practices:

- Falsifying information or documentation for the purposes of obtaining a water and/or wastewater operator certificate;
- Cheating in order to aid his or her self or another person to pass a certification examination;
- Copying examination content by any method;
- Removing any of the provided examination materials from the examination room; and
- Possessing or using any non-authorized materials or equipment during an examination, such as, but not limited to cell phones, or other electronic devices (except for non-programmable calculators)

By signing the Examination Code of Conduct the examinee understands that *any* violation of the terms will lead to disciplinary actions, which may include, but are not limited to: the voiding of examination results, being barred from writing future certification examinations, or suspending or revoking a certificate of qualification.

SECTION 6 – ISSUANCE AND RENEWAL OF CERTIFICATES

6.1 INITIAL CERTIFICATE

Once an applicant has met the minimum requirements of the Certification Program and has passed the appropriate exam, ESRD will issue a certificate. This certificate will indicate the name of the individual, the initial date of certification, valid to date, and the type and level (i.e., Water Treatment II). **All certificates have an expiry date of December 31st.**

6.2 RECIPROCITY

On written application, certificates will be issued at a comparable level, without examination, to any person operating an Alberta facility, who holds **valid** operator certification from any province, or equivalent certifying authority. An application for certification by reciprocity must be completed and submitted to ESRD. Certificates of Qualification issued by reciprocity will be issued for the remaining period in the original certification to the maximum of 3 years.

6.3 CERTIFICATE UPGRADING

When an applicant holding an active certificate has met the minimum requirements of the Certification Program for a higher level or for an additional category, and has passed the appropriate exam, a new certificate reflecting the new certification status is issued.

6.4 CERTIFICATE RENEWAL

Certificates must be renewed every three years to ensure that the individual continues to meet Certification Program requirements in a fashion satisfactory to ESRD. Conditional Certificates are **not renewable**.

Renewal application forms will be sent to operators well in advance of the renewal date. Failure to renew certification will result in the certificate being inactivated.

There are three options to choose from to renew a certificate.

1. Current Experience

An operator must obtain a minimum of twelve months of operating experience in the previous three years **and** must obtain a minimum of 3.6 Continuing Education Units **during** the previous three-year renewal period.

For renewal purposes only, remote process control experience is gained at a maximum of 1/3 of the experience requirement.

2. Without Current Experience

If an operator does not have current experience, there are two options to choose from:

- *Continuing education:* An operator must obtain a minimum of 7.2 Continuing Education Units **during** the previous three-year renewal period. This method of renewal can only be used through two renewal periods.
- *Re-examination:* An operator may re-write the certification exam at the appropriate level. The rewrite must be **within** the three-year renewal period. This method of renewal can only be used through two renewal periods.

CEUs must be relevant, must be obtained during the three-year renewal period and must be approved. A list of courses approved for CEUs is available from ESRD. (On-line at: <http://environment.alberta.ca/01631.html>).

Failure to furnish the required information on a renewal application will constitute grounds for rejection of a request and inactivation of the certificate.

If certified at Small System an operator must obtain a total of 0.6 CEU during the three-year renewal period.

If certified at Level I or Level II an operator must obtain a total of 3.6 CEUs during the three-year renewal period.

If certified at Level III or Level IV an operator must obtain 3.6 CEUs **Per Certification Discipline**. (Discipline is defined as either "Water" or Wastewater" – minimum CEUs 7.2). If an operator obtains an additional Level III certification category that puts the operator into requiring 3.6 CEUs per certification discipline, in the last year of his certificate period, the requirement of 7.2 CEUs will be dropped to 3.6 CEUs for the first renewal period only.

6.5 CERTIFICATE RE-ACTIVATION

If a certificate has been inactive for less than three years from the date it became inactive, it may be reactivated upon application if the applicant is currently working in the appropriate classification of facility **and** the operator has completed the necessary CEUs required for the three year period.

If a certificate has been inactive for three or more years, the application will be reviewed by the Certification Advisory Committee on a case-by-case basis. Applicants may be required to rewrite the appropriate certification exam.

6.6 REVOCATION

ESRD shall cancel or suspend a certificate:

- if the person to whom the certificate was issued has contravened the *Environmental Protection and Enhancement Act* or Regulations under the Act;
- if it is found that the person has practiced fraud or deception;
- if reasonable care, judgment or the application of the operator's knowledge or ability was not used in the performance of operation duties;
- if the individual is incompetent or unable to perform prescribed duties properly;
- if the individual fails to comply with the Certified Operator Code of Conduct: or
- if for any other reason the individual is no longer qualified to operate a municipal or public facility.

6.7 APPEALS

In the event that an individual believes that these Guidelines have been misinterpreted, applied inequitably, or special circumstances have not been adequately considered, then the following appeal process may be used.

1. Written appeal to ESRD.
2. Written appeal or verbal presentation to the Certification Advisory Committee.

SECTION 7 – CERTIFICATION ADVISORY COMMITTEE

7.1 DUTIES OF THE CERTIFICATION ADVISORY COMMITTEE

The Committee meets, as required by ESRD, to make recommendations on the following items:

- a) certification program policy;
- b) applications for certification;
- c) facility classifications;
- d) applications for certification renewal;
- e) certification examinations;
- f) evaluation of specific training/education with respect to the Program;
- g) experience and education relevance;
- h) determination of Certification Program fees; and
- i) other matters that may be requested.

7.2 CERTIFICATION ADVISORY COMMITTEE MEMBERS

Members of the Certification Advisory Committee are appointed by the Minister to provide review and recommendations concerning the Certification Program. The Committee may consist of the following representatives:

- a) one representative from ESRD;
- b) one municipal government employee in a managerial position (not elected) responsible for potable water supply and/or wastewater system;
- c) one management representative from an industry that is required to have operators certified under the program;
- d) one representative of the Alberta Urban Municipalities Association;
- e) one faculty member of a post-secondary institution where that person conducts training related to municipal water supply and wastewater operations;
- f) four active operating personnel holding valid certificates with representation from both the water and wastewater fields;
- g) one active operating person holding a valid certificate for the domestic wastewater or potable

- water operations in an industrial facility;
- h) one representative from ESRD from a regional office; and
- i) one other person at the discretion of the Minister.

The Chairman of the Committee is appointed by ESRD from among the Committee members. A quorum for meetings is six members. The Committee members serve three-year terms, which are staggered so that at least two of the positions will expire each year. Committee members may be re-appointed.

APPENDIX I – DEFINITIONS

The definitions in this section are specific to the Alberta Environment Water and Wastewater Operator Certification Program.

ACT

refers to the Alberta Environmental Protection and Enhancement Act (EPEA).

APPROVAL

means an approval issued under EPEA in respect of an activity, and includes renewal of an approval.

CERTIFIED OPERATOR

is a person who holds a valid Certificate of Qualification issued under section 2 of the Wastewater and Storm Drainage (Ministerial) Regulation or under section 16 of the Potable Water Regulation.

CONTINUING EDUCATION UNIT (CEU)

1 CEU is 10 contact hours of participation in an organized relevant continuing education experience (training) under responsible sponsorship, capable direction, and qualified instruction as approved by the Certification Advisory Committee.

DIRECT RESPONSIBLE CHARGE (DRC)

means experience gained through accountability for *and*:

- a) performance of, or
- b) supervision of

daily, on-site operational duties for a plant (or system) or operating shift, but can only occur when the Operator has been authorized or identified by the Owner as being in control of the facility or operating shift.

