

# Environmental guidelines: **Publication of monitoring data**

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DRAFT

## Submissions

The Environment Protection Authority invites written comments and submissions on these draft guidelines, including on:

- how to publish monitoring data in a practical way while achieving the objective of providing useful information to the public
- additional issues which need to be included
- additional methods and formats for presenting data.

Written submissions should be sent to:

Draft publication of monitoring data guidelines  
Continuous Improvement Unit  
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Sydney South NSW 1232

or emailed to [primp@environment.nsw.gov.au](mailto:primp@environment.nsw.gov.au)

by **Friday 24 February 2012**.

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This document should also be read in conjunction with current versions of the NSW environment protection legislation, including the *Protection of the Environment Operations Act 1997* and the Protection of the Environment Operations (General) Regulation 2009, as changes may have been made to that legislation affecting the information in this guide since publication.

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## About this document

These guidelines are designed to be used by holders of environment protection licences issued under the *Protection of the Environment Operations Act 1997* (POEO Act).

They set out the general requirements for the publication of pollution monitoring data in accordance with section 66(6) of the POEO Act and include guidance on how this should be done, both for licensees that maintain a website and those that do not.

They aim to provide guidance on how to present monitoring data in a meaningful way while also minimising the requirements for licensees to comply with this obligation.

There are a number of circumstances which are potentially complex, e.g. where the sample or data needs to be analysed by a laboratory or where monitoring is continuous. A number of options for presenting monitoring data have been included.

In the case of any inconsistency between these guidelines and the POEO Act, the latter prevails to the extent of the inconsistency.

The requirement to publish pollution monitoring data commences on 31 March 2012; however licensees have a three-month transitional period to comply with this requirement.

This document is available on the Office of Environment and Heritage website at [www.environment.nsw.gov.au/legislation/poelegisamend2011.htm](http://www.environment.nsw.gov.au/legislation/poelegisamend2011.htm).

Copies of NSW legislation are available at [www.legislation.nsw.gov.au](http://www.legislation.nsw.gov.au).

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# 1. Introduction

The purpose of these guidelines is to enable holders of an environment protection licence to comply with new requirements introduced by the *Protection of the Environment Legislation Amendment Act 2011* (POELA Act) for publishing or making pollution monitoring data available to the public.

These guidelines set out specific publication requirements to assist licensees to publicly report monitoring results in an appropriate manner and ensure published data is both easily accessed and understood by the public.

## 1.1 Background

The POELA Act introduces several changes to the *Protection of the Environment Operations Act 1997* (POEO Act) designed to improve the way pollution incidents are reported, managed and communicated to the general community. The Act also now includes a new requirement under section 66(6) of the POEO Act for holders of an environment protection licence ('licensees') to make their monitoring data publicly available in a timely manner. The intention of this new requirement is to improve the general public's access to information by making licensees' monitoring data more transparent and ensuring timeliness of the provision of information to the public. This is in addition to other information that the Environment Protection Authority (EPA) will be including on its public register.

## 2. Legislative requirements

The specific requirements for the publication of monitoring results are set out in section 66(6) of the POEO Act. In summary, this provision requires that:

- licensees who undertake monitoring as a result of a licence condition publish monitoring data that relates to pollution within 14 days of obtaining the data
- licensees who maintain a website make the monitoring data available in a prominent position on the website
- licensees who do not maintain a website provide a copy of the monitoring data to any person who requests a copy of the data at no charge
- the data must be published in accordance with requirements issued in writing by the EPA – these guidelines constitute such written requirements.

There is a penalty for not publishing the results of monitoring in accordance with section 66(6).

The legislation also includes a penalty for making available false or misleading results in accordance with section 66(7).

### 2.1 Obligations and transitional period for complying with requirements

The requirement to publish monitoring data commences on 31 March 2012. However, there is a transitional period for complying with this requirement which is set out in section 35 of the POEO Act. Essentially:

- there is no requirement to publish monitoring data obtained before 31 March 2012
- any monitoring data obtained from 31 March 2012 must be published; however licensees have until 1 July 2012 (i.e. three months from the commencement date of the provision) to comply.

### **3. General requirements for publishing monitoring data**

The following section sets out the general requirements to be followed when publishing pollution monitoring data. These requirements should ensure that the data published is publicly accessible and understood in context.

#### **3.1 Making the data publicly accessible**

This means that licensees must:

- make their monitoring data available in a prominent location on their website if they have one by including a clear link to monitoring data on their homepage, or
- for those without a website, provide hard copies of their data at no charge to members of the public who request it.

