



The Water Regulations, 2002 authorizes the Mandatory Operator Certification Program. Section 63 of the regulations state that on and after July 15, 2005 every municipality and permittee of a waterworks or sewage works shall ensure the operation, repair and maintenance of those works is under the direction of an operator who holds at least the corresponding certificate for the classification of those works.

Regional/Contract Operator Program

Two options are available that will aid certification for smaller communities while still allowing them to meet the health and safety objectives of mandatory certification contained within *The Water Regulations, 2002*. This document discusses the first option and only a reference is given for the second option. Any gender reference contained in this document, whether stated directly or not, always refers to operators of both genders.

Option One: Regional/Contract Operator (R/C)

Obtaining the services of a R/C Operator is an option for Small System, Class-1 or Class-2 facilities. Many small communities have Class-1 systems or Small Systems. There are small communities with a population under 100 that have Class-2 surface water treatment plants.

This R/C Operator would be a certified operator working for a nearby community who would fit into a number of scenarios. The operator could:

- be the certified operator overseeing the local uncertified operator(s);
- be the certified operator performing the work, with no local uncertified operator;
- be the certified operator working as a Relief Operator to take the place of the main operator or the operator for vacation, weekends, illness, after-hours, etc; or
- alternately, be an Independent Regional Operator which is an operator without a home community acting as a certified operator for a number of communities that may or may not have their own uncertified operator on staff.

When a R/C Operator is overseeing a local uncertified operator doing the routine works, the R/C Operator may not perform the day-to-day operating tasks (including sampling) and may not be on-site every day. The local uncertified operator must be able, at minimum, to do the required operations, sampling, testing and record keeping. In case of any system problems, the local uncertified operator must be available as soon as possible and the R/C Operator must be onsite within a reasonable agreed upon time (i.e. four hours maximum) of call-out.

If there were no local uncertified operator, then the R/C Operator must do the required work and be on-site as often as required to perform this work.

The R/C Relief Operator must meet certification criteria and perform job duties in a similar manner, except this person would be the R/C Relief Operator taking over from the regular certified operator on weekends, vacation or sick time. The working time and duties would be according to the signed agreement.

In any case, the R/C Operator and R/C Relief Operator must maintain certification including obtaining CEU (continuing education unit) for renewal in categories and at levels that are equal to or higher than the highest facility that they are overseeing.

Number of Communities: It is suggested the R/C Operator and R/C Relief Operator not take on more than three communities (with Small System, Class-1 or Class-2 works) besides their own. It is not intended this operator would jeopardize the quality and completion of work at their home community. In addition, he must be fair to the contracted communities that he is taking on and not let his work be sub-standard. It is assumed the contracted communities would still have an uncertified operator on-site to do the routine, day-to-day work. The R/C Relief Operator may not have an uncertified local operator to do the routine work and thus may have to do it himself.



On-site time: It is also suggested that the R/C Operator be on-site within a reasonable agreed-upon time (i.e. four hours maximum) of being called out including transit time. The R/C Operator must balance the work in his home community (or his other communities) against the needs of the communities he has taken on. It is proposed this person to be on-site at least once a week. The actual visit frequency would depend on the particular system's operational capability/reliability and on the local uncertified operator.

The agreement: The R/C Operator agreement must be established among the communities on a council-to-council basis, with agreement to the terms and conditions of the contract by all parties. It is to be noted that by regulation the operation, maintenance and repair of a water/wastewater works must be under the direction of an appropriately certified operator at all times. This means the certified R/C Operator must ensure there is back-up coverage for himself in case of weekend, holiday, illness or any time he may not be available. This may entail sub-contracting for this coverage. Possibly the R/C Operator could be one community's operator who is entering into an agreement with another community on his own with the permission of his own community. The agreement participants are encouraged to obtain legal advice. A copy of the signed contract including start and finish dates and detailed duties must be submitted to Saskatchewan Environment (SE) for verification of regulatory compliance.

Water Treatment/Distribution System Operator

The R/C Operator must ensure the conditions of the Minister's Order and *The Water Regulations* are met at all times.