EXPERIENCE

(see Operating Experience) means the time spent working at a water or wastewater facility in satisfactory performance of operation or supervision duties (See Appendix IV).

GENERAL EDUCATIONAL DEVELOPMENT (GED)

One way to earn a High School Equivalency Diploma for any Albertan who has not completed a formal high school education is to write the General Educational Development tests. There are five tests (Social Studies, Science, Writing Skills, Interpreting Literature and the Arts, and Mathematics), which must be written and passed in order to be granted a High School Equivalency Diploma.

Information on obtaining writing the GED tests is available from Alberta Education:

<http://www.education.alberta.ca/students/hsed.aspx>

Phone: (780) 427-0010

GRADE 12

means a high school diploma. When grade 12 completion is in doubt, **it is the responsibility of the applicant** to obtain an evaluation by Alberta Education.

HIGH SCHOOL EQUIVALENCY DIPLOMA

An Albertan who has not completed a formal high school education may earn a High School Equivalency Diploma by accumulating 100 credits as stipulated by Alberta Education, or by writing the General Educational Development Tests (GED). For more information contact Alberta Education at (780) 427-0010.

IN-HOUSE TRAINING

In-house training is a training program for learning opportunities developed by the organization in which it is used. Training may be required to be provided to employees as part of legislative requirements for industry performance and safety standards or continuing education requirements.

ON THE JOB TRAINING

Training that takes place at the work site and is supervised by a manager or an experienced co-worker. On-the-job training is considered work experience and not eligible for CEU assignment.

OPERATION

means the active daily on-site process of ensuring that a facility accomplishes its defined purpose. Operation may include many elements. They are described further in Appendix IV.

OPERATING EXPERIENCE

means the time spent working at a water or wastewater facility in satisfactory performance of operation duties or supervision of persons performing operations duties.

OPERATOR

is a person who performs day-to-day activities primarily consisting of the control of a water treatment plant, wastewater treatment plant, water distribution system or wastewater collection system. Appendix IV provides more details.

POTABLE WATER

means water that is supplied by a waterworks system and is used for drinking, cooking, dish washing or other domestic purposes requiring water that is suitable for human consumption.

REGISTRATION

is a registration issued under EPEA in respect of an activity, and includes renewal of a registration.

REMOTE MONITORING

is the ability to continuously receive adverse operational conditions through alarms from a remote location. Monitoring from a remote location does not provide the ability to make process adjustments from the remote location.

REMOTE PROCESS CONTROL

is the ability to view continuous *real time* data and initiate adjustments of a process or operational condition from a remote location.

SHIFT OPERATION

Is defined as operation which requires operator on-site 24 hours per day, 7 days per week, 365 days per year.

UNDER THE DIRECTION OF THE CERTIFIED OPERATOR

means that the certified operator:

- is responsible for and provides verbal or written instructions for any system, treatment process control changes;
- physically attends the system as often as required in this document;
- stays informed of the operation of the system, as required between site visits to ensure proper operation of the system
- physically attends the system within two hours of notice of any emergency or significant process control problem; and,
- is responsible for verifying the accuracy, completeness and submission of all information in the monthly and annual reports.

WASTEWATER COLLECTION SYSTEM (WWC)

is the portion of the wastewater system that receives wastewater from the premises of the discharger and conveys it to the point of treatment or disposal.

WASTEWATER TREATMENT PLANT (WWT)

is the portion of the wastewater system that is used in the treatment of domestic wastewater, including effluent disposal and solids handling treatment and disposal.

WATER DISTRIBUTION SYSTEM (WD)

is the portion of the water system in which water is stored and conveyed from the water treatment plant or other supply point to the consumers.

WATER TREATMENT PLANT (WT)

is the portion of a water system that in some way alters the physical, chemical, or bacteriological quality of the water. A facility that chlorinates groundwater, but has no other process, is not considered to be a water treatment plant.

YEAR

is defined as one calendar year or 12 consecutive months (except in special circumstances). If it is impossible to determine experience gained in terms of years or 12-month periods then, 1800 hours may be considered equivalent to 1 year. **Overtime and On Call hours are NOT applicable.**

APPENDIX II

GUIDE TO EXPERIENCE AND EDUCATION QUALIFICATIONS AND SUBSTITUTIONS

WHEN SHORT OF EXPERIENCE:

This Education or Training	May be Substituted for	Limit
High School Education	No credit	–
1 Year relevant post-secondary education	1 year operating experience	50% of experience requirement
1 year (expressed as 45 CEUs) relevant and specialized operator training as approved	1 year operating experience	50% of experience requirement

WHEN SHORT OF FORMAL EDUCATION:

This Education or Training	May be Substituted for	Limit
For Level III, DRC (only) 1 year DRC experience in Class II or higher facility	1 year post-secondary education	50% of post-secondary education requirement
For Level IV, DRC (only) 1 year DRC experience in Class III or IV facility	1 year post-secondary education	50% of post-secondary education requirement
1 year (expressed as 45 CEUs) relevant and specialized operator training as approved	1 year formal education	None

Note:

For Levels II, III, and IV certification, substitutions may be made for required experience, but the minimum experience requirement must be met and at least 50% of all stated experience requirements must be met by actual on-site operating experience in the appropriate type of plant or system.

**APPENDIX III
APPLICANT WORKSHEETS/CHECKLISTS
SMALL SYSTEMS**

Applicant worksheets are made available for use to determine if an operator has met the requirements prior to applying for certification. Please consider using it and returning it with the completed application for certification.

SMALL SYSTEMS OPERATIONS

A. Education

Minimum 0.6 CEUs Applicable Training

- AWWOA Small Water Systems Course (0.6 CEU's) ☐
- AWWOA Small Wastewater Systems Course (0.6CEU's) ☐
- Other Applicable approved training:
_____ ☐

☐

B. Experience

Minimum 6 months of current operating experience
in a municipal facility. _____ months ☐

☐

**Please read the application form carefully. Completion ALL sections.
Obtain the necessary signatures and provide all the necessary attachments**

APPLICANT WORKSHEET/CHECKLIST

LEVEL I

Applicant worksheets are made available for use to determine if an operator has met the requirements prior to applying for certification. Please consider using it and returning it with the completed application for certification.

LEVEL I CERTIFICATION

A. Education

High School Diploma, General Educational Development (GED) transcript or High School Equivalency Diploma required. Copy must be attached.	☐
Approved applicable entry-level training (minimum 1.2 CEUs) _____ # CEUs Copy of relevant documentation must be attached.	☐

B. Experience

Minimum 1-year current operating experience in a municipal facility. _____ # years	☐
--	--------------------------

Note 1: If you are applying for certification in more than one of the categories (Water Treatment, Wastewater Treatment, Water Distribution, Wastewater Collection) you must have worked in **EACH** category during the same year. It is possible to qualify for more than one category during the same year.

Note 2: Please indicate on your application, your **OPERATIONS** duties in **EACH** of the categories you wish to have considered.

**Please read the application form carefully. Completion ALL sections.
Obtain the necessary signatures and provide all the necessary attachments**

APPLICANT WORKSHEET/CHECKLIST

LEVEL II

Applicant worksheets are made available for use to determine if an operator has met the requirements prior to applying for certification. Please consider using it and returning it with the completed application for certification.