#### **3.2 What monitoring data needs to be published**

The monitoring data that needs to be published is any that is obtained as a result of a monitoring condition on a licence and that relates to air, water, noise and land pollution.

Monitoring conditions are generally set out in section 5 of an environment protection licence, 'Monitoring and Recording Conditions'; however they may also be set out under other sections of a licence. They generally specify a sampling or monitoring point, location or area for the measurement of a pollutant. The pollution monitoring data published by a licensee must be based on the sampling or monitoring points identified within the licence.

Data obtained as a result of all monitoring conditions that relate to pollution is required to be published. This will include, but is not limited to, the underlying data that forms the basis of the summary submitted annually to the EPA via the annual return.

The following sections set out when and how this data is to be published and what additional information should be included with the data to ensure it is given appropriate context.

#### **3.3 When the data needs to be published**

The data needs to be published within 14 days of obtaining it in the form required by the terms of the licence. For example:

- For data that needs to be analysed by a laboratory to get it in the form required by the licence – The data will need to be published within 14 days of the licensee receiving the analysed data from the laboratory. Licensees should keep records of the date of monitoring and the dates the data is supplied to and received from the laboratory.
- For monitoring conditions that require continuous monitoring – The data will need to be published on a monthly basis at a minimum, within 14 days of the end of each month. Refer to section 3.4 for more detail.
- For licensees without a website that have received a request for monitoring data for a member of the public – Licensees should prepare and provide publicly suitable presentations of their monitoring data within 14 days of obtaining the data or 14 days of receiving the request, whichever is the later date.

### 3.4 How the data should be published

The data should be published or provided in a format that is easy for the general public to understand. Table formats are generally easier to understand than graphs and should be used in preference. Licensees are encouraged to develop a table format that is most appropriate to ensure the clear and transparent presentation of their monitoring data. However, the data can also be provided in graph form (as well as in tables).

Examples for presenting data in tables are provided in section 3.7.

Continuous monitoring of a pollutant is often undertaken using online instrumentation. Licensees who undertake such monitoring should take one of the following approaches in publishing or providing their data:

- Provide a link on their website to live online monitoring data where this function is already available *and* also provide monthly summary tables of the results, within 14 days of the end of each month, in a similar format to the tables required in the annual returns.
- Where live online monitoring data is not readily available, licensees should provide monthly summary tables of their results within 14 days of the end of each month, in a similar format to the tables required in the annual returns.

### 3.5 How long the data should be made publicly accessible

The monitoring data must be publicly accessible for a minimum of two annual licence periods (i.e. a minimum of two years of monitoring data plus the monitoring data for the current licence period). This does not apply to monitoring data obtained prior to 31 March 2012.

#### Case study

A facility with a licence anniversary date of 1 July 2012 is required by a licence condition to undertake monthly testing for total suspended solids in waste discharged at sampling point 1.

By April 2015 this facility would have published 34 monthly results comprising:

- 24 results for two licence periods (1 July 2012 – 30 June 2014), and
- 10 results for the 10 months commencing 1 July 2014.

The facility adds the latest monthly monitoring data to a spreadsheet and publishes the results on its website each month within 14 days of obtaining the total suspended solids concentration from the laboratory.

If a licensee does not have a website, they must make monitoring data available to any person who requests it for any data obtained from a period of up to two full licence periods prior to the date of the request. The data must be provided at no charge.

## **3.6 What other information should be published with the data**

The following information should also be published with the data to provide appropriate context and ensure the data can be understood and correctly interpreted by the general public.

### **3.6.1 Environment protection licence number and licensee's name**

The environment protection licence number of the facility and the licensee's name should be published or provided with the data. This should be included on each table of published or provided data to minimise the potential for error of misquoting a licensee's data.

### **3.6.2 Date of sampling or monitoring**

The date of sampling as well as the date when the data was obtained (where this differs from the sampling date) should also accompany the data, where 'obtained' has the same meaning as in section 3.3.

### **3.6.3 Date published**

The date when the monitoring data is published or provided should also accompany the data. The purpose of this requirement is to enable the checking of compliance with section 66(6) of the POEO Act.

### **3.6.4 Sampling or monitoring location**

The sampling or monitoring points (including the point numbers identified in the licence) to which the monitoring data applies must be published or provided with the data.

