

**Drinking Water Operator
Qualification Program**

**Operators of Groundwater
Catchment Station and
Treatment by disinfection
with Chlorine**

Job P4a

**Apprenticeship and
Evaluation Booklet**

EQ-5051-02A (04-2005)

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Emploi-Québec, in collaboration with the *Comité sectoriel de main-d'œuvre de l'environnement*, has produced this guide in order to describe the skills required to qualify as an operator of a groundwater Catchment Station and Treatment by Disinfection with Chlorine (P4a).

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APPRENTICE FILE

NAME _____
ADDRESS _____
CITY _____ POSTAL CODE _____
PHONE (____) _____

Emploi-Québec File #: _____

Note on the protection of personal information

- ① The information collected in this guide is subject to the *Act respecting access to documents held by public bodies and the protection of personal information*.
- ② The information is being collected for the purposes of administering the Emploi-Québec Drinking Water Operator Qualification Program.
- ③ For any questions regarding access to documents and the protection of personal information, contact Emploi-Québec.

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Introduction

This Apprenticeship and Evaluation Booklet is made up of modules for on-the-job training as an operator of a groundwater Catchment Station and Treatment by Disinfection with Chlorine, Job P4a.

Using this booklet, apprentices will learn all about the occupation under the supervision of experienced workers, called journeymen, and gain recognition of their new skills. The journeymen will evaluate their performance at each stage of the apprenticeship and ensure that their skills meet the prescribed standards.

The modules and tasks can be taught in the order deemed most appropriate at any given plant.

Suggestions and explanations on how to use this Apprenticeship and Evaluation Booklet are incorporated into the Journeyman's Guide.

Once the apprentice is deemed to have acquired the job skills in question, the journeyman is to sign the Apprenticeship and Evaluation Booklet in certification thereof.

⌘ IMPORTANT ⌘

Apprentices are responsible for the safekeeping of this guide, as it is the only document recording the details of their apprenticeship.

Certificate of Qualification

Certificates of qualification are issued to those who have mastered the skills required to operate a Groundwater Catchment Station and Treatment by Disinfection with Chlorine (Job P4a). They certify that the holder is qualified to practice the occupation.

Certification can be granted once the apprentice has fully mastered all steps of every task in each module and the journeyman has completed an assessment based on the performance indicators in the guide.

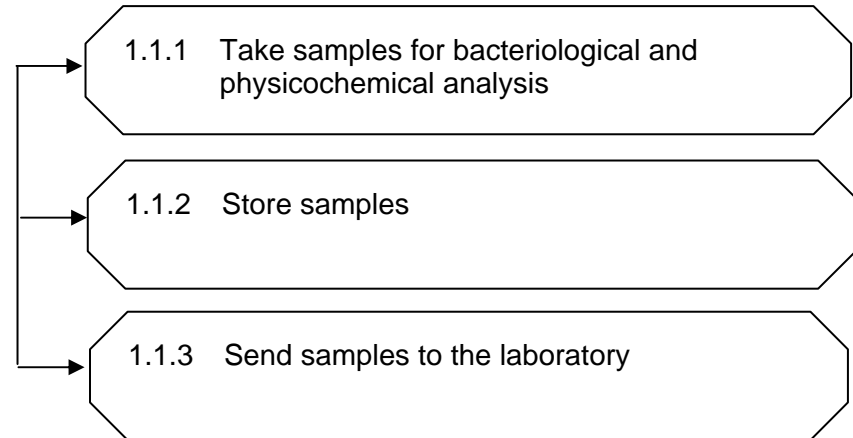
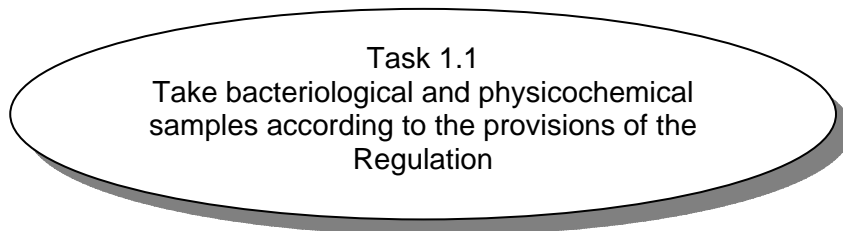
Emploi-Québec issues certificates of qualification to individuals who have mastered the skills set out in this Apprenticeship and Evaluation Booklet.

Module 1

Taking Water Samples

Job Skill:

Take water samples according to the provisions of the Regulation



(P4a) Apprenticeship Context

1. THE APPRENTICE HAS TAKEN SAMPLES IN THE FOLLOWING SITUATIONS. TICK OR SPECIFY:

- Regulatory samples
- Other _____

2. REMARKS OR DETAILS:

Job Skill: Take water samples according to the provisions of the Regulation

Task 1.1 Take bacteriological and physicochemical samples according to the provisions of the Regulation		References & Work Aids	
Steps			
<input checked="" type="checkbox"/>	1.1.1 Take samples for bacteriological and physicochemical analysis		
<input type="checkbox"/>	At each faucet, let the water run for at least five minutes before taking a sample	T	Methods for taking and preserving samples
<input type="checkbox"/>	Ensure that the water is not pretreated by a watersoftener or filter (even at the faucet)		
<input type="checkbox"/>	Take samples according to the sampling and sample conservation method set out in the Regulation	T	Methods for taking and preserving samples
		R	Water sampling program
<input checked="" type="checkbox"/>	1.1.2 Store samples		
<input type="checkbox"/>	Explain proper storage and preservation conditions and how quickly the samples must be sent to the laboratory	T	Methods for taking and preserving samples
<input type="checkbox"/>	Store the samples according to the reference materials provided by the Ministère de l'Environnement (MENV)		
<input checked="" type="checkbox"/>	1.1.3 Send samples to the laboratory		
<input type="checkbox"/>	Complete the test request form(s) as per the established protocol	R	Test request forms provided by an accredited laboratory
<input type="checkbox"/>	Send the samples to an accredited laboratory by the time and as per the procedures set out in the Regulation	T	Methods for taking and preserving samples
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided as part of earlier training

W: Work aids provided by the journeyman or trainer

(P4A) Confirmation of Skills Acquired

We, the undersigned, hereby certify that the Apprentice has mastered Module 1,

“Taking Water Samples”

Signature of the Apprentice

Signature of the Journeyman

Date _____

Signature of the Employer _____

Module 2

Groundwater Extraction and Pumping System

Job Skill:
Operate the groundwater extraction and pumping system

Task 2.1
Conduct an inspection tour of groundwater extraction facilities

2.1.1 Inspect and verify the integrity of the site, facilities, and equipment

2.1.2 Inspect and verify groundwater extraction structures (wells, boreholes, galleries)

2.1.3 Inspect and verify any raw water storage tanks (open surface or hydropneumatic) and control and measuring instruments