LEVEL II CERTIFICATION

A. Education

High School Diploma, General Educational Development (GED) transcript or High School Equivalency Diploma required.	☐
--	--------------------------

B. Experience

Minimum of 3 years current operating experience in a municipal facility _____ # years ☐ or 2 years of current operating experience in a municipal facility, plus 1 year post-secondary education (45.0 CEUs) ☐ Copy of relevant education documentation must be attached. ☐	☐
--	--------------------------

C. Elapsed Time

On year since obtaining Level I certification. Date of Level I Examination: _____	☐
--	--------------------------

Note 1: If you are applying for certification in more than one of the categories (Water Treatment, Wastewater Treatment, Water Distribution, Wastewater Collection) you must have worked in **EACH** category within the time period (the same 2/3 years MAY apply to more than one category).

Note 2: Please indicate on your application, your **OPERATIONS** duties in **EACH** of the categories you wish to have considered.

**Please read the application form carefully. Completion ALL sections.
Obtain the necessary signatures and provide all the necessary attachments**

APPLICANT WORKSHEET/CHECKLIST

LEVEL III CERTIFICATION

Applicant worksheets are made available for use to determine if an operator has met the requirements prior to applying for certification. Please consider using it and returning it with the completed application for certification.

LEVEL III CERTIFICATION

A. Education

High School Diploma, General Educational Development (GED) transcript or High School Equivalency Diploma required.

☐

Two years approved relevant post-secondary education or 90 CEUs
or

☐

One year relevant post-secondary education plus 45.0 CEUs
or

☐

One year relevant post-secondary education or 45.0 CEUs plus one extra year of DRC experience

Copy of relevant education documentation must be attached.

☐☐

B. Experience

Four years current operating experience in a approved facility or system, at least two of which must be in a Class II or higher facility
or

_____ years ☐

Three years current operating experience in a approved facility or systems, at least two of which must be in a Class II or higher facility plus one year extra post-secondary education.

A copy of your current organizational chart MUST be attached

_____ ☐

Applications received without organizational chart will be considered incomplete.

☐

C. DRC Experience (may be part of the four years operating experience (see "B"))

Minimum two years DRC experience
Note: Additional DRC (maximum 1 year) may be used as substitution for Education in "A" above.

Note: DRC Experience does not start to accumulate until Level II Certification has been achieved.

_____ years

☐

D. Elapsed Time

One year since obtaining Level II Certification
Date of Level II Examination: _____

☐

**Please read the application form carefully. Completion ALL sections.
Obtain the necessary signatures and provide all the necessary attachments**

APPLICANT WORKSHEET/CHECKLIST

LEVEL IV CERTIFICATION

Applicant worksheets are made available for use to determine if an operator has met the requirements prior to applying for certification. Please consider using it and returning it with the completed application for certification.

LEVEL IV CERTIFICATION

A. Education

High School Diploma, General Educational Development (GED) transcript or High School Equivalency Diploma required.	☐
Four years approved post-secondary education or 180 CEUs _____ ☐	
Minimum two years post-secondary education or 90CEUs Substitutions used _____ ☐ Copy of relevant education documentation must be attached.	☐

B. Experience

Minimum four years current operating experience in a approved facility or system, at least two of which must be in a Class III or IV facility A copy of your current organizational chart MUST be attached _____ years Applications received without organizational chart will be considered incomplete. ☐	☐
---	--------------------------

C. DRC Experience (may be part of the four years' operating experience (see "B"))

Minimum two years DRC experience in a Class III or IV facility <i>Note: Additional DRC (maximum 2 years) may be used as substitution for Education in "A" above.</i> _____ years <i>Note: DRC Experience does not start to accumulate until Level II Certification has been achieved.</i>	☐
--	--------------------------

D. Elapsed Time

One year since obtaining Level III Certification Date of Level III Examination: _____	☐
--	--------------------------

**Please read the application form carefully. Completion ALL sections.
Obtain the necessary signatures and provide all the necessary attachments**

APPENDIX IV – DEFINITION OF “OPERATE” FOR THE PURPOSES OF THE CERTIFICATION PROGRAM AND EXAMPLES OF DAY-TO-DAY OPERATING DUTIES

*The following examples of day-to-day operating duties are for your reference only.
Please **DO NOT** submit this document as a description of your own job duties.*

WATER TREATMENT PLANT OPERATION

“Operate” means the performance of day-to-day activities primarily consisting of the control of any process, which affects the quality of the product.

“Operate” may include performance of day-to-day maintenance, laboratory, administration, special study or engineering work so long as the primary function of the operator involves process control.

“Operate” does NOT include maintenance, laboratory, administration, special study or engineering functions not directly involved with major day-to-day process control activities.

TYPICAL DUTIES OF A WATER TREATMENT PLANT OPERATOR

1. Start up, shut down and make periodic operating checks of plant equipment, such as pumping systems, chemical feeders, auxiliary equipment (compressors), measuring and control systems.
2. Perform preventive maintenance, such as lubrication, operating adjustments, cleaning and painting equipment.
3. Load and unload chemicals, such as chlorine cylinders, bulk liquids, powdered chemicals and bagged chemicals using chemical-handling equipment such as fork lifts and hoists, and by hand.
4. Perform corrective maintenance on plant mechanical equipment, for example, chemical feed pumps and small units.
5. Maintain plant records, including operating logs, daily diaries, monthly and annual reports, chemical inventories, and data logs.
6. Monitor the status of plant operating guidelines, such as flows, pressures, chemical feeds, levels, and water quality indicators by reference to measuring systems.
7. Collect representative water samples and perform laboratory tests on samples for turbidity, colour, odour, chlorine residual, and other tests as required.
8. Order chemicals, repair parts and tools.
9. Estimate and justify budget needs for equipment and supplies.
10. Conduct safety inspections, follow safety rules for plant operations, and develop and conduct tailgate safety meetings.
11. Discuss water quality with the public, conduct plant tours (especially for school children), and participate in department/municipal public relations program.
12. Communicate effectively with other operators and supervisors on the appropriate technical level.
13. Make calculations to determine chemical feed rates, flow quantities, detention and contact times, and hydraulic loading as required for plant operation.
14. Fulfill all requirements of the approval, or registration.
15. Make or direct emergency repairs or adjustments to the facilities without compromising the quality of the water.
16. Monitor facility processes and make the necessary adjustments to ensure optimum treatment.

17. Establish and adjust chemical feed rates.
18. Determine need for and perform filter backwash, clarifier blow-down, etc.

WATER DISTRIBUTION OPERATION

“Operate” means the performance of day-to-day activities primarily consisting of the control of the distribution network, which affects the quality, quantity, or reliability of water service to the customer. This includes the installation, operation, repair and maintenance of water distribution lines, service connections, and appurtenances such as valves and hydrants on a day-to-day basis.

“Operate” may include performance of day-to-day maintenance, laboratory, administration, or engineering work or duties with respect to reservoirs, transmission lines, pumping stations, meters and pressure reducing/regulating stations so long as the primary function of the operator involves control of the distribution network.

“Operate” does NOT include maintenance, laboratory, administration, engineering, reservoir, transmission, metering, pumping or pressure/regulating functions not directly involved with major day-to-day distribution network activities.