The proposed duties/responsibilities of this water treatment/distribution operator that the R/C Operator would perform or would ensure are performed include, but would not be limited to:

- be available by phone daily and for emergencies (24/7);
- ensure that he/she has a back-up for vacation, illness, etc;
- be available to visit each local water utility when needed; document purpose, date/time and length of each visit and report to affected councils;
- be on-site for Environmental Project Officer (EPO) and other inspections/visits;
- if there is no local uncertified operator on staff, act as first contact from SE if bacteriological or other water quality/quantity problems arise. The R/C Operator would aid and ensure the local operator works with council, Public Health Inspector (PHI), Medical Health Officer (MHO) or EPO;
- determine or help determine need for assistance from a PHI, EPO, consultant or contractor;
- aid in ensuring a water assurance and quality control policy is in place;
- aid in ensuring any mandated public notifications are performed;
- go on-site at each local facility as necessary to ensure it meets operational, maintenance and regulatory requirements stated in *The Water Regulations*, to:
 - ensure adherence to the Operating Permit including water quality (WQ) testing, general chemical, turbidity, health and toxicity, trihalomethane and bacteriological sampling and/or testing/sampling;
 - WQ testing may include and not be limited to daily chlorine residuals, iron, manganese and fluoride levels in the water;
 - remote monitoring may be considered **if** system can record/retain data and system has alarming/shutdown feature for out-of-parameter situations; on-site operator to be available as soon as possible and Regional Operator to be on-site within four hours maximum of the alarm;
 - perform or oversee WQ tests to confirm levels/residuals;
 - ensure the sampling sites are adequate and give representative samples;
 - ensure all sampling and testing is done in an approved manner;
 - review written facility operational records/logs for efficient operations and/or improvements:
 - volumes of water produced/pumped;
 - pump run times noted;
 - chlorine residuals;
 - iron/manganese/fluoride/turbidity levels;
 - bacteriological-samples submitted/results received/follow-up actions taken;
 - review dilution/dosage calculations;
 - feed barrels refilled date;
 - feed pump cleaning, maintenance, calibration;
 - filter backwash and time noted;
 - stand-by engine checked/tested;
 - unusual or abnormal conditions observed and action taken;
 - any equipment taken out of service or ceased to function and action taken;
 - any equipment placed back into service; and
 - access to confined space and other situation safety equipment;
- review manuals, inventory and spare parts;

- ensure mains, reservoir(s) and or clearwell(s) are on a routine cleaning schedule;
- ensure operational, maintenance and repair manuals are available and up to date for facility equipment, machinery, test equipment, alarm systems, etc;
- ensure equipment and machinery is on a monitoring and maintenance schedule;
- ensure emergency response plan, including spill reporting/documentation is available and up to date;
- ensure supplies are on hand (such as chemicals, test reagents, bacti bottles, spare parts, etc);
- review facility operation and ensure efficient operation;
- provide operational advice or seek professional help/advice from consultant or contractor;
- may provide input to an operational waterworks/distribution system budget;
- develop operator training plan;
- ensure working environment is safe and follow all OH&S standards and practices;
- answer water quality and other issues from local citizens;
- exercise valves/hydrants;
- maintain/test/read customer and other meters; and
- report on the above matters to the works' owner.

Wastewater Treatment and/or Wastewater Collection Operator

Also on the wastewater side, the operator could be certified as a Class-1 or as Class-2 depending on the community size and complexity of the system. If the community has a population under 500 and has a Class-1 wastewater treatment system (i.e. facultative lagoons) and/or a Class-1 collection system, then the operator could be certified as a Small Wastewater System operator.

The R/C Operator must ensure the conditions of the Permit for the Sewage Works and *The Water Regulations* are met at all times.