Task 2.2
Conduct an inspection and verification tour of groundwater pumping facilities

2.2.1 Inspect and verify pumps and any related measuring or control instruments

2.2.2 Verify and test pump flow rate or the number of active pumps according to the extraction system's operating capacity and the distribution network's needs

2.2.3 Inspect and test valve operation

2.2.4 Inspect and test air bleed valve operation

(P4A) Apprenticeship Context

1. THE APPRENTICE HAS WORKED WITH THE FOLLOWING TYPES OF EQUIPMENT. TICK OR SPECIFY:

PUMPS	STORAGE TANKS	VALVES (main valves in use, e.g., guillotine, pressure release, self-regulating, etc.)
Submersible:	Open surface:	
Dry well:	Hydropneumatic:	

2. THE APPRENTICE HAS LEARNED TO USE THE FOLLOWING INSTRUMENTS. TICK OR SPECIFY:

- Piezometer
- Flow indicator
- Pressure indicator
- Water level alarm or float
- Water level measuring devices
- Other _____

3. REMARKS OR DETAILS CONCERNING FACILITIES AND INSTRUMENTS:

Job Skill: Operate the groundwater extraction and pumping system

Task 2.1 Conduct an inspection tour of groundwater extraction facilities			
Steps		References & Work Aids	
2.1.1 Inspect and verify the integrity of the site, facilities, and equipment			
<input checked="" type="checkbox"/>	A- Verify the integrity of groundwater extraction sites and facilities		
<input type="checkbox"/>	Describe how the groundwater extraction and pumping system works		
<input type="checkbox"/>	Locate the groundwater extraction sites on the network map		R Network and facility map
<input type="checkbox"/>	Explain the routing, means of replenishment, and ways to protect groundwater resources		
<input type="checkbox"/>	Identify the boundaries of the regulatory catchment site		R Regulation respecting groundwater catchment
<input type="checkbox"/>	Identify any potential risks of contamination that may affect groundwater extraction facilities, explain the means of detecting these risks, and list the routine checks required		W Groundwater Extraction Facilities R Regulation respecting groundwater catchment
<input type="checkbox"/>	Thoroughly describe the inspection tour procedure, including frequency, route, and order of verifications		R Inspection Manual or Tour Report
<input type="checkbox"/>	Conduct an inspection tour of the sites; observe and identify all abnormalities or critical situations		R Inspection Manual or Tour Report
<input type="checkbox"/>	Draw conclusions from your observations and take any corrective measures required		W Groundwater Extraction Facilities
<input checked="" type="checkbox"/>	B- Appropriately assess what corrective measures must be taken to address potential risks		
<input type="checkbox"/>	Identify abnormalities that may pose a risk, analyze the possible causes, diagnose the problem, and take the appropriate corrective measures		W Groundwater Extraction Facilities
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
2.1.2 Inspect and verify groundwater extraction structures (wells, boreholes, galleries)			
✓	A- Inspect groundwater extraction structures (wells, boreholes, galleries)		
<input type="checkbox"/>	Describe the types of extraction structures and explain how they work		
<input type="checkbox"/>	Locate extraction structures on the map of groundwater extraction facilities	R	Map of groundwater extraction facilities
<input type="checkbox"/>	Describe the factors or indications of a structure's deterioration and the consequences of leakage	W	Groundwater Extraction Facilities
<input type="checkbox"/>	Visually inspect extraction structures		
<input type="checkbox"/>	Take readings from all instruments	W	Measuring Instruments
<input type="checkbox"/>	Take a raw water sample if applicable	W	Raw Water Sampling
		T	Methods for taking and preserving samples
<input type="checkbox"/>	Draw conclusions from your observations and take any corrective measures required	W	Groundwater Extraction Facilities
✓	B- Appropriately assess what corrective measures must be taken to address potential risks		
<input type="checkbox"/>	Identify abnormalities that may pose a risk, analyze the possible causes, diagnose the problem, and take the appropriate corrective measures	W	Groundwater Extraction Facilities
✓	C- Record any noteworthy information on extraction structures		
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on the condition of extraction structures	W	Groundwater Extraction Facilities
		R	Daily Log or Tour Report
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
2.1.3 Inspect and examine any raw water storage tanks (open surface hydropneumatic) and control and measuring instruments			
✓ A- Verify that water storage tanks meet the proscribed standards			
<input type="checkbox"/>	Locate storage tanks on the map of groundwater extraction facilities	R	Map of groundwater extraction facilities
<input type="checkbox"/>	Identify possible causes of the physical deterioration of raw water storage tanks and explain the potential risk of contamination and its effect on water quality	W	Tanks
<input type="checkbox"/>	Verify the physical integrity of the storage tanks, draw conclusions from your findings, and take any corrective measures required as per established procedures	W R	Tanks OHS Confined Spaces Regulation
<input type="checkbox"/>	Make a list of all measuring and control instruments used and explain the role of each in the drinking water production process	W	Measuring Instruments
<input type="checkbox"/>	Periodically ensure that measuring and control instruments are working properly and take any corrective action required	R	Manufacturer's manual
<input type="checkbox"/>	Take readings from measuring and control instruments in raw water storage tanks and verify that the results are within established critical water levels	W	Measuring Instruments
<input type="checkbox"/>	Adjust the flow rate accordingly		
✓ B- Appropriately assess what corrective measures must be taken to address potential risks			
<input type="checkbox"/>	Identify abnormalities that may pose a risk, analyze the possible causes, diagnose the problem, and take the appropriate corrective measures	W	Tanks
✓ C- Record any noteworthy information on raw water storage tanks			
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on water levels in the raw water storage tanks	R	Daily Log or Tour Report
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Task 2.2 Conduct an inspection and verification tour of groundwater pumping facilities			
Steps		References & Work Aids	
2.2.1 Inspect and verify pumps and any related measuring or control instruments			
✓	A- Test pumps		
<input type="checkbox"/>	Locate groundwater pumping facilities on the network map	R	Map of distribution network R Map of groundwater extraction facilities
<input type="checkbox"/>	Describe the types of pumps and their main components		
<input type="checkbox"/>	Explain normal pump operation (capacity and range) and the consequences of malfunction		
<input type="checkbox"/>	Determine the measuring and control instruments associated with the pumps and explain their basic operating principles	W	Measuring Instruments
<input type="checkbox"/>	Take readings from measuring and control instruments and compare the results with reference values	R	Manufacturer's manual (pump curve)
<input type="checkbox"/>	Evaluate the production and electromechanical process parameters for each pump	W	Raw Water Extraction Pumps
<input type="checkbox"/>	Assess pump operation based on process parameters and take any corrective measures required according to established procedures	W R	Raw Water Extraction Pumps Manufacturer's manual
✓	B- Appropriately assess what preventive and corrective measures must be taken to ensure the pumps operate properly		
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the pumps	W R	Maintenance Chart (Module 2) Manufacturer's manual
<input type="checkbox"/>	Identify potential pump malfunctions, explain the possible causes, diagnose the problem, and take the appropriate corrective measures	W R	Raw Water Extraction Pumps Manufacturer's manual
✓	C- Record any noteworthy information on pump operating parameters		
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on pump operations	R W	Daily Log or Tour Report Raw Water Extraction Pumps
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
2.2.2 Verify and test pump flow rate or the number of active pumps according to the extraction system's operating capacity and the distribution network's needs			
✓	A- Verify the output and pressure of raw water pumping units		
<input type="checkbox"/>	Describe the extraction system's operating capacity and the output rate needed to meet the distribution network's needs		
<input type="checkbox"/>	Explain the consequences of malfunction at a raw water pumping facility		
<input type="checkbox"/>	Either onsite or by remote sensing, identify which pumps are active and which are inactive	R	Network and groundwater pumping facility maps
<input type="checkbox"/>	Assess the flow rate and pressure according to the extraction system's operating capacity and the distribution network's needs	W	System of Units
<input type="checkbox"/>	Verify whether the number of active pumps is sufficient for the extraction system's operating capacity and the distribution network's needs		
<input type="checkbox"/>	Verify that pumps can be activated and de-activated to meet the pumping system's operating capacity and the distribution network's needs		
<input type="checkbox"/>	Draw conclusions from the data collected, analyze the effect on drinking water production volumes, and take any corrective measures required	W	Raw Water Extraction Pumps
✓	B- Appropriately assess what corrective measures must be taken to address situations affecting pump flow rate		
<input type="checkbox"/>	Identify potential problems that may affect drinking water production volumes, explain the possible causes, diagnose the problem, and take the appropriate corrective action	W	Raw Water Extraction Pumps
✓	C- Record any noteworthy information on pump operating capacity		
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on pump operating capacity	R W	Daily Log or Tour Report Raw Water Extraction Pumps
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
2.2.3 Inspect and test valve operation			
✓	A- Verify valve functioning		
<input type="checkbox"/>	Locate groundwater extraction system valves on the map of the water distribution network	R	Map of the water distribution network
<input type="checkbox"/>	Describe how valve-related devices work and explain the optimum operating conditions	W	Valves
		R	Manufacturers' manuals
<input type="checkbox"/>	Ascertain that the valves are properly positioned for the pressure and flow rate requirements at the time of inspection	R	Manufacturer's manual
<input type="checkbox"/>	Examine the condition of the valves (maneuverability, pressure required, seal, noise)	R	Manufacturer's manual
<input type="checkbox"/>	Verify and adjust self-regulating valves, if any, to obtain the required pressure or flow rate	R	Manufacturer's manual
<input type="checkbox"/>	Draw conclusions from the data collected and consequences noted and take any corrective measures required	W	Valves
✓	B- Appropriately assess what preventive and corrective measures must be taken to ensure proper valve operation		
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the valves	W	Maintenance Chart (Module 2)
		R	Manufacturer's manual
<input type="checkbox"/>	Identify valve malfunctions that may affect drinking water production volumes, explain the possible causes, make a diagnosis, and take the appropriate corrective measures	W	Valves
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
2.2.4 Inspect and test air bleed valve operation			
✓	A- Verify that air bleed valves are working properly		
<input type="checkbox"/>	Locate air bleed valves on the map of groundwater extraction facilities	R	Map of groundwater facilities
<input type="checkbox"/>	Explain how air bleed valves work and describe their role in the process		
<input type="checkbox"/>	Explain how the presence of air affects pumps and conduits		
<input type="checkbox"/>	Describe the annual preventive maintenance required to eliminate potential problems with air bleed valves		
<input type="checkbox"/>	Record any noteworthy information after inspecting air bleed valves	R	Tour Report
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

