AMENDING THE *WASTEWATER SYSTEMS EFFLUENT REGULATIONS (WSER)*

CONSULTATION SESSION
JUNE 2023

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Canada

PURPOSE

- Describe proposed amendments
  - Temporary Bypass Authorizations
  - Transitional Authorizations
  - Administrative Amendments
- Review next steps and timelines

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TEMPORARY BYPASS AUTHORIZATIONS

PLANNED RELEASES FOR MAINTENANCE AND CONSTRUCTION ACTIVITIES

Canada

CURRENT REGULATORY REQUIREMENTS: TEMPORARY BYPASS AUTHORIZATIONS

- Allows regulatee to bypass one or more treatment processes normally applied to wastewater resulting in an exceedance of WSER limits
- Temporary bypass authorizations may be issued if:
  - The release only occurs at the wastewater system's final discharge point
  - The bypass is required for construction, maintenance or repairs
  - The bypass is designed to minimize volume of effluent deposited and concentration of deleterious substances
  - The application is made at least 45 days in advance
- Regulatees must put in place financially and technically feasible mitigation measures to reduce environment impacts
- ECCC may refuse to issue these authorizations if there is reasonable grounds to believe that the authorization would result in adverse effects on fish, fish habitat or the use of fish by human that cannot be mitigated

CURRENT REGULATORY REQUIREMENTS: TEMPORARY BYPASS AUTHORIZATIONS

Information required in an application:

- Location of final discharge point, where effluent is deposited
- Start and end date of the bypass
- Approximate duration
- Estimated volume of the deposit
- Explanation of how the bypass is designed to minimize the volume of effluent deposited and the concentration of pollutants
  - Must include a schedule and description for all steps to be taken

OBJECTIVE OF PROPOSED AMENDMENTS

- Expand the temporary bypass provisions to include planned releases of wastewater throughout the wastewater infrastructure, such as:
    - Final discharge point
    - Overflow points
    - Pumping stations
    - etc.

- Introduce a risk-based approach to set clear requirements to improve transparency, accountability and reduce the environmental impacts of planned releases through:
    - Notification
    - Mitigation measures
    - Monitoring
    - Additional reporting

NEW TIERED APPROACH BASED ON LEVEL OF RISK

Level of risk of a planned release is based on:

- Level of treatment of effluent
- Volume released
- Duration of bypass
- Whether releases are caused by precipitation
- Sensitive receiving environment

Category 1
Low Risk

- Small volume, short length of releases
- Generally some level of treatment
- Not released into sensitive receiving environments

Category 2
Medium Risk

- Standard volumes and lengths of release
- May or may not be treated
- If untreated, not released into sensitive receiving environment

