Water Services Authority
Taumata Arowai

Consultation on tranche two of the Wastewater Environmental Performance Standards

Discussion document



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Key terms used in this document

This section explains some of the technical terms used in this document. Where a term has a proposed meaning for consultation, the detailed proposed meaning is provided in the relevant proposal section.

Term	Plain English meaning
Bioaccumulation	When a substance, such as a metal, builds up in living things over time. For example, metals may build up in shellfish or other aquatic life.
Biosolids	Treated sludge from wastewater treatment. Biosolids may be reused where they meet relevant requirements.
Centrate	Liquid separated from sludge during wastewater treatment. It is often returned to the treatment process.
Discharge	The release of treated wastewater, air emissions, or other material from a wastewater treatment plant into the environment.
Dilution	The mixing of treated wastewater with water in the receiving environment. More dilution can reduce the concentration of contaminants.
End-of-pipe monitoring	Monitoring treated wastewater at the point it leaves the wastewater treatment plant before it mixes with the receiving environment.
Food webs	The feeding relationships between species in an ecological community. It represents the transfer of material and energy from one species to another within an ecosystem.
Information monitoring	Routine monitoring of metals in treated wastewater to collect information and build an evidence base. The results are not used as direct compliance limits but may help inform future review or investigation if elevated levels are found.
Leachate	Liquid that drains from waste, such as landfill material, and may contain contaminants.
Numerical limit	A set number that a discharge must meet, such as a maximum concentration of a contaminant in treated wastewater.
Odour improvement plan	A plan to investigate and fix ongoing or significant odour issues from a wastewater treatment plant.
Odour management plan	A document that explains how a wastewater treatment plant will manage, monitor, and respond to odour.
Receiving environment	The river, lake, estuary, coastal water, land, or air that receives a discharge.
Sensitive activity	A term used to apply the proposed odour risk classification. See section 4.2, Table Two for the proposed meaning for consultation.
Sludge	The thick solid or semi-solid material left behind during wastewater treatment.
Stormwater inflow	The entry of stormwater into a wastewater network. Stormwater inflow can introduce contaminants accumulated on urban surfaces, including metals from roads, roofs, industrial areas, and other catchment sources.
Suitably qualified and experienced person	A qualified and experienced independent professional who provides specialist information to support the proposed review requirements. The relevant review requirements are described in section 4.2.
Surveillance monitoring	Targeted monitoring of relevant metals where the discharge or receiving environment may present higher risk. Results may be used to identify whether further investigation, review, or stronger controls are needed, but are not direct compliance limits unless numerical limits apply.

Term	Plain English meaning
Surrogate indicator	A related measure that can help show whether metals may be present or whether further monitoring may be needed. For example, higher suspended solids concentrations may indicate that some metals may also be present.
Tankered waste	Wastewater or other liquid waste transported by truck to a wastewater treatment plant.
Territorial authority	A city or district council responsible for local services and infrastructure. In this document, territorial authorities may own or be responsible for wastewater treatment plants, either directly or through water service delivery arrangements.
Trade waste	Wastewater from businesses or industrial activities. It can include substances that are not usually found in household wastewater.
Wastewater treatment plant	A facility that treats wastewater before it is discharged, reused, or otherwise managed.

1. Executive summary

The Water Services Authority – Taumata Arowai (the Authority) is consulting on a second tranche of wastewater environmental performance standards (wastewater standards). There are two proposed wastewater standards, the first covering odour from discharges to air, and the second covering the presence of metals in discharges of treated wastewater from wastewater treatment plants.

Wastewater standards would be implemented through resource consents for wastewater treatment plants. Where a wastewater standard applies, consenting authorities would need to set consent conditions that are consistent with the requirements of that standard. Matters not covered by a wastewater standard would continue to be considered through current Resource Management Act 1991 processes.

The proposed wastewater standard for discharge to air would set nationally consistent requirements for managing odour, scaled to the risk profile of each wastewater treatment plant. Lower-risk plants would have basic planning, complaints, and reporting requirements; while higher-risk plants would be required to carry out a more detailed assessment, review, and improvement planning.

The proposed wastewater standard for the discharge of metals in treated wastewater to a water receiving environment (discharge of metals to water) would use a nationally consistent, risk-based approach to decide what monitoring or controls are needed. Lower-risk plants would generally rely on related measures and information monitoring, while stronger controls, including numerical limits, would be targeted to higher-risk discharges and more sensitive receiving environments.

Together, the proposals aim to complement existing wastewater standards to reduce duplication and uncertainty in consenting, improve transparency, and make requirements clearer and more proportionate for councils, wastewater operators, and communities. We are seeking submissions to gather feedback on the proposals outlined in this document to inform the development of fit-for-purpose regulatory standards.

How to make a submission

We welcome feedback on the proposed standards and how they could be implemented. You may answer any or all questions in this document or comment on any other relevant matter. A full list of engagement questions has been provided in **Appendix C**. Please support your views with evidence, examples, or references where possible.

Consultation will be open for six weeks from 10 September 2026 and closes at 5:00pm on 22 October 2026.

Submit your feedback by:

- upload your Word document or PDF directly to the Citizen Space portal via our Online Survey, or
- post to Level 2, Brandon Street, PO Box 628, Wellington 6140.

Please include your name or organisation details. Consultation information is available on the Authority's website. If you have any questions about this engagement or providing a submission contact stormwater_wastewater@taumataarowai.govt.nz

2. Overview of the proposals

The Authority, on behalf of the Minister of Local Government, is consulting on a second tranche of wastewater environmental performance standards under section 138 of the Water Services Act 2021.

A – What is the rationale for change?	The first tranche of wastewater standards established nationally consistent requirements for core wastewater discharges and reporting matters. This second tranche focuses on two matters not covered in the first tranche: discharges to air, particularly odour, and discharge of metals to water. These matters are currently managed through individual resource consents, which can result in different expectations across regions and consents. The proposed standards are intended to provide clearer national direction and reduce unnecessary duplication where common requirements can be set, while leaving site-specific matters to be considered through consent processes.
B – What does the second set of wastewater standards cover?	The proposed standards cover two areas: discharges to air from wastewater treatment plants, and discharge of metals to water from wastewater treatment plants. The discharge to air proposal focuses on odour management. The proposed standard for discharge of metals to water uses a risk-based approach to identify when indicators, surveillance monitoring, or numerical limits in the highest-risk situations may be needed.
C – How will territorial and consenting authorities use these standards?	Territorial authorities and water organisations would use the standards when applying for new or renewed resource consents for wastewater treatment plants. Where a wastewater standard applies, consenting authorities would need to set consent conditions that are consistent with the requirements of that standard. Matters not covered by a wastewater standard would continue to be considered through current Resource Management Act 1991 processes.
D – What are the expected benefits of the proposed standards?	The proposed standards are expected to support more consistent consenting, reduce unnecessary duplication, make expectations clearer for councils and communities, and better target technical requirements to risk. They are intended to provide a consistent national baseline while still recognising that the risk profile of each wastewater treatment plant and receiving environment can differ.
E – What was the process to develop these standards?	The proposals have been informed by submissions on the first set of wastewater standards, targeted engagement with the wastewater sector, review of current consent conditions, and technical advice commissioned by the Authority. The discharge of metals to water proposal reflects technical advice received by the Authority. Consultation feedback may result in changes before final decisions are made and regulations are drafted.