(P4A) Confirmation of Skills Acquired

We, the undersigned, hereby certify that the Apprentice has mastered Module 2

“Groundwater Extraction and Pumping System”

Signature of the Apprentice

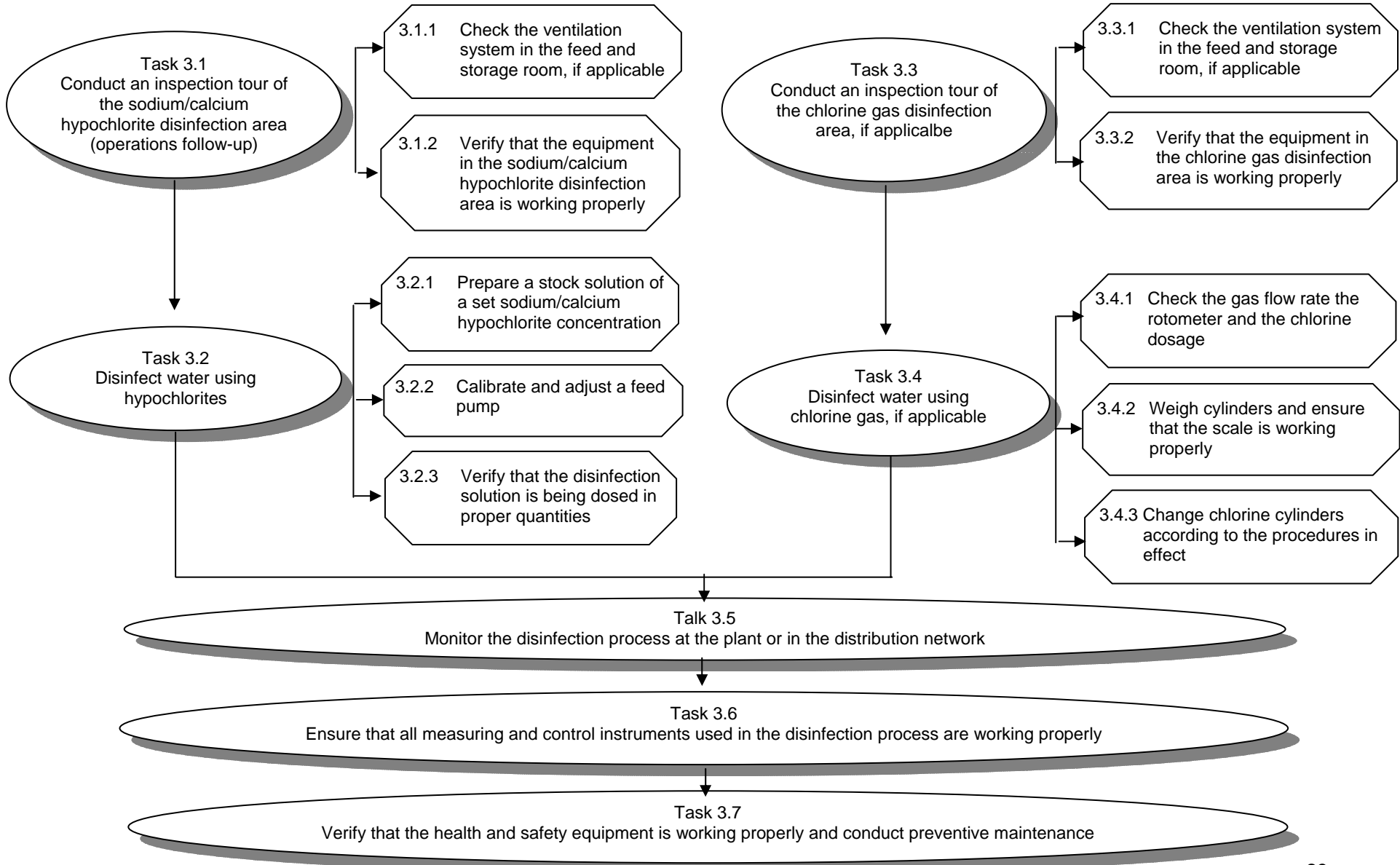
Signature of the Journeyman

Date _____

Signature of the Employer: _____

Module 3 Disinfection System

**Job Skill:
Operate one or more disinfection system (using sodium or calcium hypochlorite or chlorine gas)**



1. THE APPRENTICE HAS WORKED WITH THE FOLLOWING DISINFECTION SYSTEMS:

- ◇ Hypochlorites
 - Sodium
 - Calcium
- ◇ Chlorine Gas

2. THE APPRENTICE HAS LEARNED TO USE THE FOLLOWING INSTRUMENTS:

Compulsory according to the Regulation :

- ◇ Portable chlorine analyzer
- ◇ Continuous chlorine analyzer
- ◇ pH Meter
- ◇ Flow meter
- ◇ Thermometer

Chlorine gas :

- ◇ Rotometer
- ◇ Scale

Other

Note : Set aside the continuous measurement instruments in the treatment plant, all the measurement instruments must comply with the requirements indicated in the reference book titled "Standard Methods for The Examination of Water and Wastewater".

3. REMARKS OR DETAILS

Job Skill: Operate one or more disinfection system (using sodium or calcium hypochlorite or chlorine gas)

Task 3.1 Conduct an inspection tour of the sodium/calcium hypochlorite disinfection area (operations follow-up)		References & Work Aids	
Steps			
3.1.1 Check the ventilation system in the feed and storage room, if applicable			
✓	A- Verify the ventilation in the feed and storage room, following safety procedures		
<input type="checkbox"/>	Describe the dangers related to sodium/calcium hypochlorite and improper ventilation in feed and storage areas	R	WHMIS regulations
<input type="checkbox"/>	Ensure that the ventilator is working properly and the feed and storage room is well aerated	R	Manufacturer's manual R WHMIS regulations
<input type="checkbox"/>	Draw conclusions from the data collected and consequences noted and take any corrective measures required	R	WHMIS regulations
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the ventilation system	W	Maintenance Chart (Module 3) R Manufacturer's manual
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