Category 3
High Risk

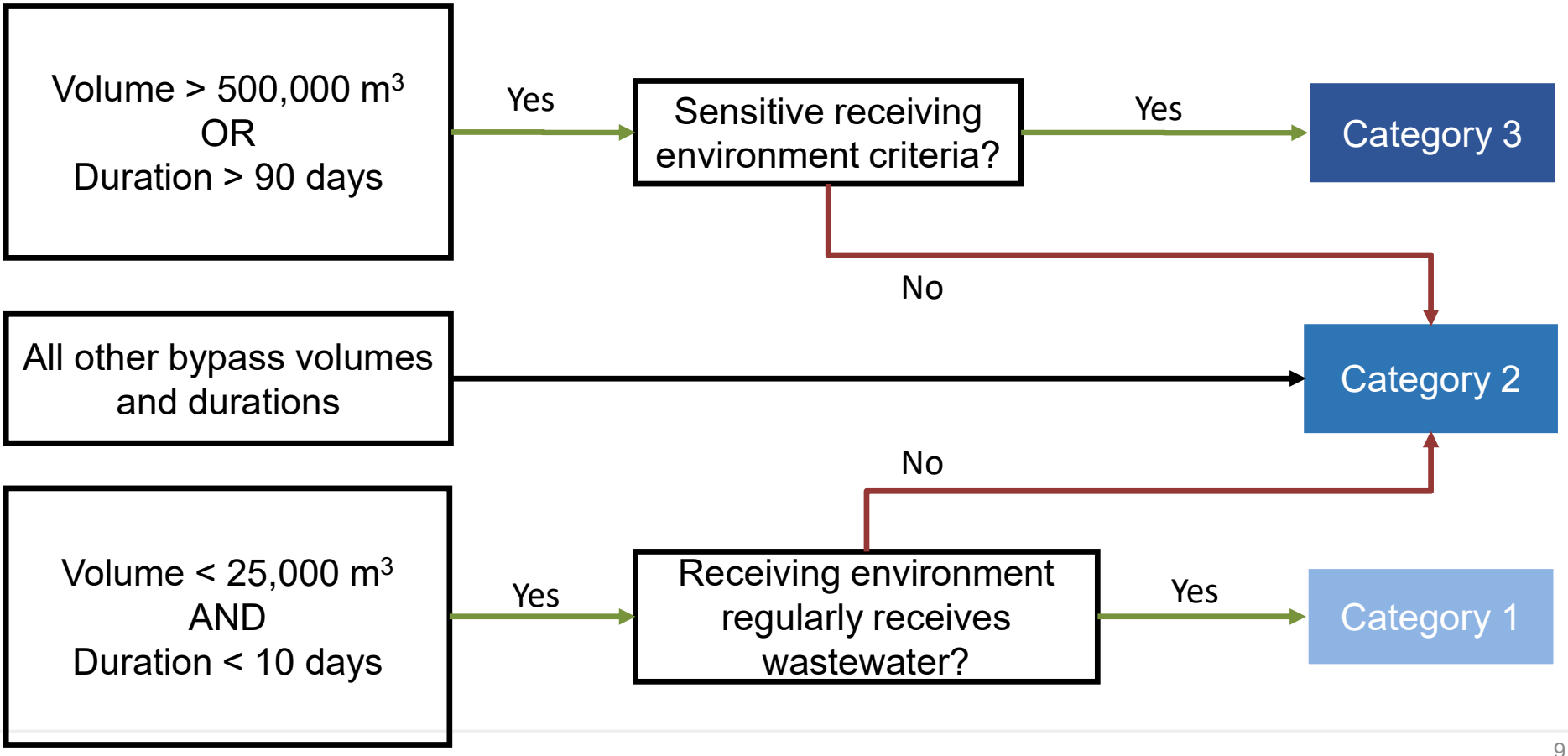
- Large volumes, long length of release, may be untreated
- Generally untreated or very large partially treated
