

Process Control Management

Incident Report / Report by Exception

The report by exception process provides Wastewater Engineer with an early warning of issues that may result in compliance failures and notification of actual compliance failure. In essence, the use of this report is a continuous self-auditing of City of Winnipeg operations.

The philosophy focuses on the premise that critical control parameters can be predefined and warning and alarm limits set that would indicate the process is approaching 'noncompliance' or is 'out of control'. Noncompliance, by definition, represents the exceedance of parameter beyond licence limit. Therefore, warning and alarm limits must be set up such that an appropriate alert is raised when unit processes are approaching noncompliance and not after the fact.

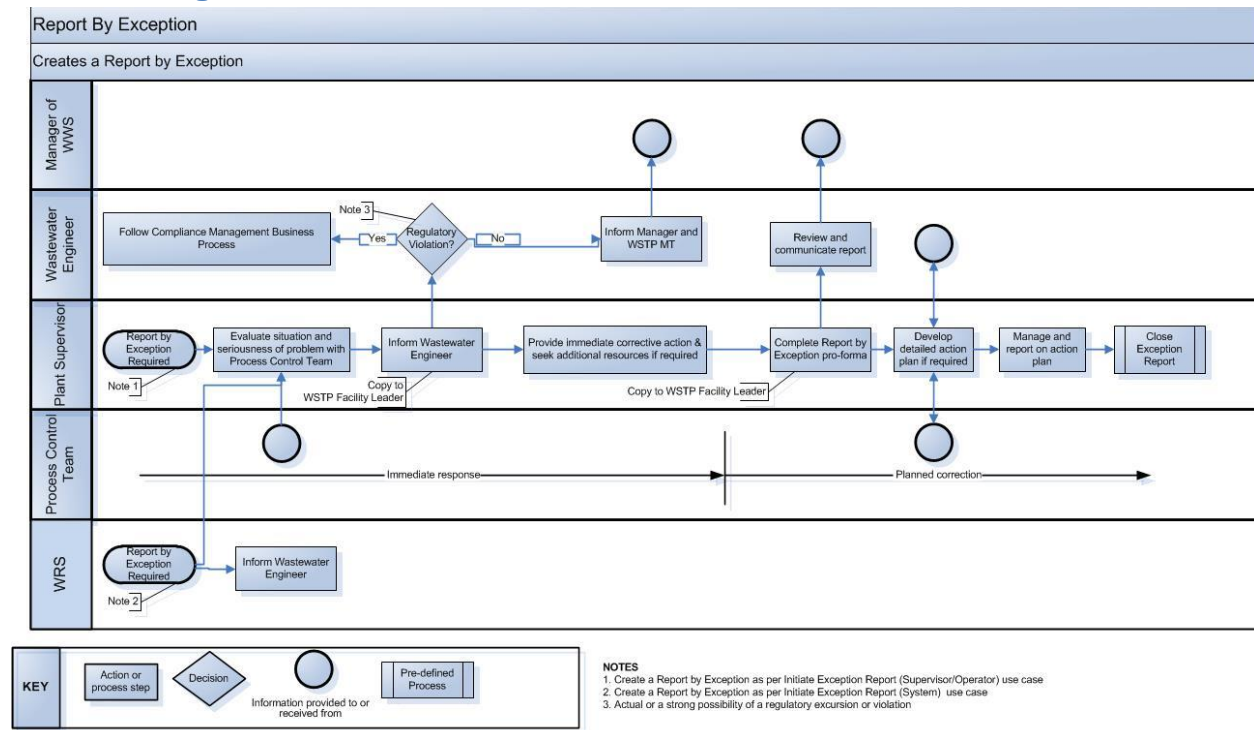
Use Cases

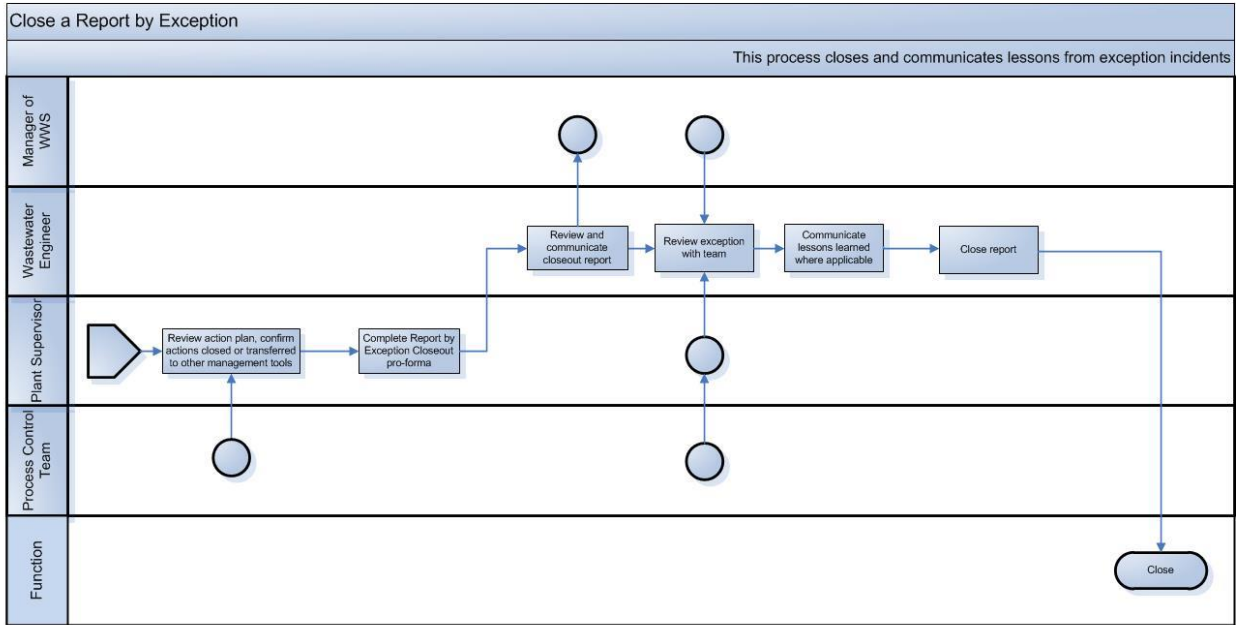
Title	Initiate Exception Report (System)
Description	If the system identifies an exception scenario, it should create an exception report and notify the Supervisor.
Trigger	<p>A Report by Exception is required when any of the following circumstances arise:</p> <ul style="list-style-type: none"> a) A key control parameter exceeds an alarm limit; b) A key control parameter exceeds a warning limit for two consecutive weeks*; c) A license excursion or violation occurs (triggering an alarm or warning limit); <p>Notes</p> <p>* The report by exception may be raised earlier than two weeks if considered necessary by the Plant Supervisor. The two weeks should be configurable.</p>
Action	Identify that an exception condition has occurred, as per the business rules. Raise exception by pre-populating a report template and notifying the Supervisor of the scenario.
Actor(s)	System, Supervisor