C: Work aids provided by the journeyman or trainer

Steps		References & Work Aids
3.1.2 Verify that the equipment in the sodium/calcium hypochlorite disinfection area is working properly		
✓	A- Ensure that each piece of equipment is working properly	
<input type="checkbox"/>	Locate chlorination equipment on the disinfection area map	R Map of disinfection area, if available
<input type="checkbox"/>	Give a general explanation of how the equipment works	
<input type="checkbox"/>	Explain the consequences of malfunction or complete shutdown of a piece of equipment	
<input type="checkbox"/>	Examine the physical condition of the hypochlorite storage tanks (e.g., salt deposits)	
<input type="checkbox"/>	Verify the hypochlorite level in disinfection tanks	
<input type="checkbox"/>	Find the number of the active pumps, assess their level of functioning, and flush them as required	
<input type="checkbox"/>	Find the active valves and check their percentage of opening	
<input type="checkbox"/>	Inspect the release valve and verify that the full dosage of hypochlorite solution is injected into the water to be treated	
<input type="checkbox"/>	Check pipes for leakage	
<input type="checkbox"/>	Draw conclusions from the data collected and take any corrective measures required, following safety procedures	W Hypochlorite Disinfection Equipment R Health and Safety Manual and WHMIS regulations
✓	B- Appropriately assess what corrective and preventive must be taken to ensure that the disinfection equipment works properly	
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the disinfection equipment	W Maintenance Chart (Module 3) R Manufacturer's manual
<input type="checkbox"/>	Identify potential disinfection equipment malfunctions, explain the possible causes, and indicate the appropriate corrective measures	W Hypochlorite Disinfection Equipment R Manufacturer's manual
✓	C- Record any noteworthy information on disinfection equipment	
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all operating parameters of the disinfection equipment examined	W Hypochlorite disinfection equipment R Daily Log or tour report
Journeyman's initials:		Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Task 3.2 Disinfect water using hypochlorites			
Steps		References & Work Aids	
3.2.1 Prepare a stock solution of a set sodium/calcium hypochlorite concentration			
<input checked="" type="checkbox"/>	A- Safely prepare a sodium/calcium hypochlorite stock solution as per the disinfection procedure		
<input type="checkbox"/>	Describe the risks associated with handling a hypochlorite solution	R	WHMIS & OHS Rules
<input type="checkbox"/>	Periodically drain and clean the tank of disinfection solution		
<input type="checkbox"/>	Calculate the amount of disinfectant required to reach the desired concentration level and meet the network's needs	T	Calculating Dosage
<input type="checkbox"/>	Prepare the hypochlorite stock solution with concentrated hypochlorite solution, as per the disinfection and safety procedures (wear gloves, goggles, apron)		
Journeyman's initials:			Apprentice's initials:
3.2.2 Calibrate and adjust a feed pump			
<input checked="" type="checkbox"/>	A- Calibrate and adjust a feed pump according to the procedures in effect		
<input type="checkbox"/>	Describe the type of pump and its mode of operation (variable or single speed, presence of needle valve, instrument loop, type of controls, etc.)	R	Manufacturer's manual
<input type="checkbox"/>	Explain the consequences of malfunction or complete shutdown of a feed pump		
<input type="checkbox"/>	Calibrate the pump for various operating levels		
<input type="checkbox"/>	Measure the residual chlorine in the drinking water at the reference point to determine the proper disinfectant flow rate		
<input type="checkbox"/>	Identify the working capacity of each type of pump and adjust it accordingly		
<input type="checkbox"/>	After calibration or adjustment, verify that the hypochlorite dosage is as required		
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
3.2.3 Verify that the disinfection solution is being dosed in proper quantities			
✓	A- Verify the dosage of the disinfection solution as per the standard set out in the Regulation		
<input type="checkbox"/>	Describe the effects of chlorine on microorganisms		
<input type="checkbox"/>	Describe the effects and consequences of nitrogenous and organic matter on chlorination		
<input type="checkbox"/>	Describe the impact that pH, temperature, and contact time have on the disinfecting action of chlorine		
<input type="checkbox"/>	Verify and adjust the disinfectant solution to ensure that standards are being met (amount of residual chlorine in the network)	R	Regulation respecting the quality of drinking water
		T	Calculating Dosage
<input type="checkbox"/>	Verify whether there is sufficient disinfectant solution in storage to last until the next delivery	R	WHMIS & OHS Rules
<input type="checkbox"/>	Verify the quality of the chlorine provided (e.g., agreement with supplier, test when in doubt)		
✓	B- Appropriately assess what corrective measures must be taken to remedy dosage problems		
<input type="checkbox"/>	Identify any problems related to dosage equipment operation, analyze the possible causes, and indicate the appropriate corrective measures	W	Hypochlorite Disinfection Equipment
<input type="checkbox"/>	Identify any problems related to the quality of the disinfectant solution provided, analyze the possible causes, and indicate the appropriate corrective measures		
✓	C- Record any noteworthy information on dosage		
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on dosage	W	Hypochlorite Disinfection Equipment
		R	Daily Log or Tour Report
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Task 3.3 Conduct an inspection tour of the chlorine gas disinfection area, if applicable			
Steps		References & Work Aids	
3.3.1 Check the ventilation of the feed and storage room, if applicable			
<input checked="" type="checkbox"/>	A- Safely verify the feed and storage room ventilation system		
<input type="checkbox"/>	Describe the dangers of chlorine gas and poor aeration in feed and storage rooms	R	WHMIS regulations
<input type="checkbox"/>	Ensure that the ventilator is working properly and the feed and storage room is well aerated	R	Manufacturer's manual R WHMIS regulations