Implementing the standards in practice

Applying the standards through resource consents

Territorial authorities and water organisations are working through how the existing wastewater standards apply as they progress through investment decisions or applications for resource consents. Consenting authorities are considering consenting processes under the new arrangements, including how standards are implemented through consent conditions. The Authority is working with MCERT and regional councils to develop guidance that gives territorial authorities, water organisations, and consenting authorities more certainty about how the standards apply.

There are two optional consultation questions (16 and 17) that ask about additional opportunities to streamline resource consent applications for wastewater treatment plants and implementation issues with the existing wastewater standards.

3. Context

Wastewater treatment plants play an important role protecting public health and the environment by collecting and treating wastewater before it is discharged or reused. The Water Services Act 2021 (the Act) (section 138) enables the Authority to make wastewater standards. The Authority developed a first tranche of wastewater standards in 2025 that focused on treated wastewater discharges to water and land, beneficial reuse of biosolids, and monitoring of overflows. The Authority is now developing a second tranche of proposed standards to clarify and standardise other matters that commonly arise through consenting.

The Authority is empowered to develop additional wastewater standards where appropriate

The Local Government (Water Services) Act 2025 enables standards to be set through regulations made by Order in Council, on the advice of the responsible Minister. Standards may include (but are not limited to) requirements, limits, conditions, or prohibitions related to activities associated with wastewater networks, including:

- Discharges to land, air, or water,
- Biosolids and any other byproducts from wastewater,
- Energy use, and
- Waste that is introduced by a third party into a wastewater network (for example, trade waste).

The Local Government (Water Services) Act 2025 expands and clarifies how standards affect processes and decisions made under the Resource Management Act 1991. The Act also provides that wastewater standards may apply to activities associated with wastewater networks, as defined in the Act.

The Government is progressing broader reform of the resource management system. Any consequential changes needed to align the wastewater standards with the new resource management framework will be considered after the National Environment Bill has been enacted, as part of a broader review of secondary legislation to support integration with the new regime.

In line with the first tranche of wastewater standards, the proposals in this discussion document are focused on wastewater treatment plants. The standards do not apply to privately owned networks, septic tanks, or onsite wastewater systems. This includes onsite systems with primary, secondary or disinfection treatment, such as systems serving campground ablution blocks or public toilets. In these situations, wastewater is generally generated from one or more buildings within a single land area or site.

This consultation focuses on two proposed wastewater standards: discharges to air from wastewater treatment plants, and discharge of metals to water from wastewater treatment plants.

The Authority upholds obligations under the Treaty of Waitangi in the delivery of its functions

The Authority has obligations under the Water Services Authority—Taumata Arowai Act 2020 in relation to the Treaty of Waitangi, including to engage with Māori and understand the perspectives of Māori. The Authority also has specific, legislated obligations to iwi and hapū in the Whanganui, Whangaehu, Waikato and Waipā river catchments under relevant Treaty Settlement Acts. These obligations apply when we exercise all of our functions, powers, and duties under the Water Services Act 2021, including in our system leadership and national oversight role for wastewater.

The Authority is proposing a national approach for discharge to air and discharge of metals to water

The Authority has focused this second set of proposals on areas where standardisation is likely to reduce duplication and uncertainty in consenting, while still supporting environmental protection.

The first proposed standard covers odour, a by-product of some wastewater collection and treatment processes. Odour can arise from wastewater becoming septic, inlet works, primary treatment, sludge handling, biosolids processing, and treatment plant upset conditions. Most of the time, odour can be managed through good design, operation, maintenance, and timely response to complaints. However, where odour is persistent or significant, it can affect people's enjoyment of their homes, recreation areas, and community spaces. The proposed standard for discharge to air outlined in this document is intended to provide a nationally consistent baseline for managing odour while still recognising that risk varies by site.

Secondly, a standard for discharge of metals to water has been developed to manage the long-term impact of metals on receiving environments through a risk-based approach. Metals in wastewater are different from nutrients and microbiological contaminants. Their potential effects depend on the type of metal, its concentration, the form it is in, the dilution available in the receiving environment, and whether it can accumulate in sediment or shellfish. Risks associated with metals in treated wastewater are increased where a wastewater treatment plant receives significant non-domestic inputs, such as trade waste, tankered waste, landfill leachate, or where metals are used in treatment processes. The proposals are designed to be proportionate and avoid unnecessary monitoring or numerical limit requirements for lower-risk plants, while giving consenting authorities, plant operators, and communities clearer expectations for higher-risk plants.

The proposed standards are intended to address these recurring consenting matters in a way that is nationally consistent, proportionate to risk, and clear about what should continue to be managed through site-specific consent processes. The proposals draw on common resource consent conditions, current practice, the first set of wastewater standards, and technical feasibility testing across a range of wastewater treatment plants.

Tranche 2 wastewater standards have been informed by expert advice, consultation, and analysis

The proposed standards have been developed following feedback on the first set of wastewater standards, targeted engagement with wastewater treatment plant operators,

consenting authorities and technical experts, and technical advice commissioned by the Authority from wastewater experts. During consultation on the first tranche of standards, several submitters supported further national standardisation for activities not covered in that first set, including discharges to air and additional contaminants such as metals.

The technical advice received supports a management-based framework for odour rather than numerical odour limits, and a risk-based framework for metals that recognises the limited national information currently available. Feedback received through consultation will be considered before final decisions are made, and may result in changes to the proposed thresholds, triggers, monitoring requirements, control levels, or numerical limits before regulations are drafted.

We'd like to hear from you - The Authority is seeking feedback on whether the proposed requirements are practical, proportionate, and clear enough to be implemented through future resource consents. You'll find questions after each proposal, and a full list of questions is provided in **Appendix C**.

4. Wastewater environmental performance standard for discharge to air

Proposal on-a-page: discharge to air

A – What is the rationale for change?	Discharges to air from wastewater treatment plants are currently managed through a mix of consent conditions and regional plan rules. Requirements commonly address odour, complaints, odour control equipment, and management plans, but they vary between regions and consents. A national standard would provide clearer and more consistent expectations for managing odour from wastewater treatment plants.
B – What does the proposed standard cover?	The proposed standard would focus on odour from wastewater treatment plants. It would classify plants by odour risk and require documented management, monitoring and response processes that are proportionate to that risk. Dust from dried biosolids handling is not part of the proposed discharge to air standard. Feedback is sought on whether dust effects associated with wastewater treatment plant processes should be addressed through the minimum performance requirements.
C – How would territorial and consenting authorities use the standard?	Territorial authorities and water organisations would use the standard when applying for new or renewed resource consents. Consenting authorities would implement the standard through consent conditions, use it to assess whether proposed odour controls are proportionate to the risk at each site, and require an odour improvement plan where an existing odour nuisance is identified.
D – What are the expected benefits?	The proposed standard would support more consistent consent conditions, reduce uncertainty and disputes about odour management, make expectations clearer for communities and plant operators, and encourage good design, operation, and maintenance. Higher-risk plants would be subject to stronger controls, while lower-risk plants would avoid unnecessarily stringent requirements. Where an odour nuisance is identified, the standard would provide for a structured improvement process.
E – What was the process to develop the proposal?	The proposal has been informed by feedback on the first set of wastewater standards, review of current consent conditions, targeted engagement, and technical advice on a management-based framework for odour. Feasibility testing across a range of wastewater treatment plants has helped test whether the proposed odour risk classification, control levels, sensitive activity definition, improvement plan process, and thresholds are practical.

