

EXPLANATORY STATEMENT

National Environment Protection Council Act 1994

National Environment Protection (Ambient Air Quality) Measure Variation Instrument 2021

Variation to the National Environment Protection (Ambient Air Quality) Measure

Issued by the National Environment Protection Council

Legislative provisions

The *National Environment Protection Council Act 1994* (NEPC Act) and complementary state and territory legislation establishes the National Environment Protection Council (NEPC). One of the functions of the NEPC is to make national environment protection measures (NEPMs).

Paragraph 14(1)(a) of the NEPC Act provides, , that the NEPC may, by instrument in writing, make a measure, to be known as a national environment protection measure that relates to ambient air quality.

Subsection 20(1) of the NEPC Act provides that the NEPC may vary or revoke a national environment protection measure.

The National Environment Protection (Ambient Air Quality) Measure Variation Instrument 2021 (Variation) is a legislative instrument for the purposes of the *Legislation Act 2003* and is made in accordance with subsection 33(3) of the *Acts Interpretation Act 1901*

The Variation will commence on the day after it is registered on the Federal Register of Legislation.

Purpose

The Variation will amend the AAQ NEPM.

The purpose of the Variation is to update the AAQ NEPM to ensure that it reflects the latest scientific understanding and will allow for an adequate level of health protection against the impacts of sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and photochemical oxidants (as ozone) (O₃) for the Australian community.

The AAQ NEPM was reviewed and a report was published by the National Environment Protection Council in 2011. The Variation will respond to a number of recommendations in the review report including to:

- Revise the desired environmental outcome and goal of the AAQ NEPM.
- Review the standards for SO₂, NO₂ and O₃ to take into account recent health evidence.
- Introduce an 8-hour standard for O₃.
- Introduce an exposure-reduction framework and targets for priority pollutants.
- Remove allowable exceedances from Schedule 2 and introduce an exceptional events rule.
- Amend the AAQ NEPM protocol (part 4) to incorporate an exceptional events rule, including definition of these events and criteria for assessment and reporting.

The Variation addresses a key action of the *National Clean Air Agreement*, established by Australia's Environment Ministers on 15 December 2015 (environment.gov.au/protection/air-quality/national-clean-air-agreement): to review the AAQ NEPM for SO₂, NO₂ and O₃ with a view to strengthening the standards.

Background

The AAQ NEPM provides a national framework for the monitoring and reporting of ambient air quality in Australia.

It sets a nationally consistent approach for ambient air quality monitoring (in locations that represent the air quality likely to be experienced by the general population) and reporting, supporting the formulation of air quality management policies.

AAQ NEPM standards are set to protect health and should align with the prevailing health evidence but must also consider factors such as the ability of jurisdictions to achieve the standards and the availability and efficiency of abatement measures to lower concentrations. However, for many of the pollutants there is no identified threshold below which adverse health effects are not observed. This means there will be health benefits in continuing to pursue concentrations below the standards.

The standards in the AAQ NEPM are not intended to be applied as an environmental standard by jurisdictional environmental regulators without consideration of regulatory impacts. Section 7 of the NEPC Act allows jurisdictions to implement the AAQ NEPM by such laws and other arrangements as are necessary. Jurisdictions are not precluded from adopting more stringent or complementary standards or goals for their own policy or regulatory purposes. In doing this, jurisdictions may utilise a risk-based approach in determining environmental standards appropriate for their own circumstances or conditions, along with improvement strategies for regulated and non-regulated sources and exposure reduction strategies. Standard regulatory processes, including public consultation and consideration of costs and benefits, are undertaken prior to the adoption of any government regulation to improve air quality at the jurisdiction or national level.

The AAQ NEPM does not directly regulate the activities of individuals or businesses, but sets a framework for jurisdictional action and reporting on air quality.

Operation

The Variation will significantly amend the following sections of the AAQ NEPM: 2, 5, 6, 8, 14, 17, 18 and Schedule 2.