<input type="checkbox"/>	Draw conclusions from the data collected and consequences noted and take any corrective measures required	R	WHMIS regulations
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the ventilation system	C	Maintenance Chart (Module 3) R Manufacturer's manual
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids
3.3.2 Verify that the equipment in the chlorine gas disinfection area is working properly		
✓	A- Verify the gas cylinder switchover	
<input type="checkbox"/>	Test switchover as specified by the manufacturer and as per existing procedures	R Manufacturer's manual
<input type="checkbox"/>	Identify any possible malfunction, analyze the causes, and indicate the appropriate corrective measures	
✓	B- Check the chlorine gas leak detector and the chlorine regulating vent	
<input type="checkbox"/>	Describe how the safety system works on a chlorine gas device and a regulating vent and explain the consequences of malfunction	
<input type="checkbox"/>	Following detection procedures, periodically verify whether the system reacts to the presence of chlorine gas	R Manufacturer's manual R OHS Rules
<input type="checkbox"/>	Verify that the regulator vent is uncharged and is not emitting chlorine into the air	
<input type="checkbox"/>	Explain and, if required, take any remedial action in the case of malfunction or a chlorine gas leak	R WHMIS and OHS Rules R Manufacturer's manual
✓	C- Verify the chlorine injection system	
<input type="checkbox"/>	Describe how the chlorine gas injector works	
<input type="checkbox"/>	Check the chlorine injection system and related equipment (e.g., venturi, pressurization pump)	R Manufacturer's manual
<input type="checkbox"/>	Check for malfunction and take any remedial action necessary	R Manufacturer's manual
Journeyman's initials:		Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Task 3.4 Disinfect water using chlorine gas (if applicable)			
Steps		References & Work Aids	
3.4.1 Check the gas flow rate at the rotometer and the chlorine dosage			
<input type="checkbox"/>	Take readings of the gas flow rate and chlorine dosage		
<input type="checkbox"/>	Verify and calibrate the gas flow rate to ensure proper dosage	R	Manufacturer's manual
<input type="checkbox"/>	Inspect the bottom of the cylinders for freezing		
<input type="checkbox"/>	Calculate the amount of gas remaining and the number of cylinders in stock		
<input type="checkbox"/>	Check for malfunction and take any remedial action necessary	R	Manufacturer's manual
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the rotometer	W	Maintenance Chart (Module 3)
		R	Manufacturer's manual
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of dosage values attained	R	Daily Log or Tour Report
		W	Chlorine Gas Disinfection Equipment
3.4.2 Weigh cylinders and ensure that the scale is working properly			
<input type="checkbox"/>	Ensure that the scale is working properly	R	Manufacturer's manual
<input type="checkbox"/>	Weigh the cylinders to determine how much chlorine has been used		
<input type="checkbox"/>	Check for malfunction and take any remedial action necessary	R	Manufacturer's manual
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the scale	W	Maintenance Chart (Module 3)
		R	Manufacturer's manual
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of the weight measurements taken	R	Daily Log or Tour Report
		W	Chlorine Gas Disinfection Equipment
3.4.3 Change chlorine cylinders according to the procedures in effect			
<input type="checkbox"/>	Wear the required safety clothing		
<input type="checkbox"/>	Handle cylinders using the tools and accessories indicated in the manufacturer's instructions and safety regulations	R	Manufacturer's manual
		R	Safety regulations (WHMIS, OHS)
<input type="checkbox"/>	Check for malfunction and take any remedial action necessary		
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Task 3.5 Monitor the disinfection process at the plant or in the distribution network			
Steps		References & Work Aids	
<input checked="" type="checkbox"/>	A- Determine the residual chlorine concentration in water leaving the treatment plant, as per the frequency required		
<input type="checkbox"/>	Identify the measuring and control instruments and describe how they work	W	Measuring Instruments
<input type="checkbox"/>	Describe the effect of chlorine on microorganisms and the consequences of insufficient chlorine on water quality		
<input type="checkbox"/>	Take a sample of drinking water and measure the concentration of residual chlorine using the appropriate instruments and prescribed methods	R	Regulation respecting the quality of drinking water
<input type="checkbox"/>	Compare the free residual chlorine levels with the distribution network's water quality objectives		
<input type="checkbox"/>	In the case of noncompliance, adjust and fine-tune the dosage to obtain the chlorine concentrations required to meet the distribution network's quality standards	R	Regulation respecting the quality of drinking water
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all required information at the frequency set out in the Regulation	R R	Official Register Regulation respecting the quality of drinking water
<input type="checkbox"/>	Verify whether the register has been kept up as per the Regulation		
<input checked="" type="checkbox"/>	B- Measure the pH level and temperature of water leaving the treatment plant, as per the frequency required		
<input type="checkbox"/>	Describe the effects of pH level and temperature on the quality of drinking water and human health		
<input type="checkbox"/>	Take a sample of drinking water as per the prescribed procedures and frequency and test its pH level and temperature	R	Regulation respecting the quality of drinking water
<input type="checkbox"/>	Compare pH readings with the prescribed standards		
<input type="checkbox"/>	Explain and, if required, take any remedial action if levels exceed the standards		
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all required information at the frequency set out in the Regulation	R R	Official Register Regulation respecting the quality of drinking water
<input type="checkbox"/>	Verify whether the register has been kept up as per the Regulation		
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W Work aids provided by the journeyman or trainer