4.1 Why this standard is proposed

Odour is the main air discharge issue addressed by the proposed standard

Other air-related matters are addressed through existing regulatory mechanisms. Greenhouse gas emissions are regulated through other national frameworks, including the Resource Management (National Environmental Standards for Greenhouse Gas Emissions from Industrial Process Heat) Regulations 2023. Risks associated with aerosols and spray drift are considered through the discharge to land standard, including requirements for risk management and operations and maintenance plans

The proposed discharge to air standard is focused on odour from municipal wastewater treatment plants. Activities and matters that would be excluded from the proposed standard are listed in **Appendix A**.

Odour from wastewater treatment plants can affect people's use and enjoyment of places and become a significant issue during consenting for wastewater treatment infrastructure. Research conducted both internationally and in New Zealand correlates odour pollution from wastewater treatment plants (such as hydrogen sulphide and ammonia) with community complaints and reported symptoms such as nausea, headaches, and eye/throat irritation.[1]

1 Wastewater Treatment Plants as a Source of Malodorous Substances Hazardous to Health, Including a Case Study from Poland; PHCC. (2025). More than just a bad smell: Odour pollution and health in Aotearoa New Zealand | PHCC

Managing the discharge of odours has been the subject of significant effort through local level mitigation strategies and national level guidance.[2] However, current requirements vary across regional plans and individual consents, which can lead to uneven odour management and uncertainty regarding whether (or what) controls are necessary such as biofilters and buffer zones.

Information gaps make it difficult to fully understand odour issues from wastewater treatment plants at a national level. The Authority is seeking more information from submitters about where odour issues arise, how significant they are, how they are managed, and the level of support for nationally consistent requirements.

The proposed standard would address this by setting a consistent framework for managing odour. It would set minimum expectations for all wastewater treatment plants and require stronger controls where odour risk is higher, or an existing odour nuisance has been identified. This is intended to improve consistency while avoiding unnecessary requirements for lower-risk plants.

Current position: Based on feedback, analysis and technical advice, the Authority has prioritised setting a national standard for discharge to air as part of the second tranche of wastewater standards.

We'd like your feedback

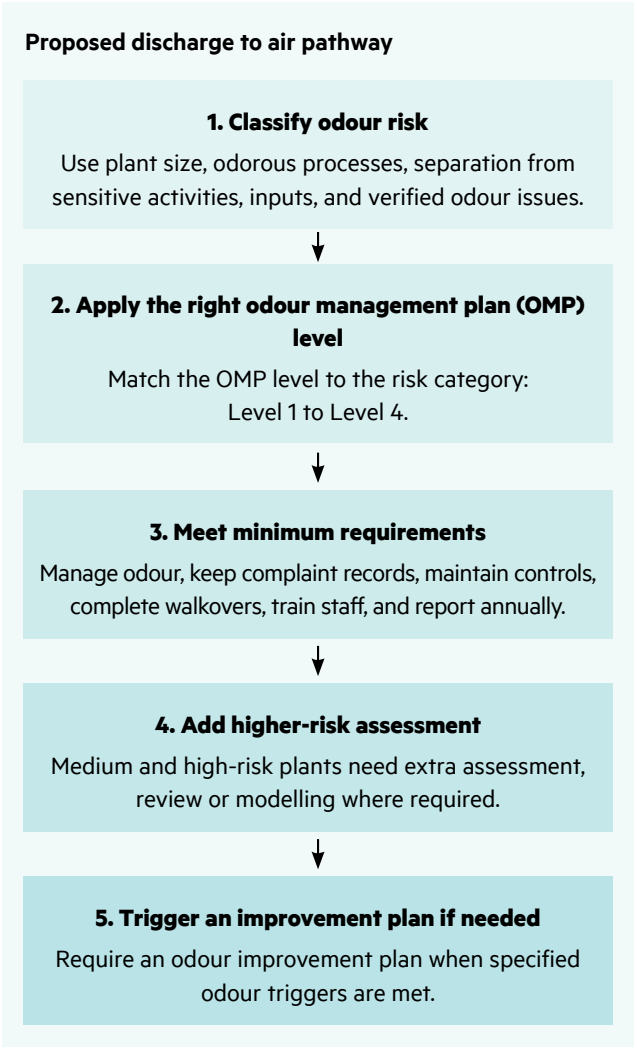
Question 1: Do you agree that a national standard should be developed for discharges to air from wastewater treatment plants focusing on odour management?

4.2 How the proposed discharge to air standard would work

The Authority has developed a framework for managing odour

The Authority has developed a proposed pathway that is intended to make odour requirements proportionate to risk. All plants would be required to meet minimum requirements, but higher-risk plants would need more detailed planning, review, and reporting. The pathway is outlined below in Figure 1 and explained in further detail in the following sections.

Figure 1: Proposed odour management framework.



How the standard would apply

The proposed discharge to air standard would apply through resource consent conditions for wastewater treatment plants. The sections below follow the pathway in Figure One: first classify the plant's odour risk, then apply the relevant odour management plan level, meet the minimum performance requirements, use extra assessment and review where risk is higher, and trigger an odour improvement plan if needed.

2 See for example, wastewater_odour_management_manual.pdf; CWTP-Odour-mitigation-plan-Feb-2026-FINAL.pdf

1. Classify the plant's odour risk

A risk classification is intended to set out the level of effort required as part of the odour management plan (OMP) to make the level of odour planning, monitoring and review proportionate to risk. The odour risk classification outlined in Table 1 below is based on the unmitigated odour potential of the wastewater treatment plant and the separation distance between odorous processes and sensitive activities.

For this classification, treatment capacity would be based on the projected maximum monthly average population equivalent at the end of the 35-year consent period. A separate suitably qualified and experienced person (SQEP) review of treatment capacity is not proposed.

Table 1, overview of odour risk classification thresholds.

Risk category	Proposed trigger	Proposed result
Very low risk	New or existing wastewater treatment plants serving less than or equal to 100 population equivalent and with no history of verified odour complaints.	OMP Level 1 applies.
Low risk	New or existing wastewater treatment plants serving less than or equal to 100 population equivalent with verified existing odour issues.	OMP Level 2 applies.
Low risk	New or existing wastewater treatment plants serving more than 100 and up to 500 population equivalent.	OMP Level 2 applies.
Low risk	New or existing wastewater treatment plants serving 501 to 1,000 population equivalent, with no sensitive activities within 150 metres of odorous processes, and receiving domestic and service trade wastes only, or only a small amount of industrial waste.	OMP Level 2 applies.
Medium risk	All new or existing wastewater treatment plants that are not classified as very low, low, or high risk.	OMP Level 3 applies.
High risk	New wastewater treatment plants serving more than 15,000 population equivalent, with sensitive activities within 200 metres of odorous processes.	OMP Level 4 applies.
High risk	New or existing wastewater treatment plants serving more than 30,000 population equivalent, with sensitive activities within 300 metres of odorous processes.	OMP Level 4 applies.
High risk	New or existing wastewater treatment plants serving more than 50,000 and up to 100,000 population equivalent, with sensitive activities within 400 metres of odorous processes, and with uncovered preliminary treatment, uncovered primary treatment, thermal drying, anaerobic digestion, composting, solar drying, sludge pyrolysis, or similar sludge or biosolids processing.	OMP Level 4 applies.
High risk	New or existing wastewater treatment plants serving more than 100,000 population equivalent, with sensitive activities within 500 metres of odorous processes.	OMP Level 4 applies.
High risk	New or existing wastewater treatment plants serving more than 400,000 population equivalent.	OMP Level 4 applies.