- Could be released into sensitive receiving environment

HOW TO DETERMINE THE CATEGORY

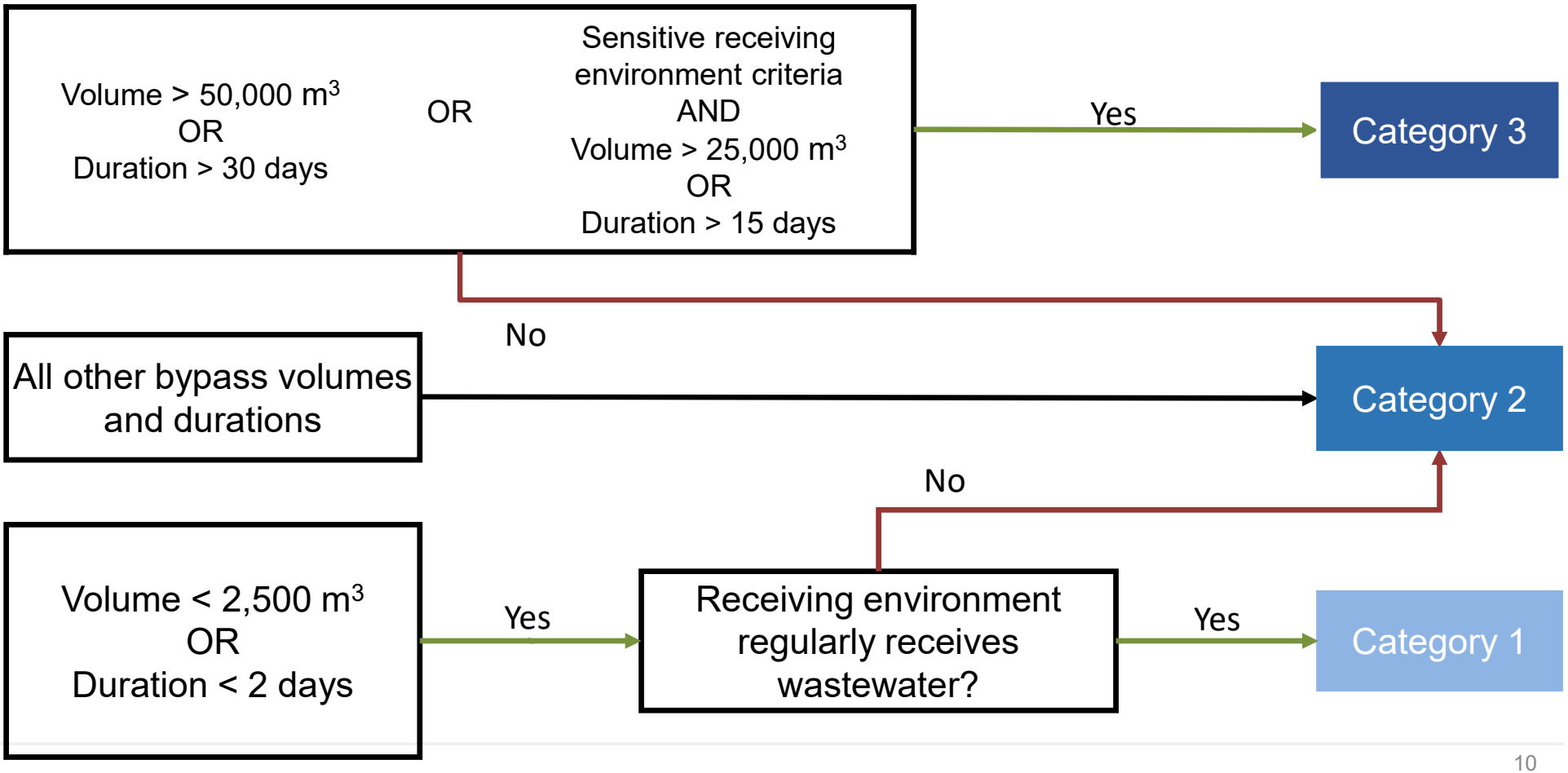
Three ways are proposed to determine the bypass category:

1. Effluent receives physical and/or biological treatment
   - Removal of CBOD and SS
   - Includes aerated lagoons, clarifiers, etc.
2. Effluent receives no treatment and/or pre-treatment
   - Removal of large solids, if any
   - Includes grinders, screens, etc.
3. Effluent released during the bypass is caused by precipitation events

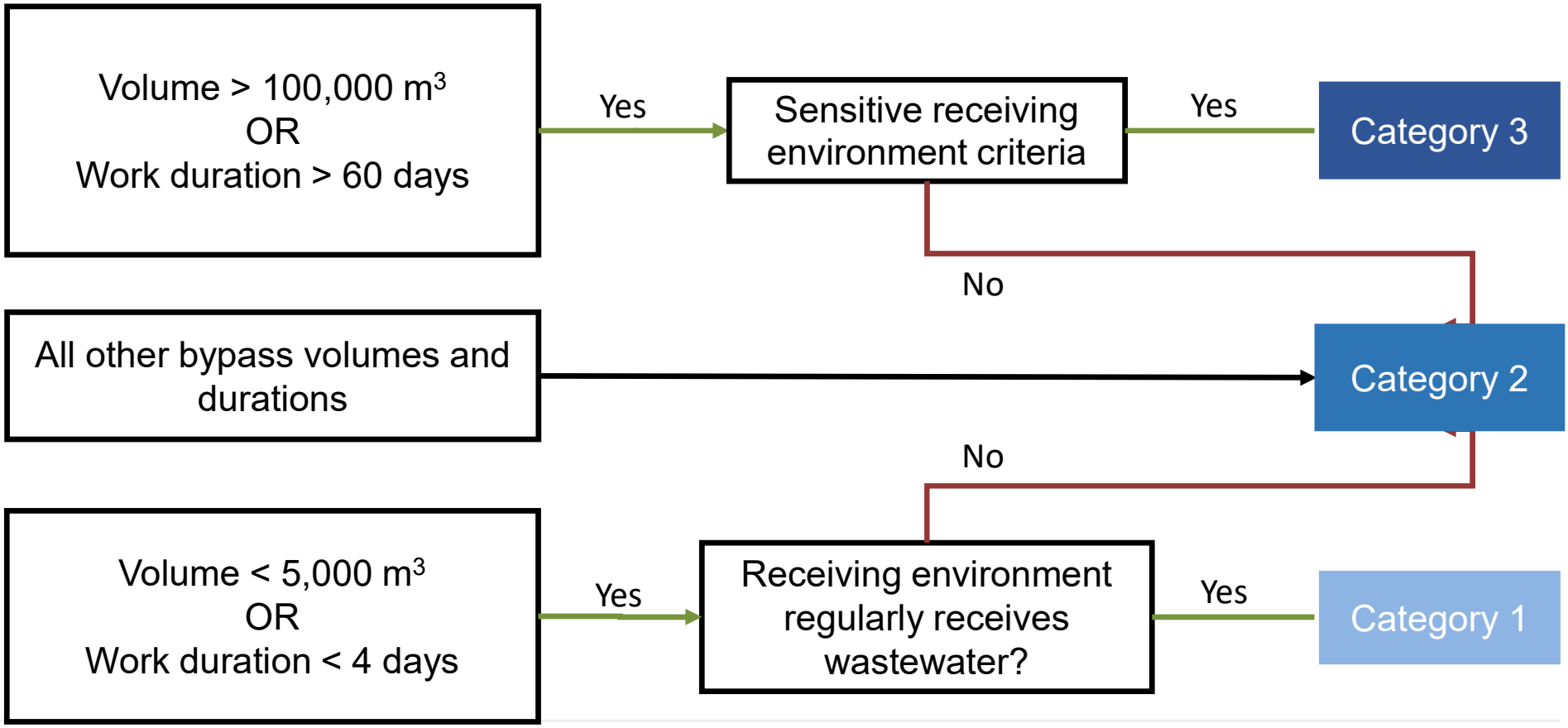
BYPASS WITH PHYSICAL TREATMENT AND/OR BIOLOGICAL TREATMENT



BYPASS WITH NO TREATMENT OR PRETREATMENT



BYPASS DEPENDENT ON PRECIPITATION



CRITERIA FOR SENSITIVE RECEIVING ENVIRONMENTS

	Receiving Environment	Criteria
1	Shellfish Harvesting Area	A shellfish harvesting area is within 1,500 m of where effluent is released during the bypass Shellfish Harvesting Area Classification in Canada
2	Critical Habitat	A critical habitat for protected aquatic species is within 500 m of where effluent is released during the bypass Critical Habitat in Canada: Critical Habitat of Species at Risk Map

APPLICATION REQUIREMENTS

The approach would require the owner/operator to meet different application requirements based on whether the bypass is low risk, medium risk, or high risk

Requirements prior to submitting an application (all categories):

- Shellfish Water Classification Program must be notified if bypassed effluent is released in marine waters or within a 20 km radius of such waters
- The public, and any community or Indigenous governing body must be notified if it is reasonably believed they could be affected by the bypass or may use the receiving environment before, during or after the bypass

Category 1	Category 2	Category 3
Streamlined process	Standard Process	Enhanced process
Low Risk	Medium Risk	High Risk

PROPOSED STREAMLINED PROCESS (CATEGORY 1)

Application must be made **at least 21 days before proposed bypass** and must include:

- Details about the planned bypass, such as:
  - Start and end date
  - Estimated duration and volume
  - Description of the treatment applied to the effluent prior to discharge and whether the bypass will be caused by precipitation
  - Location of point where bypass will occur
  - Description of the receiving water
- Explanation of why the bypass is necessary
- List of measures that will be taken to minimize the volume of effluent deposited and the concentration of pollutants, including timing considerations
- A description of notifications and of any engagements, including results

PROPOSED STANDARD PROCESS (CATEGORY 2)

Application must be made **at least 45 days before proposed bypass** and must include:

- All requirements from Category 1, as well as:
  - Expand on the list of measures taken to reduce environmental effects and provide more details
  - Explanation of how the bypass coincides with the plan to reduce large, untreated bypasses in the future, if required

PROPOSED ENHANCED PROCESS (CATEGORY 3)

Application must be made **at least 90 days before proposed bypass** and must include:

- All requirements from Categories 1 & 2, as well as:
  - Assessment of alternative methods to perform bypass, including their technical feasibility and cost estimates
  - Assessment of where effluent mixes with receiving waters. For example, a plume delineation study
  - Detailed description of monitoring and sampling that will be taken, including a detailed plan and schedule for monitoring before, during and after the bypass

APPLICATION REQUIREMENTS CONT'D

- Provide additional information, if requested
  - ECCC may request additional information from an applicant if the information is required to asses potential adverse effects of the bypass on fish, fish habitat or the use by man of fish
  - ECCC must specify in writing the information required and the timeline for providing it

PROPOSED CONDITIONS FOR TEMPORARY BYPASS AUTHORIZATION

- Notify ECCC immediately if information provided in the authorization is incorrect and provide corrections
- Comply with Sections 7 to 22 and 48 of the Regulations
- Send a follow-up report to ECCC within 90 days after the bypass has ended that contains:
  - Duration and volume of the release
  - Description of treatment applied to effluent
  - Description of how the mitigation measures were implemented
  - Results of monitoring conducted during the bypass (Category 3)
  - A confirmation of the existence of a publicly available plan to reduce large, untreated bypasses