TYPICAL DUTIES OF A WATER DISTRIBUTION SYSTEM OPERATOR

1. Place barricades, signs, and traffic cones around work sites to protect operators and public.
2. Excavate trenches and install shoring.
3. Lay, connect, test and disinfect water mains.
4. Tap into water mains.
5. Flush and clean water mains.
6. Locate and repair water main leaks.
7. Read and update water distribution system maps and “as built” plans.
8. Operate and maintain deep wells.
9. Collect and transport water samples.
10. Clean and disinfect storage tanks and reservoirs.
11. Protect water mains and storage facilities from corrosion effects.
12. Observe pump motors to detect unusual noises, vibrations, or excessive heat.
13. Adjust and clean pump seals and packing glands and clean mechanical seals.
14. Repair and overhaul pumps, motors, chlorinators, and control valves.
15. Safely load and unload dry and liquid chemicals.
16. Keep records and prepare reports.
17. Estimate and justify budget requests for supplies and equipment.
18. Start up or shut down pumps as necessary to regulate system flows and pressures.
19. Perform efficiency tests on pumps and related equipment.
20. Troubleshoot minor electrical and mechanical equipment problems and correct.
21. Detect hazardous atmospheres in confined spaces and correct before entry.
22. Conduct safety inspections, follow safety rules for waterworks facilities, and develop and conduct tailgate safety meetings.
23. Troubleshoot to locate the causes of water quality complaints.
24. Discuss with the public their concerns regarding the quality of the water they receive.
25. Communicate effectively with other operators and supervisors on the appropriate technical level.

26. Test, repair, and maintain fire hydrants.
27. Thaw frozen lines and service.
28. Locate and eliminate cross-connection or potential cross-connection.
29. Read water meters.
30. Collect and submit water samples.
31. Locate, operate, maintain and repair valves.

WASTEWATER TREATMENT OPERATION

“Operate” means the performance of day-to-day activities primarily consisting of the control of any process, which affects the quality of the wastewater effluent.

“Operate” may include performance of day-to-day maintenance, laboratory, administration, special study or engineering work so long as the primary function of the operator involves process control.

“Operate” does NOT include maintenance, laboratory, administration, special study or engineering functions not directly involved with major day-to-day process control operational activities.

TYPICAL DUTIES OF A WASTEWATER TREATMENT PLANT OPERATOR

1. Start up, shut down and make periodic operating checks of plant equipment, such as pumping systems, chemical feeders, auxiliary equipment (compressors), measuring and control systems.
2. Perform preventive maintenance, such as lubrication, operating adjustments, cleaning and painting equipment.
3. Load and unload chemicals, such as chlorine cylinders, bulk liquids, powdered chemicals and bagged chemicals using chemical-handling equipment such as fork lifts and hoists, and by hand.
4. Perform corrective maintenance on plant mechanical equipment, for example, chemical feed pumps and small units.
5. Maintain plant records, including operating logs, daily diaries, monthly and annual reports, chemical inventories, and data logs.
6. Monitor the status of plant operating guidelines, such as flows, pressures, chemical feeds, levels, and water quality indicators by reference to measuring systems and make the appropriate process changes.
7. Collect representative water samples and perform laboratory tests on samples for BODs, Suspended Solids, chlorine residual, and other tests as required.
8. Order chemicals, repair parts and tools.
9. Estimate and justify budget needs for equipment and supplies.
10. Conduct safety inspections, follow safety rules for plant operations, and develop and conduct tailgate safety meetings.
11. Discuss water pollution control with the public, conduct plant tours (especially for school children), and participate in department/municipal public relations program.
12. Communicate effectively with other operators and supervisors on the appropriate technical level.
13. Make calculations to determine chemical feed rates, flow quantities, detention and contact times, and hydraulic loading as required for plant operation.
14. Interpret laboratory results and make the appropriate process changes to ensure optimum plant operation.
15. Fulfill all requirements of the Approval or registration.
16. Clean and dispose of debris from bar screens, grit tanks, and sumps in a safe and acceptable manner.
17. Monitor effluent impact on receiving stream and drainage courses.
18. Manage the treatment and disposal of sludge.
19. Monitor and adjust rates of sludge generation, return and wasting.

WASTEWATER COLLECTION OPERATION

“Operate” means the performance of day-to-day activities primarily consisting of the control of the collection network, which affects the quality of the wastewater, the state of repair of the sewers or appurtenances, or the reliability of the collection service. This includes the installation, operation, repair and maintenance of wastewater collection sewers, service connections, manholes and pumping or lift stations.

“Operate” may include performance of day to day maintenance, laboratory, administration, or engineering work or duties with respect to lift stations, force mains, pumping stations, wastewater treatment facilities or collection lines so long as the primary function of the operator involves control of the collection network.

“Operate” does not include maintenance, laboratory, administration, or engineering or pumping functions not directly involved with major day-to-day collection network activities

TYPICAL DUTIES OF A WASTEWATER COLLECTION SYSTEM OPERATOR

1. Place barricades, signs, and traffic cones around work sites to protect operators and public.
2. Excavate trenches and install shoring.
3. Lay, connect, and test sewer lines.
4. Tap into sewer lines.
5. Flush and clean sewer lines.
6. Read and update wastewater collection system maps and “as built” plans.
7. Operate and maintain wastewater lift stations.
8. Observe pump motors to detect unusual noises, vibrations, or excessive heat.
9. Adjust and clean pump seals and packing glands and also clean mechanical seals.
10. Repair and overhaul pumps, motors, chlorinators, and control valves.
11. Safely load and unload dry and liquid chemicals.
12. Keep records and prepare reports.
13. Estimate and justify budget requests for supplies and equipment.
14. Start up or shut down pumps as necessary to regulate system flows and pressures.
15. Perform efficiency tests on pumps and related equipment.
16. Troubleshoot minor electrical and mechanical equipment problems and correct.
17. Conduct safety inspections, follow safety rules for wastewater facilities, and develop and conduct tailgate safety programs.
18. Detect hazardous atmospheres in confined spaces and correct before entry.
19. Troubleshoot to locate the causes of customer complaints.
20. Communicate effectively with other operators and supervisors on the technical level expected for your position.
21. Check lift station ventilation system.
22. Locate and eliminate cross-connections to storm sewers.

APPENDIX V – SUMMARY OF APPLICABLE LEGISLATION

Certification of water and wastewater operators is regulated in Alberta by the following legislation:

- *Environmental Protection and Enhancement Act*
- Potable Water Regulations (Alberta Regulation 277/2003)
- Code of Practice for a Waterworks System Consisting Solely of a Water Distribution System
- Wastewater and Storm Drainage Regulation (Alberta Regulation 119/1993)
- Wastewater and Storm Drainage (Ministerial) Regulation (Alberta Regulation 120/1993)
- Activities Designation Regulation (Alberta Regulation 276/2003)

The official Act and Regulations as published in the Alberta Gazette, should be consulted for purposes of official interpretation.

Copies may be obtained from the Queens Printer for Alberta at the following addresses:

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455 - 6TH Street SW
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Phone: 403-297-6251

Following are definitions and a brief summary of the applicable parts of the legislation.

A. ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

s.1 Definitions:

Approval means an approval issued under this Act in respect of an activity, and includes the renewal of an approval.

Certificate of Qualification means a certificate of qualification issued under section 82, including the renewal of such a certificate, and a certificate or other qualification from another jurisdiction that is accepted under the regulations as a certificate of qualification for the purposes of this Act.