There are proposed definitions for applying the odour risk classification

Table 2 sets out definitions for key terms are used to apply the proposed odour risk classification. The proposed definition of sensitive activity is a key issue for consultation, including how existing, consented, planned, or future sensitive activities should be treated.

Table 2, key definitions for odour risk classification.

Term	Proposed meaning for consultation
Sensitive activity	A legally established or consented activity that may be sensitive to odour. This includes dwellings, residential zoned areas, care centres, hospitals, health facilities, education facilities, marae, built community facilities including sports clubrooms and stadiums, areas of high cultural value as defined in district plans, and visitor accommodation. Activities in industrial zoned areas would not be treated as sensitive activities for the purpose of classifying odour risk. Properties that have provided written approval, or equivalent, would also be excluded. Outdoor recreational areas such as open sports fields, reserves and golf courses, commercial areas, and curtilage such as roads, sheds and gardens would not be sensitive activities for this classification.
Odorous processes	Parts of the wastewater treatment plant that are likely to generate odour. This includes preliminary treatment, primary treatment, secondary treatment including aeration, facultative ponds and bioreactors, sludge and biosolids handling, management and processing, odour control units, septage receival, and onsite storage, conveyance and pumping of untreated wastewater, sludge, biosolids, and associated material such as screenings and centrate.
Non-odorous processes	Parts of the site that generally generate little or no odour and would not be used to measure separation distance for the odour risk classification. This includes tertiary treatment excluding advanced biological processes, storage of treated wastewater before discharge, auxiliary buildings such as workshops and control rooms, and chemical storage.
High-risk odorous processes	Uncovered preliminary treatment, uncovered primary treatment, thermal drying, anaerobic digestion, composting, solar drying, and sludge pyrolysis. These processes are used only for the specific high-risk odour classification triggers in the proposed framework.
Population equivalent	A way of estimating the scale of a wastewater treatment plant by reference to the organic biodegradable load it is expected to treat. For this proposal, one population equivalent is based on an organic load of 85 grams per person per day.
Treatment capacity	The maximum monthly average population equivalent serviced by the wastewater treatment plant projected to occur at the end of the 35-year consent period.

2. Apply the odour management plan level

Odour management plans would need to be practical for operators and staff to use during both normal and abnormal operating conditions. The proposed discharge to air standard would not prescribe one odour control technology for every plant. Instead, it would require operators to identify and implement controls that are appropriate for the site and proportionate to its risk as part of an odour management plan. Table 3 summarises the different levels for odour management plans based on a plant's risk classification.

Table 3, overview of different levels for odour management plans.

Plan level	Plants covered	Proposed content
Level 1 odour management plan	Very low-risk plants	A simple plan that identifies key personnel, site location, nearby sensitive activities, main processes, odour sources, basic mitigation measures, inspection and maintenance procedures, complaints process, staff training, review requirements, and annual reporting. Requirements would be proportionate to very small plants. The OMP would be reviewed at least every five years, and annual reporting would focus on complaints received.
Level 2 odour management plan	Low-risk plants	All Level 1 matters, with additional detail where needed on odour sources, mitigation methods, inspection and maintenance procedures, odour monitoring, complaint response, staff training, review, and annual reporting. The OMP would be reviewed at least every five years, and annual reporting would focus on complaints received.
Level 3 odour management plan	Medium-risk plants	All Level 2 matters, plus more detailed odour mitigation methods, operational performance criteria and how they will be monitored, contingency procedures for plant malfunctions, submission to the consenting authority for certification or approval, and a best practicable option report for new plants and significant upgrades. The OMP would be reviewed at least every two years, and annual reporting would include complaints received and actions taken to resolve odour complaints.
Level 4 odour management plan	High-risk plants	All Level 3 matters, plus an odour risk assessment (ORA) to inform the OMP, independent SQEP review of the OMP and ORA, submission to the consenting authority for certification or approval, and modelling where required to support proposed controls. Best practicable option requirements would apply to new plants and significant upgrades, and where an odour improvement plan is triggered. The OMP would be reviewed at least annually, and annual reporting would include complaints, actions taken, and compliance with the OMP.

3. Meet the minimum performance requirements

Regardless of the risk level classification or odour management plan level, every plant would be required to meet minimum requirements. These minimum requirements are outlined in Table 4 below.

Table 4, minimum requirements for odour management for wastewater treatment plants

Requirement area	Minimum requirement	Evidence or records
Odour effects	Beyond the boundary of the site, there must be no odour caused by discharges from the site that, in the opinion of an enforcement officer, is noxious, offensive, or objectionable.	Complaints, investigations, regulator findings, and follow-up actions
Odour management plan	The operator must prepare an OMP that reflects the odour risk classification for the site.	Current OMP, version history and review records
Operate in accordance with the plan	The operator must operate and undertake activities at the site in accordance with the OMP at all times.	Evidence that procedures in the OMP are being followed
Complaints register	The operator must keep an odour complaints register, including the location where odour was detected, date and time, wind speed, and direction where available, likely cause, and corrective action taken. Records would be kept for at least 10 years and summarised in annual reporting.	Complaints register and corrective action records
Odour control equipment	Odour control equipment must be operational, functioning correctly, and maintained through an inspection and maintenance programme.	Maintenance records, outage records, and corrective action records
Fugitive emissions	Buildings, covers, ducting, odour control units, and related equipment must be maintained in good condition and, as far as practicable, free from leaks to minimise unintended odour releases.	Inspection, maintenance, and repair records
Site walkovers	Walkover inspections must be carried out at the frequency set in the OMP to identify odours that may be originating from the site. Any odour potentially detectable off-site must be investigated and remedial action taken as soon as practicable where needed.	Walkover records and follow-up actions
Staff training	Staff with duties related to the management, operation, maintenance or repair of odour-critical processes and plant must be appropriately trained and competent, with training records kept.	Training records
Annual reporting	The operator would provide annual reporting to the consenting authority. For very low and low-risk plants, annual reporting would focus on complaints received. For medium-risk plants, annual reporting would include complaints received and actions taken to resolve odour complaints. For high-risk plants, annual reporting would also include compliance with the OMP, monitoring required by the OMP, progress on any odour improvement plan (OIP), any infringement or abatement notices, any non-compliance with minimum performance requirements, and any change in odour risk classification.	Annual environmental report

4. Use extra assessment and review where risk is higher

Medium and high-risk plants would have additional requirements to make sure odour controls are proportionate and robust. Table 5 outlines these additional requirements.

Table 5, additional management requirements that apply to medium and high-risk plants.

Requirement	Very low risk	Low risk	Medium risk	High risk
OMP level	Level 1	Level 2	Level 3	**Level 4**
SQEP review of OMP	No	No	No	**Yes**
Best practicable option for new plants and significant upgrades	No	No	Yes	**Yes**
Odour risk assessment	No	No	No	**Yes**
SQEP review of odour risk assessment	No	No	No	**Yes**
Modelling to support proposed mitigation	No	No	New plants and significant upgrades above 20,000 population equivalent	New plants and significant upgrades
Annual reporting	Yes	Yes	Yes	**Yes**

What the additional requirements mean

The additional requirements in Table Five provide more assurance where odour risk is higher, or where a new plant or significant upgrade is proposed:

- The SQEP review of OMP would check whether the odour management plan or odour risk assessment is appropriate and proportionate
- The best practicable option assessment would consider reasonably available design, operational and mitigation options, and identify the best overall way to prevent or minimise odour effects.
- The odour risk assessment would assess likely odour sources, pathways, sensitive activities, and proposed controls.