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TRANSITIONAL AUTHORIZATIONS

Canada

CURRENT REGULATORY REQUIREMENTS: TRANSITIONAL AUTHORIZATIONS

- The effluent quality standards came into effect in 2015
  - Applied to all wastewater systems, except those issued a transitional authorization (TA)
- TAs could be issued to provide an extension for regulatees to upgrade their system if:
  - Regulatees applied before June 2014
  - Regulatees collected 12 months of data to demonstrate:
    - System could not meet effluent standards (CBOD/SS exceedances); and
    - System was not designed to meet the standards
- Extended timelines to 2020, 2030, or 2040 were issued based on environmental risk: effluent quality, daily volume, and receiving environment
- TA holders must meet site specific effluent limits (no AL testing), regularly submit monitoring reports and submit progress reports on upgrades

OBJECTIVE OF PROPOSED AMENDMENTS

- Provide a new opportunity for eligible owners of wastewater systems to apply for a transitional authorization to the end of 2030 or 2040 using a similar application process
  - Allow regulatees to use historical data in their TA application (when available)
  - Use the same point-based system that was used for current TA holders (Schedules 2 and 3)
- Amend monitoring and reporting requirements for continuous systems with a TA
- Add flexibility to administrative measures for better accuracy and accountability

Regulatees may apply if they would receive a 2030 or 2040 deadline and if they do not already hold a transitional authorization

PROPOSED ELIGIBILITY CRITERIA

- A wastewater system would be eligible for a TA if:
  - It did not meet effluent limits for CBOD and/or suspended solids based on the earliest monitoring report(s) submitted to ECCC
  - It is still not meeting the same limits in half or more of the reports submitted two years before the application
  - It is not designed to meet secondary level treatment; and
  - It could not be upgraded before applying for a transitional authorization due to costs or technical issues
- Regulatees would have to be actively reporting to ECCC to be eligible

PROPOSED APPLICATION PROCESS

Applicant would have to fill one application per wastewater system

<u>Exception: Consolidation</u>

If a regulatee has 2 or more wastewater systems with little to no treatment (e.g. sewage outfalls), and plans to merge them into one future treatment system, they could be consolidated under one application

- *Currently allowed for 10 or more outfalls*

INFORMATION REQUIRED TO APPLY

- CBOD and SS averages determined over a 12-month period
  - Based on the CBOD and SS concentrations entered in the first monitoring report(s) submitted in ERRIS;
- Volume deposited during the same 12-month period (in m^3/day)
- Maximum concentration of un-ionized ammonia during the first 12-month period; where
  - For an intermittent system, at least one sample per discharge period was collected
  - For a continuous system, at least four samples were collected
    - Allowing the use of historical data; doesn't have to be the same 12-month period as used for CBOD/SS
- If applicable, a statement the effluent is not dechlorinated and exceed the total residual chlorine limit
- Type of receiving environment: open marine, marine port, lake, watercourse, etc.
  - Note: The definition for *Marine port waters* is proposed to include harbours
- If applicable, information on CSO points
- A plan for the modifications needed with a schedule

PROPOSED CONDITIONS FOR TA HOLDERS

- Site-specific effluent quality limits for CBOD, SS and unionized ammonia that are 1.25x the values reported in the transitional authorization application

- If using chlorine, a dechlorination system would have to be installed so that its effluent does not exceed:
  - 0.02 mg/L of total residual chlorine, on average
  - 0.10 mg/L in a grab sample - NEW

PROPOSED TA REQUIREMENTS

New obligations would apply to both current and new transitional authorizations

	Current Requirements	Proposed New Requirements
Sampling Frequency*	Monthly	Quarterly for small systems
Reporting Frequency*	Quarterly	Annually for small systems
Volume determination*	Monitoring equipment	Monitoring equipment or method of estimation (margin of error of ±15%)
Progress Reports	Every 5 years	Every 2 years

* For small continuous systems discharging less than 2,500 m3/day on an annual basis (including raw sewage outfalls)

OTHER PROPOSED AMENDMENTS FOR REGULATEES WITH AN EXISTING OR NEW TA

- Proposed amendments on how regulatees can:
  - Update their transitional authorization
  - Update their plan of modifications and/or schedule
  - Transfer ownership of their transitional authorization
  - Terminate their TA early once upgrades are completed

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KEY ADMINISTRATIVE AMENDMENTS

Canada

AMENDED/NEW DEFINITIONS

SECTION 1

- Proposing to add or adjust definitions for greater clarity or to support new provisions to the Regulations

Key definitions:

- New *Composite sample* – based off other provincial/FA definitions 
- New *Authorized representative* 
- New *Licensed professional* 
- Adjustments to *Final discharge point* – amended to add plural form 

For more information on definitions, please review this factsheet or proposed amended regulations

SUSPENDED SOLIDS EXEMPTION

SECTION 6

Current Requirement: Lagoon systems that exceed the suspended solids limits of 25 mg/L in the summer do not have to take these results into account when calculating the average concentration for their monitoring reports

- Only allowed from July to October

Proposed Amendment: Add a requirement to indicate in monitoring reports if the exemption was used

DECHLORINATION

SECTION 6

Current Requirement: An average total residual chlorine (TRC) limit of 0.02 mg/L is set out in the Regulations.