Local authority means

- i). the corporation of a city, town, village, summer village, municipal district or specialized municipality,
- ii). in the case of an improvement district, the Minister responsible for the Municipal Government Act,
- iii). in the case of a special area, the Minister responsible for the Special Areas Act,
- iv). a settlement under the Métis Settlements Act,
- v). a regional services commission under Part 15.1 of the Municipal Government Act, and
- vi). a regional health authority under the Regional Health Authorities Act.

Minister means the Minister determined under section 16 of the Government Organization Act as the Minister responsible for this Act.

Municipality means the geographical area of a city, town, village, summer village, municipal district, specialized municipality, improvement district, special area or settlement area within the meaning of the Métis Settlements Act.

Potable water means water that is supplied by a waterworks system and is used for drinking, cooking, dish washing or other domestic purposes requiring water that is suitable for human consumption.

Wastewater system means a system for collecting, treating and disposing of wastewater and includes any or all of the following:

- i). sewers and pumping stations that make up a wastewater collection system,
- ii). sewers and pumping stations that transport untreated wastewater from a wastewater collection system to a wastewater treatment plant,
- iii). wastewater treatment plants facilities that provide storage for treated wastewater,
- iv). wastewater sludge treatment and disposal facilities,
- v). sewers that transport treated wastewater from a wastewater treatment plant to the place where it is disposed of,
- vi). treated wastewater outfall facilities, including the outfall structures to a watercourse or any appurtenances for disposal of treated wastewater to land or to wetland

Water distribution system means a system of pipes, valves, fittings and appurtenances, including associated pressure reducing stations that is used to convey potable water in a waterworks system to a service connection.

Water well means an opening in the ground, whether drilled or altered from its natural state that is used for

- i). The production of groundwater for any purpose,
- ii). Obtaining data on groundwater, or
- iii). Recharging an underground formation from which groundwater can be recovered,

and includes any related equipment, buildings, structures and appurtenances, but does not include a dugout.

Waterworks system means any system providing potable water to a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined in the Métis Settlements Act, municipal development, industrial development, privately owned development or private utility, and includes any or all of the following components:

- i). Water wells connected to water supply lines, surface water intakes or infiltration galleries that constitute the water supply,
- ii). Water supply lines,
- iii). On-stream and off-stream water storage facilities,
- iv). Water pumphouses,
- v). Water treatment plants
- vi). Potable water transmission mains,
- vii). Potable water storage facilities,
- viii). Potable water pumping facilities,
- ix). Water distribution systems,
- x). Watering points.

s.79 Certificate of Qualification Required

Requires any person, who is going to commence or continue an activity designated by the Activities Designation Regulation as an activity that requires a certificate of qualification, to operate only if they hold the appropriate certificate of qualification.

s.80 Assuance of Certificate of Qualification

Defines the designated authority who may issue a certificate of qualification.

s.81 Application for Certificate of Qualification

Defines the process for making application for a certificate of qualification.

s.82 Assuance of Certificate of Qualification

Gives the designated authority the right to issue a certificate of qualification and further states that terms and conditions may be added to the certificate of qualification if deemed appropriate.

s.83 Amendment and Cancellation

Gives the designated authority the right to amend, add or delete, a term or condition of a certificate of qualification, as well as the right to suspend or cancel a certificate of qualification, and to correct any clerical errors in a certificate of qualification. It also provides for a process for the designated authority to do these things.

s.83.1 Compliance with Code of Practice

Requires any person, who is going to commence or continue an activity designated by regulations as an activity that requires a registration and is governed by a code of practice, to operate only if they hold the appropriate registration and abide by the appropriate code of practice.

s.84 Security

Requires that an applicant must, if required by regulation, provide financial or other security and carry insurance in respect of the activity they are conducting to which a required certificate of qualification relates.

s.85 Ministerial Regulations- Defines which regulations the Minister of Environment may amend, including:

Designating activities that require a certificate of qualification.

Defining the procedure for the submission of application for certificates of qualification, the form and content of the applications, the conditions required to be met by applicants and the kinds of plans, specifications, etc. that must accompany applications, if any . The administrative and referral procedures by which certificates of qualifications, and amendments to certificates may be dealt with.

s.86 Lieutenant Governor in Council Regulations- Defines which regulations the Lieutenant Governor in Council may amend, including:

Terms and conditions on which certificates of qualification may be granted

Prescribing the length of time certificates of qualification may be issued

Details of security required

C. POTABLE WATER REGULATION

s.1 Definitions:

Certified Operator means a person who holds a valid certificate of qualification of the appropriate level issued under section 15 of this Regulation.

Director means the person designated by Ministerial Order as Director for the purposes of this Regulation.

Hamlet means an unincorporated community that has been designated as a hamlet in accordance with the Municipal Government Act.

Industrial development means any development on the site of a plant referred to in section 2 of the Schedule of Activities in the Environmental Protection and Enhancement Act.

Municipal development means a development that consists of 2 or more lots but does not include a city, town, specialized municipality, village, summer village, settlement as defined in the Métis Settlements Act, hamlet, privately owned development or industrial development.

Owner of a waterworks system means:

- i). The local authority of a city, town, specialized municipality, village, summer village or settlement as defined in the Métis Settlements Act in which the waterworks system is located,
- ii). *For a hamlet*
 - a). A cooperative, as defined in the Cooperatives Act, formed by the individual lot owners served by the hamlet's waterworks system, or
 - b). If no cooperative exists, the local authority of the municipal district, improvement district, specialized municipality or special area in which the hamlet's waterworks system is located
- iii). *For a municipal development,*
 - a). The local authority of the municipal district, improvement district, specialized municipality or special area in which the municipal development's waterworks system is located,
 - b). The owner of a private utility, or
 - c). Where neither a) or b) applies, the collection of individual lot owners located in a municipal development that is served by the waterworks system.
- iv). For a privately owned development, the owner of the privately owned development
- v). For a waterworks system owned by a regional services commission, the regional services commission that owns the waterworks system,
- vi). For a waterworks system that is a private utility, the owner of the private utility,
- vii). For an industrial development, the owner of the industrial development in which the waterworks system is located,
- viii). For a waterworks system that is a watering point, the owner of the watering point.

Person responsible for a waterworks system means:

- i). The owner of the waterworks system,
- ii). The operator of the waterworks system,
- iii). The local authority that contracts to obtain potable water from the waterworks system,
- iv). The local authority that grants a franchise for the supply of potable water by the waterworks system,
- v). The approval holder or registration holder, as the case may be, for the waterworks system,
- vi). Any successor, assignee, executor or administrator, receiver, receiver-manager or trustee of a person referred to in subclause i), ii), iii), iv) or v) and
- vii). Any person who acts as the principal or agent of a person referred to in subclause i), ii), iii), iv), v) or vi).

Privately owned development means a recreational development, school, mobile home park, restaurant, motel, community hall, work camp, holiday trailer park, campsite, picnic site, information centre or other similar development, including such a development owned or operated by the Government, that is on a parcel of land that is not subdivided, but does not include

- i). A single family dwelling, or
- ii). A farmstead

Private utility means a waterworks system that is owned and operated by a person other than a person referred to in the definition of *owner of a waterworks system* (listed above), but does not include a waterworks system that services only a single family dwelling or a farmstead.