When odour dispersion modelling would be required

Odour dispersion modelling would not be a performance standard or pass/fail test. It would be used as supporting evidence to show whether proposed mitigation is appropriate. Modelling would be required for new or significantly upgraded medium-risk plants above 20,000 population equivalent, and for all new or significantly upgraded high-risk plants.

5. Trigger an odour improvement plan if needed

Odour improvement plans would be designed to provide a structured pathway for resolving odour issues without prescribing the same technical solution for every wastewater treatment plant. Table 6 outlines the proposed process for triggering and completing an improvement plan.

The odour improvement plan is intended to provide a clear, timely and consistent mechanism for addressing odour issues when the proposed triggers are met.

Table 6, process for triggering and completing an odour improvement plan

Step	What happens
1. Trigger	An odour improvement plan would be required if any of the following triggers are met: • an abatement notice has been issued; • the consenting authority determines, taking into account frequency, intensity, duration, offensiveness, and location (FIDOL) factors, that community amenity is being significantly affected by the wastewater treatment plant; • three or more complaints verified by a consenting authority officer are received within a 90-day period; • eight or more complaints verified by a consenting authority officer are received within any 12-month period; or • one of these triggers has occurred in the 12 months before a consent is granted. Complaints associated with planned maintenance of limited duration, short-duration unscheduled maintenance, or one-off or infrequent unverified complaints would not by themselves trigger an odour improvement plan.
2. Initial investigation	The operator would complete an initial investigation into the source and cause of the odour issue and provide the findings to the consenting authority within a specified timeframe.
3. Plan development	The operator would assess options for additional mitigation, identify the preferred response, demonstrate that the response represents the best practicable option, and propose implementation timeframes.
4. Independent review	For medium and high-risk plants, the odour improvement plan would be reviewed by a suitably qualified and experienced person before being submitted to the consenting authority.
5. Implementation and confirmation	The operator would implement the approved plan, report any delays, confirm when the measures have been implemented, and update the odour management plan.

4.3 Implement through consents and review if the plant changes

For a new or renewed resource consent, the applicant would need to identify the proposed odour risk classification, provide the information used to support that classification, and propose the odour management plan level that applies. The consenting authority would then implement the relevant requirements through consent conditions.

A plant's odour risk classification may need review during the consent period if changes to treatment capacity, processes, or odorous process locations affect separation distances to sensitive activities. The classification would be set when consent is granted, based on existing and consented sensitive activities. New sensitive activities would only be considered later if they were permitted under the district plan rules, or equivalent planning instrument, operative when consent was granted. Changes needed because of plant changes would be implemented before those changes become operational. Changes needed because of new sensitive activities would be implemented within 12 months, or another timeframe agreed with the consenting authority.

4.4 Worked examples

Three worked examples have been provided in Table 7 below to illustrate how the pathways for the discharge to air standard would apply. These examples show how the standards would apply based on the risk classification for each wastewater treatment plant.

Table 7, worked examples of how the discharge to air standard would apply to wastewater treatment plants of various sizes and risk profiles.

Example	Risk classification	Requirements that would likely apply
A small oxidation pond system serving a small community, with good separation from nearby sensitive activities and no significant industrial inputs.	**Low risk**	Minimum performance requirements, Level 2 odour management plan, complaints register, walkover inspections, and annual reporting.
A treatment plant that does not meet the low-risk or high-risk triggers, is located close to dwellings, and has odorous processes that can be managed through standard operational controls.	**Medium risk**	Minimum performance requirements, Level 3 odour management plan, consenting authority certification or approval, best practicable option assessment for new plants or significant upgrades, OMP review at least every two years, and annual reporting on complaints and actions taken.
A treatment plant that meets one of the high-risk odour classification triggers, such as a large plant close to sensitive activities or a plant with specified high-risk odorous processes close to sensitive activities. If an existing odour nuisance is occurring, an odour improvement plan would be triggered, but that nuisance would not by itself determine the odour risk classification.	**High risk, where the high-risk triggers are met. An existing odour nuisance would trigger an odour improvement plan but would not by itself determine the odour risk classification.**	Minimum performance requirements, Level 4 odour management plan, odour risk assessment, independent review, modelling where required, best practicable option assessment for new plants or significant upgrades, OMP review at least annually, annual reporting on complaints, actions taken and OMP compliance, and an odour improvement plan if odour nuisance is occurring. For medium and high-risk plants, the odour improvement plan would be reviewed by a suitably qualified and experienced person.

Current position: The Authority has developed a proposed pathway for classifying and applying a proportionate risk-based approach to manage odour.

We'd like your feedback

Question 2: Do you agree with using the proposed management-based framework for odour?

Question 3: Do you agree with the proposed odour risk categories, thresholds, and definitions?

Question 4: Do you agree with the proposed odour management plan levels and requirements?

Question 5: Do you agree with the proposed minimum performance requirements for all treatment plants?

Question 6: Do you agree with the proposed odour improvement plan triggers and the review requirement?

Question 7: Is there anything important missing from the proposed discharge to air standard to support effective odour management at wastewater treatment plants?

Question 8: Do you agree with the focus on odour for the proposed discharge to air standard, or are there other aspects of discharge to air that should be considered, for example dust generated by treatment processes?

5. Wastewater environmental performance standard for discharge of metals to water

Proposal on-a-page: discharge of metals to water

A – What is the rationale for change?	Consent requirements for metals in wastewater discharges are inconsistent. Most wastewater treatment plant consents do not include conditions relating to metals in treated wastewater and, where they do, conditions often require monitoring only rather than enforceable limits. Available information suggests the effects of metals in the environment are not widespread, but the current state is not well understood nationally because the evidence base is limited. A standard for discharge of metals to water would improve consistency, target monitoring, and controls to higher-risk situations, and help build a better national picture of metals in treated wastewater over time.
B – What does the proposed standard cover?	The proposed standard would apply to discharges of treated wastewater to freshwater and marine receiving environments. It would cover metals of concern, including aluminium, arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc and, in some cases, iron. The proposed standard would not apply to discharges of treated wastewater to land, which would continue to be managed through existing consent processes and any relevant wastewater standards.
C – How would territorial and consenting authorities use the standard?	Territorial authorities and water organisations would use the standard to identify the level of monitoring or control needed when applying for new or renewed resource consents. Consenting authorities would implement the standard through consent conditions, using the risk framework to determine whether information monitoring, surveillance monitoring or compliance monitoring with numerical limits are required, and whether additional receiving environment monitoring is warranted.
D – What are the expected benefits?	The proposed standard would provide a clearer and more consistent approach to managing metals in wastewater discharges. The proposal avoids unnecessary routine metals compliance monitoring and numerical limits for lower-risk plants, focusing attention on higher-risk discharges and receiving environments. Monitoring collected under the proposed standard would strengthen the national understanding of metals in wastewater over time and would support transparency and public confidence in how risks associated with metals are managed.
E – What was the process to develop the proposal?	The proposal has been informed by feedback on the first set of wastewater standards, targeted engagement, review of current consent conditions and monitoring data, and technical advice on a risk-based framework. Feasibility testing considered discharge risk factors, receiving environment risk factors, possible surrogate indicators, monitoring requirements, numerical limits, treatment feasibility, and options for implementation. The final proposal is to consult on a risk-based approach with proposed numerical limits only where both discharge risk and receiving environment risk are high, while continuing to build the evidence base.