Title	Initiate Exception Report (Supervisor/Operator)
Description	If the Supervisor or Operator identifies an exception scenario, he should create an exception report.
Trigger	<p>A Report by Exception is required when any of the following circumstances arise:</p> <ul style="list-style-type: none"> a) Additional resources are required; b) A major process unit is removed from service due to breakdown; c) For a major unit process, more than one (1) process units are removed from service at same time (regardless of break down or for regular maintenance),

	<p>which will potentially lead to licence non-compliance **;</p> <p>d) Any process review suggesting that there is a strong possibility for a permit or other regulatory violation; or</p> <p>e) Other reason, at Plant Supervisors discretion.</p> <p>** In addition, the following require a Report by Exception:</p> <ul style="list-style-type: none"> Whenever a bioreactor is removed from service at WEWPCC Whenever the Secondary Clarifier #3 is removed from service at SEWPCC
Action	Identify that an exception condition has occurred, as per the business rules or any other reason at the Supervisor's discretion. Raise exception by creating and populating an exception report.
Actor(s)	System, Supervisor, Operator

Swimlane Diagrams





Daily Log Keeping

Each facility must have at least one official, operator's logbook. This logbook should be regarded as a legal document, which may be reviewed by regulatory agencies and could even be brought into a court of law as evidence. No person shall remove an entry from a log book or other record-keeping mechanism. Missing logbooks or missing pages should be reported to the Plant Supervisor immediately.

The Manitoba Water and Wastewater Facility Operators Regulation sets out requirements for record keeping which are relevant for log keeping. The following requirements for log book keeping at the City of Winnipeg wastewater treatment facilities are required to be followed and satisfy the regulatory minimum requirement.

<http://www.gov.mb.ca/conservation/eal/certification/index.html>

- The Plant Supervisor is responsible for reviewing all entries made in the logbook as well as reading the previous shift's log entries
- Entries must be made throughout each shift as close to the event or completion of the task as practical, and the person making the log entry should be identified with their initials
- The Plant Supervisor is responsible for overseeing the log book policy and for ensuring that the proper information is being entered on a timely basis. Entries should be regularly reviewed to ensure they meet these requirements and do not contain inappropriate information.

Generally, logbook entries should consist only of **observable facts and occurrences**. Personal speculation may be appropriate in some situations but should be denoted as such (*for example - "I think this occurred because ..." or "it is possible that"*).

The entries on each shift should include the following as a minimum:

Beginning of Shift:

- Date and time of shift (if book is not pre-dated) and start-time of shift and brief note on relevant weather conditions;
- Operators on duty and their general area of assignment if applicable (for example - Jones Incinerator; Wallace, Secondary Treatment; etc.);
- Write down the names of the day and after hours OICs.

During shift:

- Equipment taken out of service/failures: List any significant equipment that was taken out of service during the shift, the time discovered and actions taken (for example - taken out of service {by whom}, repaired {by whom}, work order requested, work order number, etc.);
- Equipment back in service: Note any major equipment which has been out of service but which has now been repaired and returned to service;
- Alarms: Describe any important or un-cleared Alarm conditions and indicate any need for concern for following shifts;
- Non-routine tasks: Describe any significant non-routine tasks performed by operators and details of any departures from normal operating procedures during the shift and the time they occurred;

- Process Changes: Describe any significant process changes made during the shift including time and reason for change (for example - equipment placed in service or taken out of service, tanks drained or put in service, valve changes, set-points changed, etc.);
- Noteworthy conditions: Describe any unusual, abnormal or otherwise noteworthy condition which occurred during the shift not addressed above, any action that was taken and any conclusions drawn from the observations; (for example - "extremely heavy rain, snow, ice", "Smith went home at 7:50 p.m.", "power failure at 9:15 a.m.", grit tank overflowed from 10:00 p.m. - 10:45 p.m.", etc.);
- Any special instructions that were given during the shift to depart from normal operating procedures and the name of the person who gave the instructions.

Electronic logbooks can be used in place of the hardbound logbook provided the files are secure and backed-up frequently. Electronic logbooks must include the aforementioned information and observations. Electronic logbooks must meet all federal, state, and local regulatory agency recordkeeping requirements.

Log books and other operational records are to be accessible in the facility for at least two years after the last entry.