Task 3.6 Ensure that all measuring and control instruments used in the disinfection process are working properly			
		Steps	References & Work Aids
<input checked="" type="checkbox"/>	A- Verify that the measuring and control instruments are working properly as per the manufacturer's instructions		
<input type="checkbox"/>	Identify the measuring and control instruments and verify that they are working properly as per the manufacturer's instructions	<input type="checkbox"/> Chlorine meters (integrated and portable) <input type="checkbox"/> pH meter <input type="checkbox"/> Flow meter <input type="checkbox"/> Other	W Measuring Instruments
<input type="checkbox"/>	Explain and, if required, take any corrective measures if levels exceed the standards		R Manufacturer's manual
<input checked="" type="checkbox"/>	B- Conduct preventive maintenance and calibration of measuring and control instruments		
<input type="checkbox"/>	Run the chlorine analyzer (integrated and portable) through a reliability test		R Manufacturer's manual
<input type="checkbox"/>	Calibrate the chlorine analyzer according to the manufacturer's instructions		
<input type="checkbox"/>	Calibrate the pH meter according to the manufacturer's instructions		
<input type="checkbox"/>	Describe the preventive maintenance needed on chlorine analyzers and the pH meter		R Manufacturer's manual W Maintenance Chart (Module 3)
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Task 3.7 Verify that the health and safety equipment is working properly and conduct preventive maintenance			
		Steps	References & Work Aids
✓	A- Test health and safety equipment according to the procedures in effect		
<input type="checkbox"/>	<p>Ensure that all necessary health and safety equipment is in good working order and is readily available:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Shower <input type="checkbox"/> Eyewash <input type="checkbox"/> Safety goggles <input type="checkbox"/> Self-contained breathing apparatus <input type="checkbox"/> Extinguisher <input type="checkbox"/> Apron <input type="checkbox"/> Other 		R Health and safety procedures in effect (drinking water treatment equipment, facilities, and products)
<input type="checkbox"/>	Describe preventive maintenance needed for health and safety equipment		R Health and safety procedures in effect (drinking water treatment equipment, facilities, and products) W Maintenance Chart (Module 3)
Journeyman's initials:			Apprentice's initials:

- R:** Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV
- T:** Training aids provided during the prerequisite training
- W:** Work aids provided by the journeyman or trainer

(P4A) Confirmation of Skills Acquired

We, the undersigned, hereby certify that the Apprentice has mastered Module 3

“Disinfection System”

Signature of the Apprentice

Signature of the Journeyman

Date _____

Signature of the Employer: _____

Module 4

Pumping Drinking water into the Distribution Network

Job Skill

Operate the pumping system that feeds drinking water into the distribution network

Task 4.1

Conduct an inspection and verification tour of the drinking water pumping facilities in the distribution network

4.1.1 Inspect and verify pumps and related measuring and control instruments, as the case may be

4.1.2 Verify and test the flow rate or the number of pumps active according to the plant's and distribution network's capacity

4.1.3 Verify and test valve operation in the pumping system

4.1.4 Inspect and test air bleed valve operation (if available)

4.1.5 Inspect and verify drinking water tanks (open surface or hydropneumatic) as well as measuring and control instruments, as the case may be (if available)

(P4A) Context of the Apprenticeship

1. THE APPRENTICE HAS WORKED WITH THE FOLLOWING TYPES OF EQUIPMENT. TICK OR SPECIFY:

PUMPS	STORAGE TANKS	VALVES (main valves used, e.g., guillotines, pressure release, self-regulating, etc.)	AIR BLEED VALVE
Submersible:	Open surface:		
Dry well:	Hydropneumatic		

2. THE APPRENTICE HAS LEARNED TO USE THE FOLLOWING INSTRUMENTS. TICK OR SPECIFY:

- Flow indicator
- Pressure indicator
- Water level alarm
- Water level measuring devices
- Other

3. REMARKS OR DETAILS CONCERNING FACILITIES AND INSTRUMENTS:

Job Skill: Operate the pumping system that feeds drinking water into the distribution network