### **3.6.5 Licence condition limits**

Conditions of an environment protection licence may impose a limit for a pollutant concentration, flow volume or mass over a specified time period (e.g. in milligrams per litre, kilolitres per day, tonnes per year). The limit conditions can be specified in a variety of ways (e.g. maximum value, minimum value or a percentile value).

Limits imposed by conditions of an environment protection licence must also be published or provided with the pollution monitoring data in the same form that it appears on the licence. This should include the actual limit as well as any description that provides adequate context around its comparison with the monitoring data. For example, a limit condition may be specified as a 90th percentile value whereas the corresponding monitoring condition may require continuous weekly monitoring. In this case, the monitoring results must meet a certain level for only 90% of the time, not all the time. To avoid incorrect interpretation of the data, the limit that is published or provided with the monitoring data should also be accompanied by some simple text that explains how the limit relates to the monitoring data.

### **3.6.6 Units of measure**

The pollution monitoring data published or provided by a licensee must include the units of measure, metric, scale or descriptor prescribed in the licence.



### 3.6.7 Meteorological data

Weather conditions can be important when complaints are received regarding noise, odour or dust emissions from a facility. Some environment protection-licensed facilities are required to collect and store meteorological data. Meteorological data does not have to be published; however licensees may include meteorological comments with published pollution data to provide additional context – for example: 'High dust emissions (PM<sub>10</sub>) were reportedly measured during high wind conditions (>5 m/s)'.

### 3.6.8 Correction log

From time to time incorrect data may be published in good faith.

Licensees must publish a correction log to correct any data which has been found to be poor or incorrect as soon as practicable after the mistake has come to the attention of the licensee.

## 3.7 Examples of tables for publishing data

### Monitoring data by publication date – annual reports

Published: 9 January 2015				
Published: 8 January 2014				
Published: 7 January 2013				
Sampled: 31 December 2012		Licensee: XXX Inc.		
Obtained: 5 January 2013		EPL No. 5555		
Sampling point	Quantity	Measurement	Limit	Unit
A	Turbidity	0.06	1.0	NTU
	Salinity	3.9	4	dS/m
	pH	6.9	6.2–7.8	–
B	Turbidity	0.09	1.0	NTU
	Salinity	4.0	4	dS/m
	pH	6.7	6.2–7.8	–
C	Turbidity	0.12	1.0	NTU
	Salinity	3.5	4	dS/m
	pH	6.7	6.2–7.8	–

## Monitoring data by sample date – monthly reports

<b>Sampled:</b> 28 February 2013				
<b>Sampled:</b> 30 January 2013				
<b>Sampled:</b> 31 December 2012				
<b>Obtained:</b> 31 December 2012			<b>Licensee: XXX Inc.</b>	
<b>Published:</b> 5 January 2013			<b>EPL No. 5555</b>	
Sampling point	Quantity	Measurement	Limit	Unit
A	Turbidity	0.06	1.0	NTU
	Salinity	3.6	4	dS/m
	pH	6.9	6.2–7.8	–
B	Turbidity	0.09	1.0	NTU
	Salinity	4.0	4	dS/m
	pH	6.7	6.2–7.8	–
C	Turbidity	0.8	1.0	NTU
	Salinity	3.9	4	dS/m
	pH	6.7	6.2–7.8	–

## Monitoring data by sample point – monthly reports

<b>Sampling point: C</b>		<b>EPL No. 5555</b>		<b>Licensee: XXX Inc.</b>	
<b>Sampling point: B</b>		<b>EPL No. 5555</b>		<b>Licensee: XXX Inc.</b>	
<b>Sampling point: A</b>		<b>EPL No. 5555</b>		<b>Licensee: XXX Inc.</b>	
		Quantity	Measurement	Limit	Units
Sampled	6/6/12	P	1.8	2	mg/kL
Obtained	10/6/12	K	0.5	2	mg/kL
Published	12/6/12	Daily flow	2	3	kL/hr
Sampled	6/6/12				
Obtained	10/6/12				
Published	12/6/12				
Sampled	6/6/12				
Obtained	10/6/12				
Published	12/6/12				

## Continuous monitoring

Sampling point D				
Sampling point C				
Sampling point B				
Sampling point A				
	Pollutant X	Pollutant Y	Flow Z	Publication on internet:
Sampling <b>Date 1</b> Date obtained	<b>Data</b> limit units	<b>Data</b> limit units	<b>Data</b> limit units	date
Sampling <b>Date 2</b> Date obtained	<b>Data</b> limit units	<b>Data</b> limit units	<b>Data</b> limit units	date
Sampling <b>Date 3</b> Date obtained	<b>Data</b> limit units	<b>Data</b> limit units	<b>Data</b> limit units	date
EPL No. 5555				