Minor changes are made to the following sections: Introductory Note, 3, 12, 13, 16 and Schedule 3

The O₃, NO₂ and SO₂ standards are updated to reflect the latest scientific understanding and allow for an adequate level of health protection for the Australian community by:

1. **Amending** the SO₂ 1 hour average standard to 0.10 parts per million (ppm)
2. **Including** an SO₂ 1 hour average 2025 standard of 0.075 ppm
3. **Amending** the SO₂ 1 day average standard to 0.02 ppm

4. **Removing** the SO₂ 1 year average standard
5. **Amending** the NO₂ 1 hour average standard to 0.08 ppm
6. **Amending** the NO₂ 1 year average standard to 0.015 ppm
7. **Including** a photochemical oxidants (as ozone) rolling 8 hour average standard of 0.065 ppm with a form of no allowable exceedances
8. **Removing** the photochemical oxidants (as ozone) 1 hour average and 4 hour average standards
9. **Extending** the nationally consistent approach for reporting population exposure from PM_{2.5} to include NO₂ and photochemical oxidants (as ozone)
10. **Removing** the ‘1-exceedance day’ for the NO₂ 1 hour average, SO₂ 1 hour average and SO₂ 1 day average standards
11. **Extending** the existing ‘exceptional event’ rule (defined as certain types of fire or dust occurrences) to photochemical oxidants (as ozone) for the rolling 8 hour average standard.

The NEPC also recommends that a further review of the SO₂, NO₂ and O₃ standards, commencing in 2025, is included in the *National Clean Air Agreement*.

Updates have also occurred to respond to recommendations from the AAQ NEPM Review (published in 2011) and to update air monitoring references including:

- **Amending** the desired environmental outcome to ‘minimise the risk of adverse health impacts from exposure to air pollution’.
- **Amending** the national environment protection goal including the addition of the 2025 SO₂ 1 hour average standard.
- **Amending** the determination of the number of performance monitoring stations, and **including** supporting definitions, to require the number of performance monitoring stations to be primarily determined based on the potential population at risk.
- **Removing** the ‘1-exceedance day’ for the carbon monoxide 8 hour average standard for consistency with the other standards (which means there will be no maximum allowable exceedances for any of the standards).
- **Updating** the references to the current Australian Standard methods for pollutant monitoring and siting of monitoring equipment in subsection 13(1) and Schedule 3 and adding an additional standard method for PM₁₀ monitoring into Schedule 3.
- **Removing** unnecessary definitions and **making** minor editorial changes.

Consultation

On 18 January 2019 the NEPC gave notice of the intent to make a variation to the AAQ NEPM in relation to the standards for O₃, NO₂ and SO₂.

In accordance with sections 18 and 20 of the NEPC Act, a notice, together with the draft variation and an Impact Statement were published on the Commonwealth NEPC website (www.nepc.gov.au/nepms/ambient-air-quality/proposed-variation/consultation-2019) seeking public

comments on 23 May 2019. The public consultation period was 11 weeks closing on 7 August 2019. It was supported by a series of stakeholder information sessions and a webinar. Over 18,100 submissions were received, including approximately 450 unique submissions. All non-confidential submissions were published on the website in early 2020.

Public consultation shows a very substantial level of community interest in air quality; expectations of continued improvement in air quality; and expectations of national and state based actions to reduce emissions and reduce exposure to air pollution.

A Summary of Submissions received has been prepared to enable the NEPC to make a statutory decision to vary the AAQ NEPM O₃, NO₂ and SO₂ standards. In making a statutory decision to vary the AAQ NEPM, the NEPC must consider the Impact Statement, submissions received (Summary of Submissions) and any advice from the NEPC Committee or from a committee established under section 33 of the Act before making the Variation.

The Impact Statement, public submissions and the response to submissions can be obtained from the NEPC website. The Impact Statement, Summary of Submissions and response document required by subsection 21(2) of the NEPC Act are also included at Attachment C.

The Office of Best Practice Regulation advised there was no need for a separate Regulation Impact Statement process to be undertaken for this proposal to vary the O₃, NO₂ and SO₂ standards.

AAQ NEPM details

A description of sections in the AAQ NEPM affected by the Variation is provided in Attachment A. Numbered sections in that Attachment align with the sections and items of the Variation.

A Statement of Compatibility with Human Rights prepared in accordance with *the Human Rights (Parliamentary Scrutiny) Act 2011* is at Attachment B.

ATTACHMENT A

Details of the sections in the *National Environment Protection (Ambient Air Quality) Measure Variation Instrument 2021*

1. Name

Section 1 provides that the name of the Variation is the *National Environment Protection (Ambient Air Quality) Measure Variation Instrument 2021*

2. Commencement

Section 2 provides that the Variation would commence on the day after it is registered.