Task 4.1 Conduct an inspection and verification tour of the drinking water pumping facilities in the distribution network			
Steps		References & Work Aids	
4.1.1 Inspect and verify pumps and related measuring and control instruments, as the case may be			
<input checked="" type="checkbox"/>	A- Verify pumps		
<input type="checkbox"/>	Locate drinking water pumping facilities on the network map	R	Map of the water distribution network
<input type="checkbox"/>	Describe the types of pumps and their main components		
<input type="checkbox"/>	Explain the normal operating conditions of the pumps (capacity and range) and the consequences of malfunction		
<input type="checkbox"/>	Identify the measuring and control instruments used for the pumps and describe how they work	W	Measuring Instruments
<input type="checkbox"/>	Take readings from the measuring and control instruments and compare the results with reference values to verify that the pumps are working properly	R	Manufacturer's manual (pump curve)
<input type="checkbox"/>	Verify the production and electromechanical process parameters of each pump	W	Drinking water Pumps
<input type="checkbox"/>	Rate pump operation according to the operating parameters and take any necessary corrective measures as per established procedures	W R	Drinking water Pumps Manufacturer's manual
<input checked="" type="checkbox"/>	B- Appropriately assess what preventive and corrective measures must be taken to ensure the pumps work properly		
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the drinking water pumps	W R	Maintenance Chart (Module 4) Manufacturer's manual
<input type="checkbox"/>	Identify situations that could cause pump malfunction, explain the possible causes, make a diagnosis, and take the appropriate corrective measures	W R	Drinking water Pumps Manufacturer's manual
<input checked="" type="checkbox"/>	C- Record any noteworthy information on pump operating parameters		
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on pump operation	R W	Daily Log or Tour Report Drinking water Pumps
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
4.1.2 Verify and test the pump flow rate or the number of active pumps according to the plant's and distribution network's capacity			
✓	A- Verify the flow rate and pressure at drinking water pumping facilities		
<input type="checkbox"/>	Describe the production capacity and flow rate required to meet the distribution network's needs		
<input type="checkbox"/>	Explain the consequences of malfunction at a drinking water pumping facility		
<input type="checkbox"/>	Either onsite or by remote sensing, identify which pumps are active and which are inactive	R	Map of the water distribution network
<input type="checkbox"/>	Assess the flow rate and pressure according to the extraction system's operating capacity and the distribution network's needs	W	System of Units
<input type="checkbox"/>	Verify whether the number of active pumps is sufficient for the extraction system's operating capacity and the distribution network's needs		
<input type="checkbox"/>	Verify that pumps can be activated and de-activated to meet the pumping system's operating capacity and the distribution network's needs		
<input type="checkbox"/>	Draw conclusions from the data collected, analyze the effect on drinking water production volumes, and take any corrective measures required	W	Drinking water Pumps
✓	B- Appropriately assess what corrective measures must be taken to address situations affecting pump flow rates		
<input type="checkbox"/>	Identify potential problems that may affect drinking water production volumes, explain the possible causes, diagnose the problem, and take the appropriate corrective action	W	Drinking water Pumps
✓	C- Record any noteworthy information on pump operating capacity		
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on pump operating capacity	R W	Daily Log or Tour Report Drinking water Pumps
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
4.1.3 Verify and test valve operation in the pumping system (if available)			
✓	A- Verify valve operation in the pumping system		
<input type="checkbox"/>	Locate drinking water pumping valves on the map of the water distribution network	R	Map of the water distribution network
<input type="checkbox"/>	Describe how valve-related devices work and explain their optimum operating conditions	W	Valves R Manufacturers' manuals
<input type="checkbox"/>	Ascertain that the valves are properly positioned for the pressure and flow rate requirements at the time of inspection	R	Manufacturer's manual
<input type="checkbox"/>	Examine the condition of the valves (maneuverability, pressure required, seal, noise)		
<input type="checkbox"/>	Verify and adjust self-regulating valves, if any, to obtain the required pressure or flow rate		
<input type="checkbox"/>	Draw conclusions from the data collected and consequences noted and take any corrective measures required	W	Valves
✓	B- Appropriately assess what preventive and corrective measures must be taken to ensure proper valve operation		
<input type="checkbox"/>	Describe the preventive maintenance needed to identify potential problems with the valves	W	Maintenance Chart (Module 4) R Manufacturer's manual
<input type="checkbox"/>	Identify valve malfunctions that may affect drinking water production volumes, explain the possible causes, make a diagnosis, and take the appropriate corrective measures	W	Valves
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
4.1.4 Inspect and test air bleed valve operation (if available)			
✓	A- Verify that air bleed valves are working properly		
<input type="checkbox"/>	Locate air bleed valves on the map of drinking water pumping facilities	R	Map of groundwater facilities
<input type="checkbox"/>	Explain how air bleed valves work and describe their role in the process		
<input type="checkbox"/>	Explain how the presence of air affects pumps and conduits		
<input type="checkbox"/>	Describe the annual preventive maintenance needed to eliminate potential problems with air bleed valves		
<input type="checkbox"/>	Record any noteworthy information after inspecting air bleed valves	R	Tour Report
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
4.1.5 Inspect and verify drinking water tanks (open surface or hydropneumatic) as well as measuring and control instruments, as the case may be			
<input checked="" type="checkbox"/> A- Verify water storage tanks as per established procedures			
<input type="checkbox"/>	Locate water tanks on the map of the water distribution network	R	Map of the water distribution network
<input type="checkbox"/>	Check for signs of physical deterioration of drinking water storage tanks and explain the potential risk of contamination and its effect on water quality	W	Storage Tanks
<input type="checkbox"/>	Verify the physical integrity of the tanks, draw conclusions from your findings, and take any corrective measures required as per established procedures	W	Storage Tanks R OHS Confined Spaces Regulation
<input type="checkbox"/>	Make a list of the measuring and control instruments used and explain their role in the drinking water production process	W	Measuring Instruments
<input type="checkbox"/>	Periodically verify that the measuring and control instruments are working properly and take any appropriate corrective action	R	Manufacturer's manual
<input type="checkbox"/>	Take readings from measuring and control instruments in storage tanks and verify that the results are within established critical water levels	W	Measuring Instruments
<input type="checkbox"/>	Adjust the flow rate accordingly		
<input checked="" type="checkbox"/> B- Appropriately assess what corrective measures must be taken to address potential risks			
<input type="checkbox"/>	Identify abnormalities that may pose a risk, analyze the possible causes, diagnose the problem, and take the appropriate corrective measures as per the established procedure	W	Water Tanks
<input checked="" type="checkbox"/> C- Record any noteworthy information on drinking water storage tanks			
<input type="checkbox"/>	Provide a detailed, accurate, and legible listing of all noteworthy data on water levels in the drinking water storage tanks	R	Daily Log or Tour Report
Journeyman's initials:		Apprentice's initials:	

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

(P4A) Confirmation of Skills Acquired

We, the undersigned, hereby certify that the Apprentice has mastered Module 4

“Pumping Drinking water into the Distribution Network”

Signature of the Apprentice

Signature of the Journeyman

Date _____

Signature of the Employer: _____

Module 5

Building Services Systems

Job Skill:
Operate building services systems

Task 5.1
Control the operation of the available building services systems (electricity, heating, ventilation, compressed air)

- 5.1.1 Control the main electric power supply system (Hydro-Québec)
- 5.1.2 Control the standby electrical system (generator)
- 5.1.3 Control the heating and ventilation systems
- 5.1.4 Control the compressed air systems

1. THE APPRENTICE HAS TAKEN SAMPLES IN THE FOLLOWING SITUATIONS. TICK OR SPECIFY

- Main electric power supply system (Hydro-Québec)
- Standby electrical system (generator)
- Heating system
- Ventilation system
- Compressed air system