Water distribution system means a system of pipes, valves, fittings and appurtenances, including associated pressure reducing stations that is used to convey potable water in a waterworks system to a service connection.

Water treatment plant means the physical components of the waterworks system that are used to produce potable water including components associated with the management of any wastes generated during treatment.

Watering point means a waterworks system that provides potable water in bulk to the public.

s.2Duty to comply with regulations

Requires the person responsible for a waterworks system to comply with the regulation.

s.14Certified operator required

Requires the operation of a water treatment plant and a water distribution system in a waterworks system to be performed by, or under the direction of, a person who holds a valid certificate of qualification, at the applicable level, as set out in an approval or the applicable code of practice.

Defines responsibility of the person responsible for a waterworks system to ensure:

- *the appropriate number of certified operators available to perform or direct the operation of the water treatment plant or water distribution system never falls below the applicable number as set out in an approval or code of practice*
- *the names of the certified operators are reported to the Director, including any changes that may occur over time*

s.15Certification of operators

Provides the Director the ability to issue different types and levels of certificate of qualification for Water Treatment Operator or Water Distribution Operator, as described in the latest edition of the Water and Wastewater Operators Certification Guidelines, published by ESRD.

Also outlines the steps an applicant must follow to obtain a certificate of qualification or a renewal of a certificate of qualification.

D. CODE OF PRACTICE FOR A WATERWORKS SYSTEM CONSISTING SOLELY OF A WATER DISTRIBUTION SYSTEM

4.1.4 At all times, the operation of the waterworks system shall be performed by, or under the direction of, a person who holds a valid certificate of qualification at the applicable level as set out in Table 4-1

4.1.5. At all times, the number of certified operators available to perform or direct the operation of the waterworks system shall meet or exceed the applicable number in Table 4-1.

**TABLE 4-1: MINIMUM WATERWORKS SYSTEM OPERATOR
CERTIFICATE OF QUALIFICATION REQUIREMENTS**

Population Served by Waterworks System	Minimum Number and Minimum Qualifications of Water Distribution Certified Operator(s)
< 500	One operator with a Small Water Systems Certificate
500 - 1500	One operator with a Level I Water Distribution (WD) Certificate
1,501 – 15, 000	One operator with a Level II Water Distribution (WD) Certificate
15, 001 – 50,000	One operator with a Level III Water Distribution (WD) Certificate, and One operator with a Level II Water Distribution (WD) Certificate
50,001 and over	One operator with a Level IV Water Distribution (WD) Certificate, and Two operators with a Level III Water Distribution (WD) Certificate, and One operator with a Level II Water Distribution (WD) Certificate

E. WASTEWATER AND STORM DRAINAGE (MINISTERIAL) REGULATION

s.1 Definitions:

Certified operator means a person who holds a valid certificate of qualification of the appropriate class issued under section 3 of this regulation.

Director means the person designated by Ministerial Order as the Director for the purposes of this Regulation.

s.2 Certified operators required

Requires the operation of a wastewater treatment plant or wastewater collection system in a wastewater system to be, at all times, performed by, or under the direction of, a person who holds a valid certificate at the applicable level, as set out in an approval or applicable code of practice.

Defines responsibility of the person responsible for a wastewater system to ensure:

- the appropriate number of certified operators available to perform or direct the operation of the wastewater plant never falls below the applicable number as set out in an approval or code of practice
- the names of the certified operators are reported to the Director, including any changes that may occur over time

s.3 Certification of operators

Provides the Director the ability to issue different types and levels of certificate of qualification for Wastewater Treatment Operator and Wastewater Collection Operator, as described in the latest edition of the Water and Wastewater Operators Certification Guidelines, published by ESRD.

Also outlines the steps an applicant must follow to obtain a certificate of qualification or a renewal of a certificate of qualification.

F. WASTEWATER AND STORM DRAINAGE REGULATION

s.1 Definitions:

Director means the person designated by Ministerial Order as the Director for the purposes of this Regulation.

Hamlet means an unincorporated community that has been designated as a hamlet in accordance with the Municipal Government Act.

Industrial development means any development on the site of a plant.

Municipal development means any development that consists of 2 or more lots, but does not include a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined in the Métis Settlements Act, privately owned development or industrial development.

Owner of a wastewater system or storm drainage system means:

- i). The local authority of a city, town, specialized municipality, village, summer village or settlement area as defined in the Métis Settlements Act in which the wastewater system or storm drainage system is located,
- ii). For a hamlet
 - a). A cooperative, as defined in the Cooperatives Act, formed by the individual lot owners served by the hamlet's wastewater system or storm drainage system, or
 - b). If no cooperative exists, the local authority of the municipal district, improvement district, specialized municipality or special area in which the hamlet's wastewater system or storm drainage system is located
- iii). For a municipal development
 - a). The local authority of the municipal district, improvement district, specialized municipality or special area in which the municipal development's wastewater system or storm drainage system is located
 - b). The owner of a private utility, or
 - c). Where neither a) nor b) applies, the collection of individual lot owners located in the municipal development that is served by the wastewater system or storm drainage system
- iv). For a privately owned development, the owner of the privately owned development
- v). For a wastewater system or storm drainage system owned by a regional services commission, the regional services commission that owns the wastewater system or storm drainage system
- vi). For a wastewater system or storm drainage system that is a private utility, the owner of the private utility.
- vii). For an industrial development, the owner of the industrial development in which the wastewater system or storm drainage system is located.

Person responsible for a wastewater system or storm drainage system means

- i). The owner of the wastewater system or storm drainage system,
- ii). The operator of the wastewater system or storm drainage system,
- iii). The local authority that grants a franchise for the treatment and disposal of wastewater at the wastewater system,
- iii.) The approval holder or registration holder, as the case may be, for the wastewater system or storm drainage system,
- iv). Any successor, assignee, executor or administrator, receiver, receiver-manager or trustee of a person referred to in subclause i), ii), iii) or iii.1) and

- v). Any person who acts as the principal or agent of a person referred to in subclause i), ii), iii), iii.1) or iv).

Plant means all buildings, structures, process equipment, pipelines, vessels, storage and material handling facilities, roadways and other installations, used in and for any activity listed in section 2 of the Schedule of Activities in the Act, including the land, other than undeveloped land, that is used for the purposes of the activity.

Privately owned development means a recreational development, school, mobile home park, restaurant, motel, community hall, work camp, holiday trailer park, campsite, picnic site, information centre or other similar development, including such a development owned or operated by the Government, that is on a parcel of land that is not subdivided, but does not include a single family dwelling or a farmstead.

Private utility means a wastewater system or storm drainage system owned and operated by a person other than a local authority, municipal development, industrial development or privately owned development, but does not include a system that services only a single family dwelling or a farmstead.

Wastewater means domestic wastewater and may include industrial wastewater.

Wastewater collection system means a system of sewers, valves, fittings, pumping stations and appurtenances that are used to collect wastewater, up to and including the service connection.

Wastewater treatment plant means any structure, thing or process used for physical, chemical, biological or radiological treatment of wastewater, and includes a structure, thing or process used for Wastewater storage, Treated wastewater use and disposal, and Sludge treatment, storage and disposal.

s.2 Application of regulation

Requires that this regulation apply to a wastewater system or storm drainage system as designated in the Activities Designation Regulation (Schedule 1, Division 2, Part 7 or Schedule 2, Division 2), including replacements, extensions, additions and modifications referred to in the Notes in those provisions.