5.1 Why this standard is proposed

Managing metals in wastewater supports the long-term health of receiving environments

Metals can enter wastewater treatment plants from domestic wastewater, trade waste, industrial discharges, tankered waste, landfill leachate, stormwater inflow, and treatment processes. International and domestic research shows that metals can affect aquatic life through toxicity, accumulate in sediment, or bioaccumulate in food webs, depending on the metal, its concentration, the receiving environment, and site-specific conditions.

The national picture for metals in wastewater discharges is incomplete. Current consent requirements and monitoring practices vary, and available information does not indicate that metals effects are widespread for many plants. Risk is also not evenly distributed. Routine numerical metals limits may therefore be unnecessary for lower-risk plants, while more information or stronger controls may be needed where there are higher-risk discharges or sensitive receiving environments.

The proposed standard would use a risk-based framework rather than applying numerical limits to all wastewater treatment plants. This will enable monitoring and controls to be applied where there is a greater risk of adverse effects, while avoiding unnecessary regulatory burden on lower-risk plants. It would also help strengthen the national evidence base of metals in wastewater over time.

Current position: Based on feedback, analysis and technical advice, the Authority has prioritised setting a wastewater environmental performance standard for discharge of metals to water as part of the second tranche of wastewater standards.

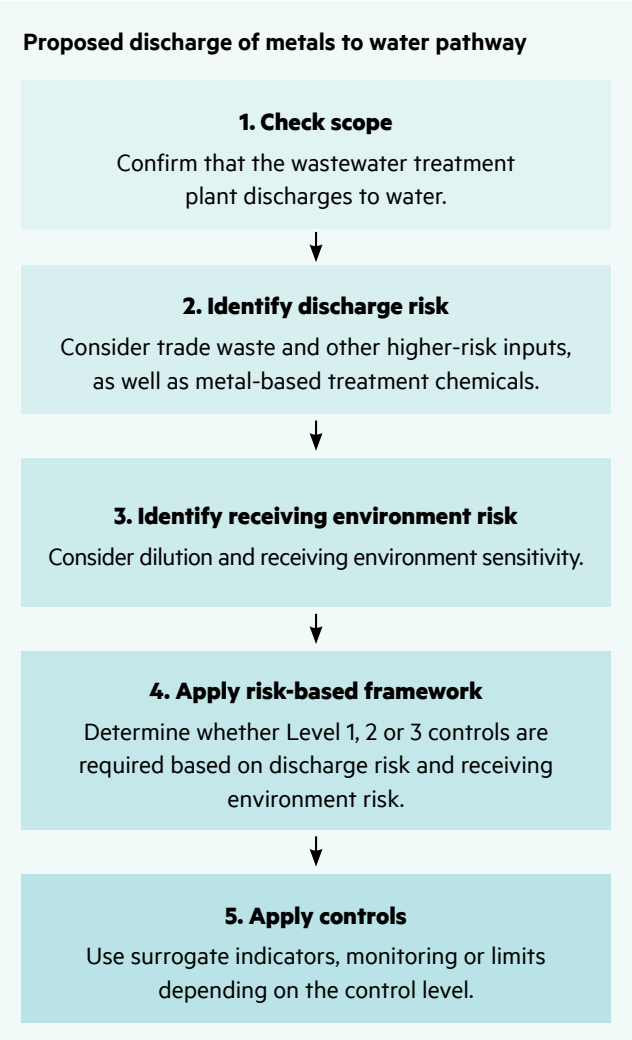
We'd like your feedback

Question 9: Do you agree that a national standard should be developed for discharge of metals in treated wastewater to water receiving environments?

5.2 How the proposed metals to water standard would work

The proposed pathway outlined below in Figure 2 is intended to avoid unnecessary compliance monitoring and numerical limits for metals in lower-risk discharges, while requiring surveillance monitoring or stronger controls where the discharge and receiving environment indicate higher risk.

Figure 2: Proposed discharge of metals to water management framework



How the standard would apply

The proposed discharge of metals to water standard would apply through resource consent conditions for discharges of treated wastewater to water from wastewater treatment plants. It would use the pathway above to determine the level of monitoring or control required, based on both the risk from the discharge and the sensitivity of the receiving environment.

1: Check scope

The proposed discharge of metals to water standard would apply only to discharges of treated wastewater to water from wastewater treatment plants. It would not apply to other discharge types, onsite wastewater systems, or matters outside the scope of the proposed wastewater environmental performance standards.

The proposed standard does not apply to discharges of treated wastewater to land. Those discharges are addressed through the first tranche of wastewater standards and existing resource consent processes because they involve different environmental pathways and controls, including soil conditions, groundwater, land application rates, and how contaminants move through soil and vegetation.

2: Identify discharge risk

The proposed standard for the discharge of metals to water would be subject to a risk assessment based on the expected inputs to the wastewater treatment plant. A simple risk framework is proposed based on whether each component is "high" or "other than high."

The risk assessment focuses on the types of inputs received by a plant, rather than plant size alone. This reflects that smaller plants can still receive higher-risk inputs such as trade waste, tankered waste or landfill leachate, while some larger plants may have lower metals risk depending on their inputs and treatment processes. Further information on the proposed triggers for managing discharge of metals to water is outlined further below in Table 8.

Table 8, proposed triggers for the discharge of metals to water standard.

Discharge risk	Proposed trigger	Reason
Other than high	The plant receives mainly domestic wastewater and service trade waste, does not receive conditional trade waste, significant trade waste, tankered waste or landfill leachate that may contain metals, does not use aluminium or iron-based chemicals in water or wastewater treatment in a way that may affect the discharge, and does not receive significant stormwater loads through combined sewers or engineered stormwater connections to the wastewater network.	These plants are less likely to have elevated metals loads and should generally be managed through surrogate indicators and information monitoring, rather than numerical limits.
High	The plant receives conditional trade waste, significant trade waste, tankered waste or landfill leachate that may contain metals; uses aluminium or iron-based chemicals in water or wastewater treatment, phosphorus removal or odour control in a way that may affect the discharge; or receives significant stormwater loads through combined sewers or engineered stormwater connections to the wastewater network.	These inputs or treatment practices may increase metals concentrations or loads in the discharge and justify targeted monitoring or stronger controls.

3: Identify receiving environment risk

Receiving environment is another important factor used in the proposed standard to determine the level of effort required to manage the discharge of metals to water. Table 9 below outlines the different classifications and proposed triggers based on receiving environment characteristics.

While lake receiving environments are not proposed as an automatic high-risk trigger, proposed lake limits are included in **Appendix B** for situations where Level 3 controls apply.

Table 9, proposed triggers for the discharge of metals to water standard based on receiving environment.

Receiving environment risk	Proposed trigger	Reason
Other than high	Discharge to open ocean, high-energy coastal water, low-energy coastal water, lakes, or freshwater with moderate to high dilution.	These settings are not proposed as automatic high-risk triggers, although monitoring or limits may still apply depending on the combined discharge and receiving environment risk.
High	Discharge to low or very low dilution freshwater, currently proposed as a dilution ratio below 50, or to an estuary.	These environments may be more sensitive to metals because dilution is lower or because metals may accumulate in sediment.
Naturally elevated metals	Receiving environments with naturally elevated metals because of geology or background conditions.	Naturally elevated metals should be considered for the specific metal affected. This should not automatically exclude a discharge from control, because some ecosystems may already be close to stress thresholds. A site-specific assessment may still be needed through resource consent processes.