## Monthly summaries of continuous data for each sample location

Sample location A				2013		EPL No. 5555		
Month	Date of publication	Pollutant	Unit of measure	Data collected (%)	Lowest value	Highest value	Mean	Exceedance
January	3 February	P	mg/L	90	3.8	9.7	7.4	2.1
		K	mg/L	94	19.1	25.3	21.4	15.6
		TSS	mg/L	85				
February	5 March							
March	5 April							

## Correction log (above) and amended monitoring table (below)

COMPANY  
EPL No. 5555  
Sample Point  
Instrument  
Pollutant

3  
B  
pH

Sample Date and time	Original Data	Corrected Data	Date corrected	Date originally published	Reason
15/12/2011 6:00	7.50	7.40	28/02/2012	21/12/2011	Calibration error
15/12/2011 7:00	8.32	8.22	28/02/2012	21/12/2011	
15/12/2011 8:00	7.59	7.49	28/02/2012	21/12/2011	
15/12/2011 9:00	7.02	6.92	28/02/2012	21/12/2011	
15/12/2011 10:00	7.84	7.74	28/02/2012	21/12/2011	

COMPANY EPL 5555 Sample Point 3							
pH				Conductivity			
Limits 6.6 to 8.5 - no units				Limits < 2000 µs/cm			
Instrument A		Instrument B	Calibration or special sample	Instrument A		Instrument B	Calibration or special sample
Sample Date and time	averaging period 1 hour	averaging period 1 hour	Composite sample 1 hour	averaging period 1 hour	averaging period 1 hour	Composite sample 1 hour	Publishing Date
15/12/2011 6:00		7.40		1505			28/12/2011
15/12/2011 7:00		8.22		1542			28/12/2011
15/12/2011 8:00		7.49		1573			28/12/2011
15/12/2011 9:00	7.00	6.92		1600			28/12/2011
15/12/2011 10:00	8.55	7.74	8.14	1621	1625	1623	28/12/2011
15/12/2011 11:00	7.80	7.82		1630	1634		21/12/2011
15/12/2011 12:00	8.26				1645		21/12/2011
15/12/2011 13:00	7.62				1651		21/12/2011
15/12/2011 14:00	8.32				1654		21/12/2011

## 4. Procedures for the publication of monitoring data collected continuously

There are special requirements regarding the publication of monitoring data collected continuously. These requirements must be observed or else the data published will be incomplete. Many of these requirements reflect the procedures that are set out in the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW available at [www.environment.nsw.gov.au/air/appmethods.htm](http://www.environment.nsw.gov.au/air/appmethods.htm).

### 4.1 Instrument 'downtime'

Online instrumentation used to measure a pollutant concentration will need to be calibrated routinely. Online instrumentation that becomes easily fouled may require daily cleaning or daily zero and span checks to ensure that the instrument measures a pollutant with the required accuracy and precision. Short-term breakdowns may also be considered as instrument downtime.

During these downtime periods the position in the table where data would otherwise be recorded should be left blank – do not record 0 (zero) as this is misleading. Identify the reason for each downtime as 'calibration', 'cleaning' or 'breakdown'.

A licence condition requiring continuous monitoring may specify a minimum percentage of time online (i.e. 90%) or procedures that require frequent manual sampling and testing if the instrument is offline for a set minimum period.

## 4.2 Multiple online instruments

Some important parameters may be measured continuously by more than one online instrument. In these circumstances, licensees should include each online instrument in the table for each sampling point (see example below).

## 4.3 Calibration or special event sampling

One technique which may be used to monitor the performance of online continuous instruments is to collect a sample which is submitted to independent testing. Generally, samples are collected routinely (i.e. once a day, week or month) so a direct comparison can be undertaken with the online instrument.

Many facilities also use online instruments to trigger special sampling events. When the online data sampler reads above or below a set value, a special event sample is collected for independent analysis. A special event sample may also be required by a licence condition when particular events occur (e.g. for monitoring wet weather flows).

Licensees should identify calibration or special event samples in their published data.