Proposed Amendment:

- Require regulatee to install, operate and maintain a dechlorination system, if chlorine is used
- That the TRC concentration cannot exceed 0.10 mg/L in a grab sample;
- That the following records be kept onsite:
  - Information on the dechlorination system (e.g. manufacturer's specifications)
  - any results of TRC measured in the field

CALIBRATION

SECTION 9

Current Requirement: Monitoring equipment must be calibrated at least once every calendar year and at least five months apart.

Proposed Amendment: Monitoring equipment would have to be calibrated in accordance with:

- Recommendations from the manufacturer; or
- Recommendations of a licensed professional; or
  - If using the recommendations of a licensed professional, a document detailing the calibration procedure must be available onsite.
- At least once every calendar year and at least five months apart

SAMPLES TAKEN AT OTHER LOCATION

SECTION 10

Current Requirement: Samples can only be collected at the final discharge point.

Proposed Amendment: Allow sampling at another location of the treatment system if:

- It's an intermittent lagoon
- Representative effluent samples can be collected; and
- Sampling procedure and location have been determined by a licensed professional
  - A document detailing the sampling location and sampling procedure must be available onsite

SAMPLES TAKEN PRIOR TO DISCHARGE

SECTION 10

Current Requirement: Intermittent lagoon must be sampled:

- At least once during the first 30 days of discharge; and
- Every two weeks if discharging for a longer period

Samples collected prior to discharge cannot be used for compliance

Proposed Amendment: A sample collected two weeks or less prior to the discharge of an intermittent lagoon may be used as the sample for the first 30 days of discharge, if it is collected to meet another federal or provincial requirement

- Regulatees would have to sample every two weeks after the 30 days

ACUTE LETHALITY TESTING

SECTION 11

Current Requirement: Owners of intermittent systems with an average daily effluent volume of more than 2,500 m^3 are required to do acute lethality testing once per quarter

Proposed Amendment: Require intermittent systems with an average daily effluent volume of more than 2,500 m^3 to do acute lethality testing once per discharge event

ACUTE LETHALITY FAILURE

SECTION 11

Current Requirement: If a sample is determined to be acutely lethal, regulatees are required to collect samples twice a month and determine if the effluent is still acutely lethal

Proposed Amendment: If a sample is determined to be acutely lethal, regulatees would be required to:

- collect a sample without delay for acute lethality testing; and
- collect samples every two weeks for acute lethality testing

UNAUTHORIZED DEPOSITS

NEW SECTION 19.1

Current Requirements: There are no requirements in the Regulations.

- Regulatees must notify, mitigate and report in the event of an unauthorized deposit under the *Fisheries Act*

Proposed Amendment: Regulatees would be required to notify an inspector, without delay, if their effluent:

- Exceeds the total residual chlorine grab concentration
- Exceeds the unionized ammonia maximum concentration; or
- Is determined to be acutely lethal

NEXT STEPS

- ECCC invites all interested parties to review the proposed amended regulations and provide feedback and comments
  - Comments can be submitted directly on the webpage
  - Comments will be made publicly available online to increase transparency
- Factsheets are available on our Consultations webpage
- 60-day consultation period ends July 26, 2023
- All comments and inputs provided during the Consultation phase will be considered in the drafting of the final amended regulations
- Publication in Canada Gazette Part II – targeting fall 2024
- For more information or questions, contact eu-ww@ec.gc.ca