2. COMMENTS OR DETAILS ON THE SYSTEMS USED:

Job Skill: Operate building services systems

Task 5.1 Control the operation of the available building services systems (electricity, heating, ventilation, compressed air)			
Steps		References & Work Aids	
5.1.1 Control the main electric power supply system (Hydro-Québec)			
<input type="checkbox"/>	Describe the operation of the station's main electric power supply system		
<input type="checkbox"/>	Use the various indicators (phase, amperage, voltage) to ensure that the main electric power supply system operates properly		
<input type="checkbox"/>	Periodically check the condition of the main electric power supply system components, if applicable		
<input type="checkbox"/>	If possible, describe and apply the electric power supply start/stop procedure	R	Electrical safety standards
<input type="checkbox"/>	Describe the measures needed and the safety procedure that must be complied with to insulate equipment to be repaired from the power supply system		
Journeyman's initials:			Apprentice's initials:
5.1.2 Control the standby electrical system (generator)			
<input type="checkbox"/>	Name the equipment connected to the generator and explain the consequences of a power failure		
<input type="checkbox"/>	Describe the start/stop procedure (simulate a power failure) of the standby electrical system (generator) in case of power failure	R	Generator start/stop procedure according to manufacturer's manual R Electrical safety standards
<input type="checkbox"/>	Take readings from the generator's instruments and on/off indicators and take appropriate corrective action	R	Manufacturer's manual
<input type="checkbox"/>	Describe the preventive maintenance required for the generator	W	Maintenance chart (Module 3) R Manufacturer's manual
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided as part of earlier training

W: Work aids provided by the journeyman or trainer

Steps		References & Work Aids	
5.1.3 Control the heating and ventilation systems			
<input type="checkbox"/>	Ensure that the heating and ventilation systems work properly and take appropriate corrective action	R Manufacturer's manual W Maintenance chart (Module 3)	
<input type="checkbox"/>	Explain the consequences of defective operation or failure of these systems		
<input type="checkbox"/>	Check the condition of the filters and take appropriate corrective action		
<input type="checkbox"/>	Describe the preventive maintenance required for the heating and ventilation systems		
Journeyman's initials:			Apprentice's initials:
5.1.4 Control the compressed air systems			
<input type="checkbox"/>	Describe the operation of the compressed air network and its components	R Manufacturer's manual	
<input type="checkbox"/>	Name the equipment connected to the compressed air system		
<input type="checkbox"/>	Explain the consequences and causes of a malfunction of these systems		
<input type="checkbox"/>	Flush the air storage tank of the compressor and the network air bleed valve, if applicable		
<input type="checkbox"/>	Describe the preventive maintenance required for the compressed air system	W Maintenance chart (Module 3)	
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided as part of earlier training

W: Work aids provided by the journeyman or trainer

(P4a) Confirmation of Skills Acquired

We, the undersigned, hereby certify that the Apprentice has mastered Module 5

“Building Services Systems”

Signature of the Apprentice

Signature of the Journeyman

Date _____

Signature of the Employer

Module 6

Stock Management

Job Skill:
Manage inventory

Task 6.1
Take inventory and order the materials
and products needed

6.1.1 Verify product expiry dates

6.1.2 Determine the plant's usual requirements

6.1.3 Order or have someone order the products
needed

6.1.4 Compare shipment with order

Job Skill: Manage inventory

Task 6.1 Take inventory and order the materials and products needed			
Steps			References & Work Aids
✓	6.1.1 Verify product expiry dates		
<input type="checkbox"/>	Explain the consequences of treating drinking water with expired products	R Technical spec sheets provided with the products	
<input type="checkbox"/>	Ensure that products are classified and stored according to expiry dates and in adequate storage conditions		
✓	6.1.2 Determine the plant's usual requirements		
<input type="checkbox"/>	Make a list of the materials needed for daily operations: equipment, essential parts, chemicals, testing products, measuring and control instruments		
<input type="checkbox"/>	Explain the basic principles of taking inventory		
<input type="checkbox"/>	Determine the plant's needs and keep the inventory current by verifying stock levels		
✓	6.1.3 Order or have someone order the products needed		
<input type="checkbox"/>	Explain how to prepare a purchase requisition and an order form		
<input type="checkbox"/>	Prepare or have someone prepare an order according to the procedures in effect	R Internal procedures in effect	
✓	6.1.4 Compare shipment with order		
<input type="checkbox"/>	Verify the quantity and quality of the products received against the order form and invoice		
<input type="checkbox"/>	Ensure stock rotation		
Journeyman's initials:			Apprentice's initials:

R: Reference materials provided by the plant manager/apprentice; general apprenticeship documents from MENV

T: Training aids provided during the prerequisite training

W: Work aids provided by the journeyman or trainer

(P4A) Confirmation of Skills Acquired

We, the undersigned, hereby certify that the Apprentice has mastered Module 6

“STOCK MANAGEMENT”

Signature of the Apprentice

Signature of the Journeyman

Date _____

Signature of the Employer _____

TABLES

SUMMARY TABLE (P4A)

JOB SKILL	STEPS					
1. Take water samples according to the provisions of the Regulation	1.1 Take bacteriological and physicochemical samples according to the provisions of the Regulation					
2. Operate the groundwater extraction and pumping system	2.1 Conduct an inspection tour of groundwater extraction facilities	2.2 Conduct an inspection and verification tour of groundwater pumping facilities				

SUMMARY TABLE (P4A)

JOB SKILL	STEPS					
<p>3. Operate one or more disinfection system (using sodium or calcium hypochlorite or chlorine gas)</p>	<p>3.1 Conduct an inspection tour of the sodium/calcium hypochlorite disinfection area (operations follow-up)</p>	<p>3.2 Disinfect water using hypochlorite</p>	<p>3.3 Conduct an inspection tour of the chlorine gas disinfection area, if applicable</p>	<p>3.4 Disinfect water using chlorine gas (if applicable)</p>	<p>3.5 Monitor the disinfection process at the plant or in the distribution network</p>	<p>3.6 Ensure that all measuring and control instruments used in the disinfection process are working properly</p>
	<p>3.7 Verify that the health and safety equipment is working properly and conduct preventive maintenance</p>					

SUMMARY TABLE (P4A)

Job Skill	STEPS					
4. Operate the pumping system that feeds drinking water into the distribution network	4.1 Conduct an inspection and verification tour of the drinking water pumping facilities in the distribution network					
5. Operate building services systems	5.1 Control the operation of the available building services systems (electricity, heating, ventilation, compressed air)					
6. Manage inventory	6.1 Take inventory and order the materials and products needed					

(P4A) APPRENTICESHIP REPORT

Name of Apprentice:	Emploi-Québec File #:
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WORKPLACE APPRENTICESHIP PROGRAM

Module			Signature of Emploi-Québec Representative	Date	Agreement #
	To Acquire	To Be Assessed			
Taking Water Samples					
Groundwater Extracting and Pumping System					
Disinfection System					
Pumping Drinking water into the Distribution Network					
Building Services Systems					
Stock Management					

EMPLOYER		
Name		
Address		
City	Postal Code	Phone
Name of Journeyman		
Agreement	Start Date	End Date

EMPLOYER		
Name		
Address		
City	Postal Code	Phone
Name of Journeyman		
Agreement	Start Date	End Date