4: Assign control level and 5: apply controls

The requirements of the standards are outlined below in Table 10 based on the risk profile determinations in 1 and 2 of the pathway (Figure 2). Three classifications have been developed that apply proportionate requirements for plants based on risk profile.

Table 10, proposed controls and management requirements for metals.

Discharge risk	Receiving environment risk	Proposed control level	What this would require
Other than high	**Other than high**	**Level 1**	Use total suspended solids and total phosphorus, where relevant, as surrogate indicators. Information monitoring of treated wastewater would apply. Numerical metals limits would not apply.
Other than high	**High**	**Level 2**	Use total suspended solids and total phosphorus, where relevant, as surrogate indicators, plus surveillance monitoring for relevant metals. Monitoring results would generally be reviewed within 10 years, or earlier if the monitoring data indicates elevated risk or adverse environmental effects. Numerical values may be used as investigation triggers rather than direct compliance limits.
High	**Other than high**	**Level 2**	Use total suspended solids and total phosphorus, where relevant, as surrogate indicators, plus surveillance monitoring for relevant metals associated with the high-risk input or treatment process. Monitoring results would generally be reviewed within 10 years, or earlier if the monitoring data indicates elevated risk or adverse environmental effects. Numerical values may be used as investigation triggers rather than direct compliance limits.
High	**High**	**Level 3**	Numerical limits and end-of-pipe compliance monitoring would apply for relevant metals. Receiving water and/or sediment monitoring may also be required by consenting authorities through consent conditions. Guideline values for receiving water and sediment would be used as review triggers rather than direct end-of-pipe compliance limits.

How control levels affect monitoring

The proposed control levels determine what type of monitoring would apply. In general, requirements increase with risk: lower-risk scenarios rely on surrogate indicators and information monitoring, while higher-risk scenarios may require surveillance monitoring, investigation triggers, or numerical limits.

Table 11 provides more detail on the proposed monitoring suite.

Table 11, suite of monitoring proposals for discharge of metals to water.

Requirement	Proposal for consultation
Metals suite	The proposed suite for numerical limits is aluminium, arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc. Iron is also proposed to be included in the monitoring suite where relevant, particularly where iron-based treatment chemicals are used, but no national numerical limit is currently proposed for iron. Other metals may also be included where they are identified through the risk assessment.
Surrogate indicators	Surrogate indicators are related monitoring measures that can help show whether metals may be present or whether further monitoring may be needed. Total suspended solids would be used as the main surrogate for particulate-bound metals. Total phosphorus may also be relevant where phosphorus removal requirements are linked to solids removal or metal-based dosing. Where aluminium or iron-based chemicals are used for phosphorus removal or odour control, monitoring may be needed because effects can depend on pH, dilution, and site-specific chemistry.
Sampling frequency	Information monitoring is proposed to be quarterly. Surveillance and compliance monitoring would be proportionate to plant size: quarterly for small plants, monthly for medium plants, and fortnightly for large plants. These frequencies are intended to balance the need for better information with the cost of additional monitoring.
Review point	Monitoring results would generally be reviewed within 10 years. The review would assess whether controls remain proportionate and whether monitoring should be reduced, increased, or converted into numerical limits. Earlier review or intervention would still be possible where monitoring indicates elevated risk or adverse environmental effects. The numerical limits in the standard are also expected to be reviewed at five-to-ten-year intervals as more data and updated toxicology information become available.
Receiving environment monitoring	Receiving water and/or sediment monitoring may be required by consenting authorities through consent conditions, where relevant to the receiving environment and proposed control level.

5.3 When numerical limits would apply

Numerical metals limits would apply only where both discharge risk and receiving environment risk are high, for example, where higher-risk inputs or treatment processes combine with a more sensitive receiving environment, such as low-dilution freshwater or an estuary.

The limits would apply to dissolved metals because these are generally more bioavailable and more relevant to toxicity. Particulate-bound metals would continue to be managed through total suspended solids controls, and total phosphorus controls may also help where higher levels of treatment are required.

The proposed limits cover aluminium, arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc, and would apply as an annual 90th percentile for medium and large plants and an annual 75th percentile for small plants. The limits are based on expected dilution in the receiving environment, rather than fixed background concentrations. This provides a simpler national approach that aligns with the first set of wastewater standards.

Copper and zinc limits for low and very low dilution freshwater and lakes have been moderated because the strictest derived values may be difficult or costly to achieve with existing treatment technology. In marine receiving environments, copper and zinc limits are based on full dilution, while other metals use near-field dilution.

Where elevated metals are found, source control, trade waste controls and investigation of upstream contributors are expected to be the first response before treatment plant upgrades are considered.

We welcome feedback about achievability of the proposals across all metals and environments, and particularly copper, zinc, chromium and potentially cadmium in low-dilution freshwater and lake settings.

The table below provides a high-level summary of the proposed numerical metals limits. The full proposed values and further context on their derivation are set out in **Appendix B**.

Table 12, high-level summary of proposed numerical metals limits

Receiving environment	What numerical limits would apply
Freshwater and lakes	Proposed dissolved metals limits for aluminium, arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc.
Marine receiving environments	Proposed dissolved metals limits for aluminium, arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc. In marine receiving environments, copper and zinc limits are based on full dilution, while other metals use near-field dilution.

5.4 Implementation through resource consents

For a new or renewed resource consent, the applicant would need to identify the discharge risk category, receiving environment risk category, proposed control level, metals, or surrogate indicators to be monitored, monitoring frequency, and any proposed review points. The consenting authority would implement the relevant requirements through consent conditions.

Where new trade waste, landfill leachate, tankered waste, significant stormwater inputs or metal-based treatment chemicals are introduced during the consent period, the risk classification may need to be reviewed. A change in risk classification may affect whether the plant remains at Level 1 or moves to Level 2 or Level 3 controls.

The proposed framework is intended to support national consistency while still allowing councils to respond to site-specific evidence. In particular, the 10-year review for Level 2 monitoring does not prevent earlier action if monitoring shows elevated risk or adverse environmental effects.

5.5 Worked examples

Four worked examples have been provided in Table 13 below to illustrate how the pathways for the discharge of metals to water would apply. These examples show how the standards would apply based on the risk profile of each wastewater treatment plant.

Table 13, worked examples for the application of the discharge of metals to water standards.

Example	Likely risk profile	Likely requirements
A plant receiving mostly domestic wastewater, with no significant trade waste, no landfill leachate and discharge to a well-diluted receiving environment.	Lower discharge risk and lower receiving environment risk.	Use total suspended solids and total phosphorus, where relevant, as surrogate indicators. Information monitoring of treated wastewater would apply, but numerical metals limits and compliance monitoring would not apply.
A plant receiving significant trade waste or tankered waste but discharging to an open ocean or high-energy coastal receiving environment.	Higher discharge risk but lower receiving environment risk.	Surveillance monitoring for metals associated with the trade waste or tankered waste, with review of results over time. Numerical values may be used as investigation triggers rather than immediate compliance limits.
A plant using aluminium or iron-based treatment chemicals and discharging to a low-dilution freshwater environment.	Higher discharge risk and higher receiving environment risk.	Targeted monitoring for aluminium, iron where relevant, and other relevant metals would apply. Because both discharge risk and receiving environment risk are high, Level 3 controls would apply, including numerical limits and end-of-pipe compliance monitoring for the relevant metals.
A plant receiving significant industrial inputs and discharging to an estuary or depositional environment where site-specific information indicates a plausible accumulation pathway.	Higher discharge risk and higher receiving environment risk.	Because both discharge risk and receiving environment risk are high, Level 3 controls would apply, including numerical limits and end-of-pipe compliance monitoring. Receiving water and/or sediment monitoring may also be required by the consenting authority, with guideline values used as review triggers if monitoring indicates accumulation or increasing concentrations.