G. ACTIVITIES DESIGNATION REGULATION

s.5 Designation of activities

Lists the activities in **Schedule 1** that require an **approval** to operate, and lists the activities in **Schedule 2** that require a **registration** to operate.

Schedule 1, Division 2: Substance Release, Part 7: Wastewater

(g) the construction, operation or reclamation of a wastewater system that uses a wastewater treatment plant other than a wastewater lagoon, and

i). that

a). serves a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined in the Métis Settlements Act, industrial development, municipal development or privately owned development

b). is owned by a regional services commission, or

c). is a private utility, and

ii). that

a). discharges wastewater off the site of the development, or

b). is designed to treat more than 25 cubic metres of wastewater per day.

NOTE:

Clause (g) does not apply to:

- i) the extension of the wastewater collection system forming part of a wastewater system,
- ii) replacement of a portion of the wastewater collection system forming part of a wastewater system,
- iii) irrigation using treated wastewater from a wastewater system, or
- iv) application of sludge from a wastewater system to land, where the wastewater system is approved or registered under the Act. *Schedule 1, Division 5: Potable Water*

a). the construction, operation or reclamation of a waterworks system

i). that

- a). serves a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined in the Métis Settlements Act, industrial development, municipal development or privately owned development,
- b). is a private utility, or a watering point, or
- c). is owned by a regional services commission, and

ii). that uses as the source of its water supply

- a). surface water, or
- b). groundwater other than high quality groundwater

NOTE:

Clause a). does not apply to:

- i). the extension of the water distribution system forming part of a waterworks system, or
- ii). replacement of a portion of the water distribution system forming part of a waterworks system, or
- iii). the addition or modification of treated water storage, forming part of a waterworks system, where the waterworks system is approved or registered under the Act.

Schedule 2, Division 2, Substance Release

d). the construction, operation or reclamation of a wastewater system that uses a wastewater lagoon as the wastewater treatment plant, and

i). that

- a). services a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined in the Métis Settlements Act, industrial development, municipal development or privately owned development,
- b). is owned by a regional services commission, or
- c). is a private utility, and

ii). that

- a). discharges wastewater off the site of the development, or
- b). is designed to treat more than 25 cubic metres of wastewater per day

- e). the construction, operation or reclamation of a wastewater collection system,
 - i). that
 - a). serves a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined in the Métis Settlements Act, industrial development, municipal development or privately owned development,
 - b). is owned by a regional services commission, or
 - c). is a private utility, and
 - ii). that discharges into a wastewater system that holds a current approval or registration under the Act.

- f). the construction, operation or reclamation of a storm drainage system for storm drainage in a city, town, specialized municipality, village, summer village, hamlet, settlement area as defined by the Métis Settlements Act, municipal development or privately owned development, but does not include a storm drainage system that collects, stores or disposes of storm drainage solely from agricultural land or land on which farms are located.

NOTE:

Clauses (d), (e) and (f) do not apply to:

- i). the extension of a storm drainage collection system forming part of a wastewater system,
- ii). the replacement of a portion of a storm drainage collection system forming part of a wastewater system,
- iii). the extension of a wastewater collection system forming part of a wastewater system,
- iv). the replacement of a portion of a wastewater collection system forming part of a wastewater system,
- v). the addition or modification of a storm drainage treatment facility forming part of a wastewater system,
- vi). irrigation using treated wastewater from a wastewater system, or
- vii). application of sludge from a wastewater system to land, where the wastewater system is approved or registered under the Act.

Schedule 2, Division 5, Potable Water

- a). the construction, operation or reclamation of a waterworks system
 - i). that
 - a). serves a city, town, specialized municipality, village, summer village or settlement area as defined in the Métis Settlements Act,
 - b). is a private utility, or
 - c). is owned by a regional services commission, and
 - ii). that
 - a). that uses high quality groundwater as the source of its water supply
- b). the construction, operation or reclamation of a waterworks system
 - i). that
 - a). serves a city, town, specialized municipality, village, summer village or settlement area as defined in the Métis Settlements Act,
 - b). is a private utility, or

- c). i. is owned by a regional services commission, and
 - ii. that consists solely of a water distribution system that uses as the source of its water supply potable water from a waterworks system that holds a current approval or registration under the Act
- c). the construction, operation or reclamation of a waterworks system
 - i. that serves a hamlet or a municipal development
 - ii. that uses high quality groundwater as the source of its water supply,
 - iii. *and that has*
 - a). 15 or more service connections, or
 - b). 3 or more kilometers of water distribution system
- d). the construction, operation or reclamation of a waterworks system
 - i). that serves a hamlet or a municipal development,
 - ii). that consists solely of a water distribution system that uses as the source of its water supply potable water from a waterworks system that holds a current approval or registration under the Act, and
 - iii). that has a). 15 or more service connections, or b). 3 or more kilometers of water distribution system

NOTE:

Clauses (a), (b), (c) and (d) do not apply to

- i) the extension of the water distribution system forming part of a waterworks system,
- ii). replacement of a portion of the water distribution system forming part of a waterworks system, or
- iii). the addition or modification of treated water storage in a waterworks system, where the waterworks system is approved or registered under the Act.

APPENDIX VI – MINIMUM CERTIFIED OPERATOR ATTENDANCE FOR WATERWORKS SYSTEMS

The criteria set forth in these Guidelines are considered to be the *minimum* levels of diligence that are required to ensure safe, reliable operation of waterworks systems in Alberta. As such, they are considered as the best practice for minimum certified operator attendance at all ESRD regulated waterworks.

A waterworks system must meet all the applicable requirements listed in these Guidelines to be considered as a waterworks system WITH remote monitoring or remote process control. Otherwise, they will be considered a waterworks system WITHOUT remote monitoring or remote process control.

Any request to ESRD for a proposed deviation from these guidelines must be accompanied by a detailed plan containing sufficient compelling information such that the Director is satisfied that the quality of the operation of the waterworks system would not be compromised.

Distribution Only Waterworks Systems WITH remote monitoring or remote process control (i.e. No water treatment, where the treated water source is another regulated waterworks)

Treated water must be continuously monitored to demonstrate a compliance with all registration requirements.

Alarms must be set to alert the certified operator **and any others as required** to ensure that the quality of the operation of the waterworks systems will not be compromised.

The certified operator must be certified to the level of the waterworks system.

The certified operator must visit the waterworks a MINIMUM OF AT LEAST ONE TIME PER WEEK. Between visits, the certified operator shall stay informed of the operation of the waterworks, as required to ensure proper operation of the waterworks system.

Someone (not necessarily the certified operator, but acting under the certified operator direction) must visit the waterworks at least three days per week, typically with at least one day between visits.

The certified operator must be within two-hour response time. For more than two-hour response time, the registration holder must submit an alternative plan outlining the rationale for extending this response time to ESRD that is satisfactory to the Director.

The registration holder must prepare a schedule and procedures for calibrating and maintaining all remote monitoring equipment and alarms to ensure the accuracy of monitoring data and the ability to notify the certified operator in the event of an emergency.

The registration holder must prepare a staffing plan which includes all the operators who are responsible for the operation of the waterworks system which is being remotely monitored.

The registration holder must prepare an emergency operational plan which describes how the waterworks system will be remotely monitored and responded to and operated, in case of an emergency.