MORE INFORMATION ON THE WSER

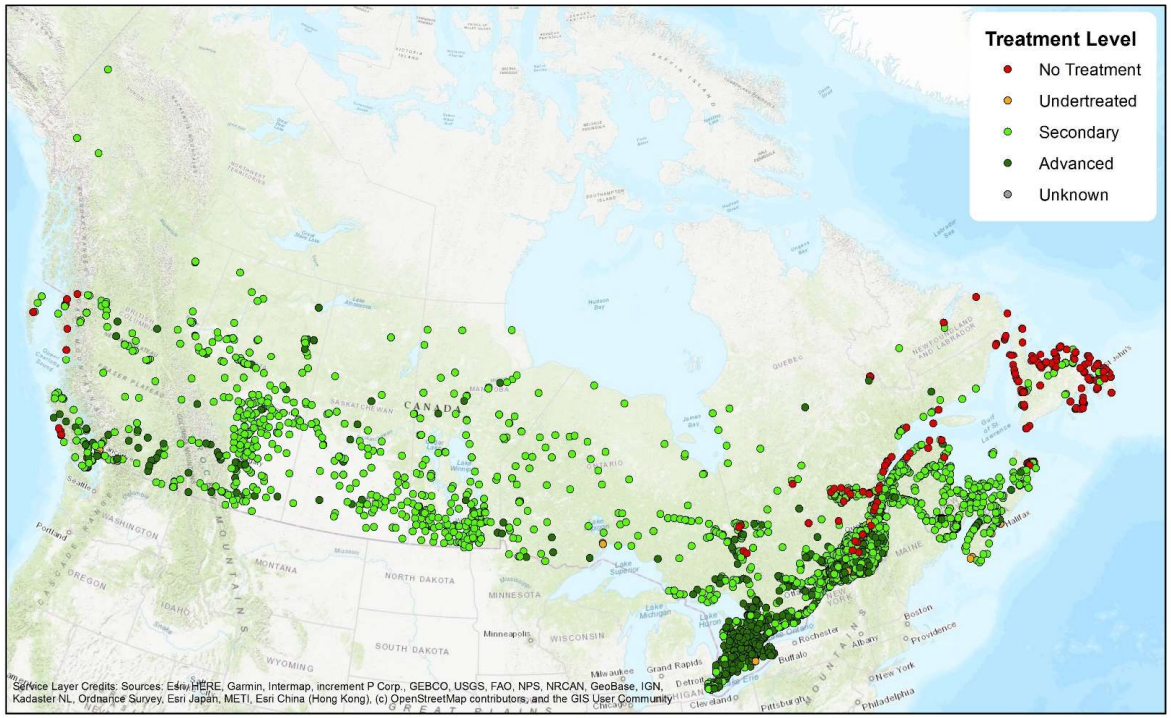
- Additional information may also be obtained on the Canada.ca website: https://www.canada.ca/wastewater
- WSER sampling guidance
- WSER videos on compliance and reporting
- Unauthorized deposits factsheet

QUESTIONS?

ANNEX

WASTEWATER SYSTEMS EFFLUENT REGULATIONS

- Came into force in 2012
  - National effluent quality standards came into effect in 2015
  - Bring systems to secondary treatment level
- ~1,700 wastewater systems regulated under the Regulations
  - Collect an average daily wastewater volume of 100 m3 /day or more (≈ 200-250 people)
- The Regulations do not apply to:
  - Very small systems
  - NWT, NU, and north of the 54th parallel in QC and NL due to Arctic climatic conditions
  - Municipal and provincial systems in Yukon and Quebec which have equivalency agreements



Map includes wastewater systems covered under the QC and YK equivalency agreements

NATIONAL EFFLUENT QUALITY STANDARDS

- To comply with the WSER, the deposit of treated wastewater must meet specific effluent quality standards:
  - Limits on certain conventional pollutants
  - Effluent deposited cannot be acutely lethal to fish (i.e. kills >50% of fish in laboratory testing)
- The effluent quality standards are typically achievable through a secondary level of wastewater treatment
  - Secondary level of treatment allows removal of up to 90% of conventional pollutants
  - Approximately 75% of wastewater systems subject to WSER currently have at least secondary level of treatment

Deleterious Substances	Limit
Carbonaceous Biochemical Oxygen Demand (CBOD)	≤ 25 mg/L
Suspended Solids (SS)	≤ 25 mg/L
Total Residual Chlorine	≤ 0.02 mg/L
Un-ionized Ammonia	< 1.25 mg/L

REGULATORY REQUIREMENTS

Regulatees are required to monitor effluent and submit reports to ECCC on a regular basis

- The frequency for monitoring and reporting vary depending on type of wastewater system (intermittent versus continuous systems) and average daily flow

Monitoring Requirements:

- Final Discharge Point
  - Average daily volume
  - Concentrations of CBOD and SS
  - Acute lethality of the effluent*
- Combined Sewer Overflow Points (because of precipitation)
  - Volumes

Reporting Requirements: (electronic submission in ERRIS)

- Identification report
  - Update contact information and operation details as needed
- Monitoring reports
- Combined sewer overflow (CSO) reports