3. Authority

Section 3 provides that the Variation would be made in accordance with the following:

- (i) section 19 of the *National Environment Protection Council Act 1994* (ACT); and
- (ii) section 20 of the following acts:
 - (a) the *National Environment Protection Council Act 1994* (Cth);
 - (b) the *National Environment Protection Council (New South Wales) Act 1995* (NSW);
 - (c) the *National Environment Protection Council (Victoria) Act 1995* (Vic);
 - (d) the *National Environment Protection Council (Queensland) Act 1994* (Qld);
 - (e) the *National Environment Protection Council (Western Australia) Act 1996* (WA);
 - (f) the *National Environment Protection Council (South Australia) Act 1995* (SA);
 - (g) the *National Environment Protection Council (Tasmania) Act 1995* (Tas);
 - (h) the *National Environment Protection Council (Northern Territory) Act 1994* (NT).

4. Schedules

Section 4 provides that the Variation would, when made, amend the *National Environment Protection (Ambient Air Quality) Measure* in the manner set out in schedule 1.

Schedule 1—Amendments

[1] Introductory Note

Item [1] makes an editorial change by replacing the word “section” with “paragraph” in the Introductory Note. This change is made throughout the variation instrument.

[2] Sections 2 and 3

Item [2] repeals and replaces Sections 2 and 3. In particular the following changes are made:

Section 2. Definitions

Section 2 (1) (description of section)

Makes an editorial change to change the word ‘clause’ to ‘section’. This change is made throughout the variation instrument.

*Section 2 (3) (definitions of **Continuous direct mass measurement technique, TEOM**)*

Removes unnecessary definitions that are no longer required for ***Continuous direct mass measurement technique, TEOM***.

Section 2 (3) (definition of exceptional events)

Clarifies that the ***exceptional events*** definition applies to the 1 day average standard for particles as PM₁₀, the 1 day average standards for particles as PM_{2.5} and introduces its application to the 8 hour average standard for photochemical oxidants (as ozone).

Section 2 (3) (definition of manual gravimetric method)

Replaces the definition of ***manual gravimetric method*** with a definition for ***gravimetric method*** (same meaning) as the term ***manual gravimetric method*** was not used.

Section 2 (3) (definitions of high risk, population at risk and sensitive land use)

Introduces the terms ***high risk areas*** and ***population at risk*** for the purposes of Section 14 Number of performance monitoring stations.

The AAQ NEPM review (2011) found that the number of AAQ NEPM monitoring stations should be determined primarily on potential population risk rather than population size. Relevant participating jurisdictions may decide that additional AAQ NEPM monitoring stations may be needed in ***high risk areas*** and based on the ***population at risk***.

High risk areas are areas where there is a high likelihood for adverse health effects from air pollution and will be determined by jurisdictions. Areas included in high risk areas are described.

Population at risk is the population of a region or sub-region that is at risk of being harmed by air pollution, is determined by the relevant participating jurisdiction based on a number of factors, and has been developed to align with the Department of Health's Environmental Health Standing Committee (enHealth's) meaning of population risk

([www1.health.gov.au/internet/main/publishing.nsf/Content/A12B57E41EC9F326CA257BF0001F9E7D/\\$File/Environmental-health-Risk-Assessment.pdf](http://www1.health.gov.au/internet/main/publishing.nsf/Content/A12B57E41EC9F326CA257BF0001F9E7D/$File/Environmental-health-Risk-Assessment.pdf)). A large ***population at risk*** is one of the areas that may be described as a ***high risk area***.

Introduces the term ***sensitive land uses*** for the purposes of defining ***high risk area*** as part of section 14, Number of performance monitoring stations. ***Sensitive land uses*** includes land uses that are particularly sensitive to air pollution and include areas where specific groups more vulnerable to air pollution (such as pregnant women, children, people over 65 years of age, people with existing respiratory or cardiovascular diseases) spend their time. ***Sensitive land uses*** is one of the areas that may be described as a ***high risk area***.

Section 2 (3) (definition of Principal Measure)

Replaces the definition of ***Principal Measure*** with a definition for ***Measure*** (same meaning) as the term ***Principal Measure*** was not used – it means the *National Environment Protection (Ambient Air Quality) Measure* as in force from time to time. This is available from www.legislation.gov.au.

Section 2 (3) (definition of Reference Method)

Requires the ***Reference Method*** to be a validated monitoring method and removes the reference to Advisory Reporting Standards (which are no longer required).