The proposed duties/responsibilities of this wastewater treatment operator would include, but not be limited to:

- be available by phone daily and for emergencies (24/7);
- ensure that he has a back-up for vacation, illness, etc;
- be available to visit each local water utility when needed;
- document purpose, date/time and length of each visit and report to affected councils;
- be on-site for EPO and other inspections/visits;
- act as first contact from SE if wastewater quality/quantity problems arise (if there is no local uncertified operator on staff to be the first contact) and ensure contract/local operator works with council, PHI, MHO or EPO;
- determine or help determine need for assistance from a PHI, EPO, consultant or contractor;
- go on-site at each local facility as necessary to meet operational, maintenance and regulatory requirements stated in *The Water Regulations* to:
 - confirm adherence to Permit for Sewage Works;
 - confirm samples are collected and sent as stated in the Permit in a safe, timely manner from a location giving a representative sample;
- perform or oversee lagoon discharge, sampling and spring/fall equalization;
- review written facility operational records/logs for efficient operations and/or improvements:
 - volumes of wastewater pumped/discharged;
 - note freeboard before and after discharge;
 - pump run times noted;
 - pump cleaning and maintenance;
 - ventilation system cleaning and maintenance;
 - unusual or abnormal conditions observed and action taken;
 - any equipment taken out of service or ceased to function and action taken;
 - any equipment placed back into service;
 - access to confined space and other situation safety equipment;
- review manuals, inventory and spare parts;
- ensure operational, maintenance and repair manuals are available and up to date for facility equipment, machinery, test equipment, alarm systems, etc;
- ensure equipment and machinery is on a monitoring and maintenance schedule;
- remote monitoring may be considered **if** system can record/retain data and system has alarming/shutdown feature for out-of-parameter situations; on-site operator to be available as soon as possible and R/C Operator to be on-site within four hours maximum of the alarm
- ensure emergency response plan including spill reporting/documentation is available and up to date;

- review facility operation and ensure efficient operation;
- provide operational advice or seek professional help/advice from consultant or contractor;
- may provide input to an operational wastewater works/collection system budget;
- develop operator training plan;
- ensure working environment is safe and follow all OH&S standards and practices;
- answer wastewater quality and other issues from local citizens;
- exercise valves;
- maintain/test/read any meters; and
- report on the above matters to the works' owner.

The duties, responsibilities, transit and on-site times/frequencies of the R/C Operator must be stated in the agreement. Likely the duties and responsibilities would be the same as if this person were the real operator in charge of the facility and who is supervising an uncertified co-worker. Liability issues would similarly be addressed in the agreement and would be similar to the liability that an operator who was in charge and was working directly for the municipality. Insurers have indicated a R/C Operator would be satisfactory in terms of meeting regulatory requirement to obtain liability insurance.

Independent Regional/Contract Operator

An alternative concept is one of an Independent R/C Operator who does not have a home facility and is to be a R/C Operator or R/C Relief Operator. This operator must be certified at the highest level of the facilities that he is overseeing and, likely, the contracted communities would have an uncertified worker performing day-to-day work at the facility and in the community. The Independent Regional Operator would only perform work as contracted in relation to the water treatment plant, the distribution system, the collection system and the wastewater treatment system.

The following is for consideration:

- since the operator is not necessarily tied to a particular facility or community, he has more time to go to the contracted communities and could have more facilities (i.e. eight under his supervision). He could potentially visit one facility per day (four per week), visit the waterworks, review the operation and perform duplicate water quality test with the on-site operator. Each facility would be visited every two weeks on a regular basis allowing one day per week office time.
- it is suggested this operator should be on-site within a reasonable agreed-upon time of the call (i.e. four hours maximum).
- the duties and responsibilities of the operator would be as previously indicated or as agreed upon by the community and the particular Regional Operator.

The guiding principle is the Independent R/C Operator or Independent R/C /Relief Operator must do whatever is required to ensure all the conditions stated in the Minister's Order or the Permit of the specific works and the regulations are met at all times.

Option Two: Small Systems Certification

Should a community choose to certify its own operator, it could consider a Small System alternative. This system is one where the water treatment plant is classified as Class-1 with ground water treatment serving under 500 people and/or its distribution system is Class-1 serving under 500 people. Also, a Small Wastewater System is one where the wastewater treatment facility is classified as Class-1 with a lagoon system (no mechanical treatment) serving under 500 people and/or its sewage collection system is Class-1 serving fewer than 500 people.

Certification criteria are listed in Section 2.1 and 3.1 of the Saskatchewan Water and Wastewater Works Operator Certification Standards 2002 EPB 139.



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