*only required for systems depositing more than 2,500 m^3/day

TRANSITIONAL AND TEMPORARY AUTHORIZATIONS

- The Regulations include three mechanisms to apply for an authorization to deposit effluent that does not meet the effluent quality standards at the final discharge point

Temporary Bypass Authorization	Allows for a temporary exceedance of effluent quality limits to undertake maintenance, repairs and upgrades to wastewater treatment plants; to ensure the longevity and proper functioning of wastewater infrastructure
Transitional Authorization	Allows for extended compliance timelines for systems not designed to meet the standards; to provide time to plan and finance wastewater system upgrades
Temporary Authorization to Deposit Un-ionized Ammonia	Allows systems to discharge acutely lethal effluent due to unionized ammonia, that are otherwise compliant with SS/CBOD limits

COMPOSITE SAMPLING

SECTION 1

Proposed Amendment: Add definition of *Composite Sample* that allows regulatee to:

(a) use definitions specified by another government or Act, if applicable to their wastewater system; or

(b) collect at least 3 samples with equal volumes or volumes proportionate to the rate of flow:

- over the discharging period if discharging part of the day, or
- over a period of 7 to 24 hours if discharging all day

(c) collect samples continuously at a constant rate or at a rate proportionate to the rate of flow:

- over the discharging period if discharging part of the day, or
- over a period of 7 to 24 hours if discharging all day

AUTHORIZED REPRESENTATIVE

SECTION 1

Proposed Amendment: Add a definition of the term for greater clarity.

(a) in respect of an owner or operator who is an **individual**, that individual or another individual who is authorized to act on their behalf

(b) in respect of an owner or operator that is a **corporation**, an employee of the corporation, or another individual or an entity authorized to act on behalf of the corporation; and

(c) in respect of an owner or operator that is an **entity other than a corporation**, an individual or entity who is authorized to act on its behalf

LICENSED PROFESSIONAL

SECTION 1

Proposed Amendment: Add a definition for licensed professional

- Licensed professional means a licensed member of an engineering or scientific professional organization who is independent of the operator of the facility and who has technical expertise in the field in question

FINAL DISCHARGE POINTS

SECTION 1

Current Requirement: The Regulations only allow one final discharge point

Proposed Amendment: Allow systems to have multiple final discharge points.

- Regulatees would be required to monitor and report on each final discharge point
- The definition of *final discharge point* would be amended to add plural form

Final discharge point means the point, or multiple points, other than an overflow point, of a wastewater system beyond which its owner or operator no longer exercises control over the quality of the wastewater before it is deposited as effluent in water or a place

WASTEWATER EFFLUENT RECEIVES PHYSICAL TREATMENT AND/OR BIOLOGICAL TREATMENT

	Characteristics of the Bypass	Bypass Type
I	a) Estimated volume <= 25,000 m^3 and approximate duration <= 240 hours (10 days); **and**	Category 1
	b) Bypass enters waters that regularly receives wastewater;	
II	a) Estimated volume > 500,000 m^3 and approximate duration > 2,160 hours (90 days); **and**	Category 3
	b) Bypass meets one of the criteria associated with Sensitive Receiving Environment Considerations;	
III	c) All other bypasses where the released effluent receives physical treatment and/or biological treatment.	Category 2

WASTEWATER EFFLUENT RECEIVES NO TREATMENT OR PRELIMINARY TREATMENT ONLY

	Characteristics of the Bypass	Bypass Type
I	a) Estimated volume <= 2,500 m^3 or approximate duration <= 48 hours; **and**	Category 1
	b) Bypass enters waters that regularly receives wastewater;	
II	a) Estimated volume > 50,000 m^3 or approximate duration > 720 hours (30 days); **or**	Category 3
	b) Estimated volume > 25,000 m^3 or duration of bypass > 360 hours (15 days); **and** bypass meets one of the criteria associated with Sensitive Receiving Environment Considerations;	
III	All other bypasses where the released effluent receives no treatment or preliminary treatment.	Category 2

WASTEWATER EFFLUENT RELEASED DURING BYPASS IS DUE TO REDUCED TREATMENT CAPACITY CAUSED BY PRECIPITATION EVENTS

	Characteristics of the Bypass	Bypass Type
I	a) Estimated volume <= 5,000 m^3 or a period of work <= 96 hours (4 days); **and**	Category 1
	b) Bypass enters waters that regularly receives wastewater;	
II	c) Estimated volume > 100,000 m3 or a period of work > 1,440 hours (60 days); **and**	Category 3
	d) Bypass meets one of the criteria associated with Sensitive Receiving Environment Considerations	
III	e) All other bypasses that are dependent on precipitation events	Category 2