Section 2 (3) (definition of sub-region)

Clarifies what factors are considered by relevant participating jurisdictions in determining a ***sub-region***.

Section 3 (Application)

Section 3 outlines the primary application of the measure to participating jurisdictions. The changes re-order the wording related to requirements on participating jurisdictions and the pollutants the AAQ NEPM applies to – for them to monitor, assess and report in accordance with the protocol.

[3] Parts 2, 3 and 4

Item [3] repeals and replaces Parts 2, 3 and 4. Part 2 sets out the goal of the measure, Part 3 sets the standards and Part 4 sets the protocol. Sections 7, 9, 10, 11 and 15 are unamended from their existing form. Section 7 is the purpose provision for Part 3, section 9 is the purpose provision for Part 4, section 10 deals with monitoring plans, section 11 deals with the methods for measuring and assessing concentration of pollutants and section 15 deals with trend stations.

In particular, the following changes are made:

Part 2 section 4 Purpose of Part

Makes editorial changes.

Part 2 section 5 Desired environmental outcome

Updates the ***Desired environmental outcome*** to acknowledge the health risks associated with air pollutant exposure and that implementation of the AAQ NEPM should aim to minimise these risks.

Part 2 section 6 National Environment Protection Goal

Section 6 sets the central goals of the measure. The ***goals*** are updated to include those commencing in 2025, how the standards should be assessed is moved to Section 8, and are clarified, with the addition of a note, that the 2025 ***goal*** for particles as PM_{2.5} provides a framework for continuous improvement and facilitates a review of the standard. The relevant standards for the goals are referenced in section 8 and detailed in Schedule 2.

Part 3 section 8 National environment protection standards

Clarifies the ***national environment protection standards*** are set out in the Table(s) in Schedule 2, that the standards should be assessed in accordance with the protocol in Part 4, and that the standard for an averaging period in the Schedule is the concentration specified in the table.

Part 4 section 12 Accreditation of performance monitoring

Makes an editorial change. Information about the National Association of Testing Authorities can be found at <https://www.nata.com.au/>.

Part 4 section 13 Location of performance monitoring stations

Makes an editorial change and updates the references to the current Australian Standard methods for pollutant monitoring and siting of monitoring equipment.

Changes the ‘should’ to ‘must’ for consistency with other sections, however some flexibility is maintained by ensuring the phrase ‘to the extent practicable’ is added where needed.

The Australian Standard referenced in section 13 can be obtained from Standards Australia Ltd (see <https://www.standards.org.au/>.) Under subsection 2(4), the reference is to the standard published and in force on 1 January 2021.

Part 4 section 14 Number of performance monitoring stations

Updates the method for determining the number of performance monitoring stations. The AAQ NEPM review (2011) found that the number of AAQ NEPM monitoring stations should be determined based primarily on potential population risk rather than population size. Under this approach, the number of performance monitoring stations must primarily be determined by the potential population at risk. Participating jurisdictions may decide that additional performance monitoring stations are required in high risk areas (see subsection (2)). This would be based on the prevalence of sensitive land uses (such as residential premises, childcare facilities) in the area, the occurrence of actual and potential adverse health effects from exposure to air pollution, or where there is relative disadvantage in the community. Participating jurisdictions will develop guidance to ensure a consistent approach to determine risk. Definitions related to this section (high risk areas, population at risk, sensitive land uses) have been included in Section 2. The population threshold is retained in subsection (4) but becomes a lower priority consideration.

Part 4 section 16 Monitoring methods

Clarifies that the Australian Standard Methods set out in Schedule 3 must be used as reference methods for monitoring the pollutants. There are allowances in subsections (2) and (3), where an Australian Standard has not been developed or when other monitoring methods can be used respectively.

Part 4 section 17 Evaluation of performance against standards and goals

Introduces a requirement for participating jurisdictions to evaluate and report population exposure to NO₂ and O₃ from June 2021, and makes editorial changes.

Part 4 section 18 Reporting

Extends exceptional event reporting to the O₃ 8 hour average due to the influence of bushfires on O₃ levels and makes editorial changes. Exceptional event reporting for NO₂ and SO₂ has not been included based on the absence of any association between bushfires and elevated levels for these pollutants. Other elements of the existing reporting obligations in section 18 are unchanged.