Current position: The Authority has developed a proposed pathway for classifying and applying a proportionate, risk-based approach to manage the discharge of metals to water.

We'd like your feedback

Question 10: Do you agree with using the proposed risk-based framework for metals?

Question 11: Do you agree with the proposed discharge risk triggers and receiving environment risk factors?

Question 12: Do you agree with the proposed metals control levels?

Question 13: Do you agree with the monitoring proposals for discharge of metals to water?

Question 14: Do you agree with the proposed numerical limits and when they would apply?

Question 15: Is there anything important missing from the proposed discharge of metals to water standard, or areas that need further testing before final decisions are made?

6. Next steps after consultation

Feedback from consultation will be vital to determine next steps

The draft proposals outlined in this document are intended to provide a foundation for iterative improvements and refinement. The Authority is focused on ensuring that any proposals that are progressed are responding to a well-defined problem, and that the most appropriate option is being taken forward.

Evidence provided during submissions will help to identify the scale of the issues, evaluate the case for change, and help to understand appropriate mechanisms for assessing risk and implementing solutions for odour and metals. After consultation closes, the Authority will review submissions and identify any further testing needed to refine the proposed standards. The proposals are likely to change before final decisions are made.

A final proposal will be developed for the Minister of Local Government's consideration. If agreed, the wastewater standards will be set through regulations made by Order in Council. The regulations are currently expected to come into force in July 2027, subject to Ministerial and Cabinet decisions.

For further information regarding these proposals, please contact wastewater_stormwater@taumataarowai.govt.nz

Appendix A: Activities and matters excluded from the proposed discharge to air standard

The proposed discharge to air standard is focused on odour from municipal wastewater treatment plants. It would not apply to the activities or matters listed below.

Table A1, excluded activities from the proposed discharge to air standard.

Excluded activity or matter	How it would be managed instead
Sewer networks	Discharges to air from sewer networks, including pump stations and pipelines, would not be covered by this proposed standard.
Industrial and non-municipal wastewater treatment plants	Discharges to air from industrial and non-municipal wastewater treatment plants would continue to be managed through existing regulatory and consent processes.
Disposal of biosolids or treated wastewater	Discharges to air from the disposal of biosolids or treated wastewater to land, and from the disposal of treated wastewater to water, would not be covered by this proposed standard.
Combustion-related contaminants	Combustion-related contaminants from auxiliary sources, including generators, thermal dryers, combined heat and power units, incinerators, and biogas flares, would continue to be managed through existing regulatory mechanisms and consent processes.
Greenhouse gases	Discharges to air of greenhouse gases would not be covered by this proposed standard.
Unplanned emergency releases	Discharges to air from unplanned emergency release scenarios would not be covered by this proposed standard.
Dust from biosolids handling	Discharge of dust, or particulate matter, from biosolids handling would not be covered by this proposed standard. Feedback is sought separately on whether dust effects should be addressed through the minimum performance requirements.
Health-related air contaminants	Discharges of volatile organic compounds, ammonia, hydrogen sulphide, and bioaerosols from a health effects perspective would not be covered by this proposed standard.

Appendix B: Proposed numerical limits for metals

This appendix sets out the full proposed numerical limits for metals. The limits are adapted from technical advice and would apply only where Level 3 controls are required — where both discharge risk and receiving environment risk are high.

The limits apply to dissolved metals and would be assessed as an annual 90th percentile for medium and large wastewater treatment plants, and an annual 75th percentile for small wastewater treatment plants.

The values are based on expected dilution in the receiving environment. Copper and zinc values for low and very low dilution freshwater and lakes have been moderated because the strictest derived values may be difficult or costly to achieve with existing treatment technology. Marine arsenic limits are proposed as shown in Table B2.

Table B1, proposed numerical limits for freshwater and lakes.

Receiving environment category	Aluminium	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Freshwater – high dilution	6.875	1.625	0.015	0.125	0.0588	0.25	0.075	1.375	0.5125
Freshwater – moderate dilution	1.375	0.325	0.003	0.025	0.0118	0.05	0.015	0.275	0.1025
Freshwater – low dilution	0.275	0.065	0.0006	0.005	0.0118	0.01	0.003	0.055	0.1025
Freshwater – very low dilution	0.1375	0.0325	0.0003	0.0025	0.0118	0.005	0.0015	0.0275	0.1025
Lakes	1.1	0.26	0.003	0.02	0.0118	0.05	0.012	0.22	0.1025

Table B2, proposed numerical limits for marine receiving environments.

Receiving environment category	Aluminium	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Estuaries and harbours	0.740	–	0.035	0.0880	0.03	0.0880	0.0080	0.1180	0.4
Low-energy coastal	0.740	–	0.07	0.0880	0.06	0.0880	0.0080	0.1180	0.8
High-energy coastal	0.740	–	0.1100	0.0880	0.12	0.0880	0.0080	0.1180	1.6
Open ocean	3.700	–	0.5500	0.4400	0.6	0.4400	0.0400	0.5900	8

Note on units and marine arsenic

All values are in mg/L and apply to dissolved metals. A dash (–) in Table B2 indicates that no numerical limit is proposed for arsenic in marine receiving environments. This is because there is not enough reliable information to set a national limit for arsenic in marine water at this time. The proposed limits would be tested through consultation and may change before final decisions are made.

Appendix C: Full list of consultation questions

Full set of questions – discharge to air	Have I shared my thoughts on this?
Question 1: Do you agree that a national standard should be developed for discharges to air from wastewater treatment plants focusing on odour management?	
Question 2: Do you agree with using the proposed management-based framework for odour?	
Question 3: Do you agree with the proposed odour risk categories, thresholds, and definitions?	
Question 4: Do you agree with the proposed odour management plan levels and requirements?	
Question 5: Do you agree with the proposed minimum performance requirements for all treatment plants?	
Question 6: Do you agree with the proposed odour improvement plan triggers and the review requirement?	
Question 7: Is there anything important missing from the proposed discharge to air standard to support effective odour management at wastewater treatment plants?	
Question 8: Do you agree with the focus on odour for the proposed discharge to air standard, or are there other aspects of discharge to air that should be considered, for example dust generated by treatment processes?	

Full set of questions – discharge of metals to water	Have I shared my thoughts on this?
Question 9: Do you agree that a national standard should be developed for discharge of metals in treated wastewater to water receiving environments?	
Question 10: Do you agree with using the proposed risk-based framework for metals?	
Question 11: Do you agree with the proposed discharge risk triggers and receiving environment risk factors?	
Question 12: Do you agree with the proposed metals control levels?	
Question 13: Do you agree with the monitoring proposals for discharge of metals to water?	
Question 14: Do you agree with the proposed numerical limits and when they would apply?	
Question 15: Is there anything important missing from the proposed discharge of metals to water standard, or areas that need further testing before final decisions are made?	

Full set of questions – implementation	Have I shared my thoughts on this?
Question 16: Are there any barriers for you to implement wastewater standards or additional opportunities to streamline resource consent applications for wastewater treatment plants?	
Question 17: Are there any technical matters in the existing wastewater standards that could affect implementation of the two proposed standards for odour and metals discharged to water?	