**Distribution Only Waterworks Systems WITHOUT remote monitoring or remote process control
(i.e. No water treatment, where the treated water source is another regulated waterworks)**

Alarms, if any, must be set to alert the certified operator **and any others as required** to ensure that the quality of the operation of the waterworks would not be compromised.

The certified operator must be certified to the level of the waterworks system.

The minimum frequency of site visits for the certified operator shall be as follows:

- if the system is serving **more than 500, or more than 3 kilometres of distribution system, typically five times per week**, but not be less than four times per week, to allow for statutory holidays; or,
- if the system is serving **less than 500 and less than 3 kilometres of distribution system, typically three times per week**, with at least one day between visits.

During short term periods where the certified operator is unavailable, such as annual holidays or extended training, the registration holder must ensure an alternative (i.e. back-up) certified operator is available to provide certified operator direction to the attending operator, as required to ensure that the quality of the operation of the waterworks would not be compromised.

If the registration holder is unable to retain a certified operator to visit the waterworks five times per week, the registration holder must install remote monitoring or remote process control capabilities.

During the planning and installation period for remote monitoring or remote process control capabilities, the registration holder must submit an interim operator attendance plan to ESRD that is satisfactory to the Director.

The certified operator must be within two hours response time. For more than two hours response time, the registration holder must submit a plan outlining the rationale for extending this response time to ESRD that is satisfactory to the Director.

The registration holder must prepare an emergency operational plan, which describes the response protocol for an emergency at the waterworks system.

High Quality Groundwater Systems WITH remote monitoring or remote process control

Treated water must be continuously monitored to demonstrate a capability to comply with all registration requirements.

Water production at the treatment facility must automatically shut down if the treated water monitoring indicates treated water being produced does not meet registration requirements.

Alarms must be set to alert the certified operator **and any others as required** to ensure that the quality of the operation of the waterworks system would not be compromised.

The certified operator must be certified to the level of the waterworks system.

The certified operator must visit the waterworks system a MINIMUM of at least one time per week. Between visits, the certified operator shall stay informed of the operation of the waterworks system, as required to ensure proper operation of the waterworks system.

Someone (not necessarily the certified operator, but acting under the certified operator's direction) must visit the waterworks system at least three days per week, typically with at least one day between visits.

The certified operator must be within two-hour response time. For more than two-hour response time, the registration holder must submit a plan outlining the rationale for extending this response time to ESRD that is satisfactory to the Director.

The registration holder must prepare a schedule and procedures for calibrating and maintaining all remote monitoring equipment and alarms to ensure the accuracy of monitoring data and the ability to notify the certified operator in the event of an emergency.

The registration holder must prepare a staffing plan, which includes all the operators who are responsible for the operation of the waterworks system which is being remotely monitored.

The registration holder must prepare an emergency operational plan, which describes how the waterworks will be remotely monitored and responded to and operated, in case of an emergency.

High Quality Groundwater Systems WITHOUT remote monitoring or remote process control

Alarms, if any, must be set to alert the certified operator **and any others as required** to ensure that the quality of the operation of the waterworks system will not be compromised.

The certified operator must be certified to the level of the waterworks system.

The minimum frequency of site visits for the certified operator shall be typically five times per week, but not be less than four times per week, to allow for statutory holidays.

During short term periods where the certified operator is unavailable, such as annual holidays or extended training, the registration holder must ensure an alternative (i.e. back-up) certified operator is available to provide certified operator direction to the attending operator, as required to ensure that the quality of the operation of the waterworks would not be compromised.

If the registration holder is unable to retain a certified operator to visit the waterworks system five times per week, the registration holder must install remote monitoring or remote process control capabilities.

During the planning and installation period for remote monitoring or remote process control capabilities, the registration holder must submit an interim operator attendance plan to ESRD that is satisfactory to the Director.

The certified operator must be within two hours response time. For more than two hours response time, the registration holder must submit a plan outlining the rationale for extending this response time to ESRD that is satisfactory to the Director.

The registration holder must prepare an emergency operational plan, which describes the response protocol for an emergency at the waterworks system.

Approved Waterworks Systems WITH remote monitoring or remote process control

Treated water must be continuously monitored to demonstrate a capability to comply with all approval requirements.

Water production at the treatment facility must automatically shut down if the treated water monitoring indicates treated water being produced does not meet approval requirements.

Alarms must be set to alert the certified operator **and any others as required** to ensure that the quality of the operation of the waterworks system will not be compromised.

The certified operator receiving, reviewing and submitting to ESRD the monitoring data must be certified to the level of the waterworks.

The **certified operator** must visit the waterworks system:

- **a minimum of at least one time per week**, where there is remote monitoring and alarms, **without** remote process control capabilities or real time data available. Between site visits, the certified operator shall stay informed of the operation of the waterworks system, as required to ensure proper operation of the waterworks system.
- **a minimum of at least one time per month**, where there is remote monitoring, alarms, remote process control capabilities and real time data is available. Between site visits, the certified operator shall review the operation of the waterworks system as required, to ensure proper operation of the waterworks system.

An **attending operator**, (not necessarily the certified operator but acting under the certified operator's direction) certified to a **minimum of Level I**, shall visit the waterworks system seven days per week, excluding days when the certified operator visits the waterworks system.

The certified operator must be within two-hour response time. For more than two-hour response time, the approval holder must submit an alternative plan outlining the rationale for extending this response time to ESRD that is satisfactory to the Director.

The approval holder must prepare a schedule and procedures for calibrating and maintaining all remote monitoring equipment and alarms to ensure the accuracy of monitoring data and the ability to notify the certified operator in the event of an emergency.

The approval holder must prepare a staffing plan which includes all the operators who are responsible for the operation of the waterworks system which is being remotely monitored.

The approval holder must prepare an emergency operational plan which describes how the waterworks system will be remotely monitored and responded to and operated in case of an emergency.

Approved Waterworks Systems WITHOUT remote monitoring or remote process control

Alarms, if any, must be set to alert the certified operator **and any others as required** to ensure that the quality of the operation of the waterworks system will not be compromised.

The certified operator must be certified to the level of the waterworks system.

The minimum frequency of site visits for the **certified operator** shall be typically five times per week, but not be less than four times per week, to allow for statutory holidays.

An **attending operator**, (not necessarily the certified operator but acting under the certified operator's direction) certified to a **minimum of Level I**, shall visit the waterworks on the remaining days of the week.

During short term periods where the certified operator is unavailable, such as annual holidays or extended training, the approval holder must ensure an alternative (i.e. back-up) certified operator is available to provide certified operator direction to the attending operator, as required to ensure that the quality of the operation of the waterworks system will not be compromised.

If the approval holder is unable to retain a certified operator to visit the waterworks system five times per week, or an **attending operator** who is certified to a **minimum of Level I**, to visit the site on the remaining days of the week, the approval holder must install remote monitoring or remote process control capabilities.

During the planning and installation period for remote monitoring or remote process control capabilities, the approval holder must submit an interim operator attendance plan to ESRD that is satisfactory to the Director.

The certified operator must be within two hours response time. For more than two hours response time, the approval holder must submit an alternative plan outlining the rationale for extending this response time to ESRD that is satisfactory to the Director.

The approval holder must prepare an emergency operational plan which describes the response protocol for an emergency at the waterworks system.