[4] Schedules 2 and 3

Item [4] repeals and replaces Schedules 2 and 3. In particular, the following changes are made:

Schedule 2, Table 1: Standards for Pollutants

The following is amended in Table 1 Column 3 (averaging periods) and Column 4 (maximum concentration standards) to reflect the latest scientific understanding and to allow for an adequate level of health protection against the impacts of SO₂, NO₂ and photochemical oxidants (O₃) for the Australian community

- **Amend** the *NO₂ 1 hour average standard* to 0.08 parts per million (ppm).
- **Amend** the *NO₂ 1 year average standard* to 0.015 ppm.
- **Include** a *photochemical oxidants (as ozone) rolling 8 hour average standard* of 0.065 ppm with a form of no maximum allowable exceedances.
- **Remove** the *photochemical oxidants (as ozone) 1 hour average and 4 hour average* standards given the 8 hour average standard should provide sufficient protection.
- **Amend** the *SO₂ 1 hour average standard* to 0.10 ppm.
- **Amend** the *SO₂ 1 day average standard* to 0.02 ppm.

- **Remove the *SO₂ 1 year average standard*** given the lack of strong evidence for long term health effects from exposure to SO₂.
- **Remove the ‘*1-exceedance day*’** for the *NO₂ 1 hour average, SO₂ 1 hour average and SO₂ 1 day average* standards.
- **Remove the ‘*1-exceedance day*’** for the *carbon monoxide 8 hour average* standard for consistency with the other standards (which means there will be no maximum allowable exceedances for any of the standards). The levels of carbon monoxide across Australia have been continuously low over the past decade and are likely to remain low for the foreseeable future (see www.soe.environment.gov.au/download/reports). Allowable exceedances have not been needed.

Schedule 2, Table 1A: Standards for SO₂ from 2025

Table 1A is inserted to provide an SO₂ 1 hour average 2025 standard of 0.075 ppm as part of a framework for continuous improvement. A review of this and the other SO₂, NO₂ and O₃ standards, commencing in 2025, is recommended for inclusion in the *National Clean Air Agreement*.

Schedule 2, Table 2: Goal for Particles as PM_{2.5} from 2025

Makes editorial changes.

Schedule 2, definitions below tables

The definitions relevant to the implementation and measurement of the standards are included at the end of the tables with the following changes from the existing definition:

- Removes references to 4 hour average.
- Removes references to column 5 of Table 1 as there are no longer any maximum allowable exceedances.
- Includes reference to Table 1A.

Schedule 3, Australian Standards Methods for Pollutant Monitoring

Updates the references to the current Australian Standard methods for pollutant monitoring in Schedule 3 and adds an additional standard method for PM₁₀ monitoring. The standards in the table can be obtained from Standards Australia Ltd (see <https://www.standards.org.au/>). Under subsection 2(4), the reference to the standards is to those published and in force on 1 January 2021.

Statement of Compatibility with Human Rights

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

National Environment Protection (Ambient Air Quality) Measure Variation Instrument 2021

This Legislative Instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the Legislative Instrument

This Legislative Instrument updates, the National Environment Protection (Ambient Air Quality) Measure (the principal instrument), following a statutory review of the principal instrument by the National Environment Protection Council (NEPC). The purpose of the Legislative Instrument to update the principal instrument to ensure that it reflects the latest scientific understanding and will allow for an adequate level of health protection against the impacts of sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and photochemical oxidants (as ozone) (O₃) for the Australian community. The legislative instrument updates a number of standards, amends the desired environmental outcome to ‘minimise the risk of adverse health impacts from exposure to air pollution’, changes requirements for performance monitoring stations and updates references to relevant Australian Standard methods for pollutant monitoring.

The principal instrument does not directly regulate the activities of individuals or businesses, but sets a framework for jurisdictional action and reporting on air quality.

Human rights implications

This Legislative Instrument engages the right to health, recognised by Article 12 of the International Covenant on Economic, Social and Cultural Rights as it collects and provides information and statistics on health-related issues through the collection and reporting of ambient air quality data. It furthers the right to live in conditions that promote a healthy life by allowing for an adequate level of health protection against the impacts of sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and photochemical oxidants (as ozone) (O₃) for the Australian community.

Conclusion

This Legislative Instrument is compatible with human rights as it supports the right to health and does not raise any other human rights issues.

National Environment Protection Council

ATTACHMENT C

[To include Impact Statement, Summary of Submissions and Response as are required to be tabled under s 21(2)]