## Data publication of multiple online instruments and calibration samples

COMPANY EPL 5555 Sample Point 3							
pH				Conductivity			
Limits 6.6 to 8.5 - no units				Limits < 2000 µs/cm			
Instrument A	Instrument B	Calibration or special sample	Instrument A	Instrument B	Calibration or special sample		
Sample Date and time	averaging period 1 hour	averaging period 1 hour	Composite sample 1 hour	averaging period 1 hour	averaging period 1 hour	Composite sample 1 hour	Publishing Date
15/12/2011 6:00		7.50		1505			21/12/2011
15/12/2011 7:00		7.56		1542			21/12/2011
15/12/2011 8:00		7.96		1573			21/12/2011
15/12/2011 9:00	7.00	7.02		1600			21/12/2011
15/12/2011 10:00	7.97	8.00	7.99	1621	1625	1623	21/12/2011
15/12/2011 11:00	7.06	7.08		1630	1634		21/12/2011
15/12/2011 12:00	7.53				1645		21/12/2011
15/12/2011 13:00	7.69				1651		21/12/2011
15/12/2011 14:00	7.87				1654		21/12/2011
15/12/2011 15:00	7.44				1650		21/12/2011
15/12/2011 16:00	7.84				1640		21/12/2011
15/12/2011 17:00	7.62				1633		21/12/2011
15/12/2011 18:00	7.59				1620		21/12/2011
15/12/2011 19:00	7.26				1625		21/12/2011
15/12/2011 20:00	7.08				1631		21/12/2011
15/12/2011 21:00	7.13				1635		21/12/2011
15/12/2011 22:00	7.46		7.48		1647	1645	21/12/2011
15/12/2011 23:00	7.62				1654		21/12/2011
16/12/2011 0:00	7.14				1657		28/12/2011
16/12/2011 1:00	7.15				1664		28/12/2011
16/12/2011 2:00	7.71				1675		28/12/2011
16/12/2011 3:00	7.55				1689		28/12/2011
16/12/2011 4:00	7.90				1701		28/12/2011
16/12/2011 5:00	7.54				1720		28/12/2011
16/12/2011 6:00	7.46				1728		28/12/2011

## 4.4 Off-scale measurements

In some circumstances, online instruments are unable to measure the concentration of a pollutant (or flow or other parameters) because the high concentration (or high flow or other parameter) is outside the standard operating range. Some instruments will display and record error messages when the data cannot be measured appropriately.

Off-scale measurements may occur over a relatively short period (<20 minutes) when filters are back-flushed or tanks drained. In these circumstances, the data should be

recorded as 100% of the standard operating range of the instrument and additional text should be added to explain what has occurred.

## **5. Monitoring data not required to be published**

Some data which is required to be gathered and held by a holder of an environment protection licence may not be required to be published in accordance with the new section 66(6) provision.

This includes some data that is required to be collected and recorded by a licence condition which is used by EPA officers when investigating noise, odour and dust issues. Other data or information to be collected by licensees which may not require publication is required by regulation.

Data that is not required to be published by the new provision is outlined below.

### **5.1 Load-based licensing**

Environment protection licensees that are subject to load-based licensing pay licensing fees based on the quantity of pollution released to the environment. These licensees provide data on production (tonnes produced, kilolitres stored or GWh produced) as well as quantity of pollutants (kilograms per year) in each annual return.

The requirement to collect, store and report data regarding load-based licensing is set out in the Protection of the Environment Operations (General) Regulation 2009. Generally, load-based licensing data does not have to be publicly reported unless specifically required by a licence condition. Load-based licensing data is published annually on the EPA's public register at [www.environment.nsw.gov.au/prpoeo/index.htm](http://www.environment.nsw.gov.au/prpoeo/index.htm).

### **5.2 National Pollutant Inventory**

Environment protection licensees may be required to collect and report annually on emissions on over 90 chemicals that are released to air, water or land, or disposed of as waste.

The requirement to collect, store and report data in the National Pollutant Inventory (NPI) is set out in the Protection of the Environment Operations (General) Regulation 2009 and other Commonwealth publications.

NPI data does not have to be publicly reported. Data on emissions is published annually and can be accessed via the NPI website [www.npi.gov.au](http://www.npi.gov.au).

### **5.3 Monitoring conditions of a surrendered, suspended or revoked licence**

Section 81(1) of the POEO Act states:

- (1) A licence may be suspended or revoked, or the surrender of a licence may be approved, unconditionally or subject to such conditions as the appropriate regulatory authority imposes.

Former holders of an environment protection licence who complete EPA approved monitoring conditions are not required to publish monitoring data.

However, data from pollution monitoring conditions of a suspended or revoked environment protection licence would need to be published in accordance with these guidelines.