



Oregon Department of Environmental Quality

# pH Meter Calibration Requirement

## For NPDES Permittees

Monitoring for pH is included in almost all Individual NPDES permits. Due to the required method hold time of 15 minutes, this analysis is usually performed on site as a field measurement. DEQ is issuing the following communication to assist permittees in understanding and implementing the minimum requirements for pH calibration and recordkeeping.

### Why pH?

In the past few years DEQ has determined that there are numerous quality control issues with the collection and testing of pH, resulting in significant impacts to data quality. pH data is utilized to ensure compliance with pH limits in NPDES permits, and to determine the ammonia, copper, and pentachlorophenol aquatic life water quality criteria. Toxicity of these parameters are pH dependent. Higher pH values result in more stringent ammonia criteria, while lower pH values result in more stringent copper and pentachlorophenol criteria. Therefore, it is important that accurate pH data is supplied by the permittee, as this data is used during permit renewal to calculate the ammonia, copper, and pentachlorophenol criteria and evaluate reasonable potential and/or effluent limits when these analytes are pollutants of concern for a proposed individual NPDES permit.

Ambient pH data collected by permittees under Copper BLM monitoring requirements is also used in the Integrated Report. Inaccurate ambient pH data can result in a waterbody being listed as impaired (Category 5) for pH, ammonia, copper, and/or pentachlorophenol in the integrated report. When a waterbody is listed as impaired in the integrated report, it can result in more stringent limits for permittees. **To help ensure the quality of ambient pH data being submitted, DEQ has recently updated the Electronic Data Delivery (EDD) process to require the inclusion of pH calibration logs with EDD submissions.** Please see the [EDD website](#) for updated instructions.

### Requirement for pH Calibration

Permittees should be performing pH calibrations in accordance with the 40 CFR 136 approved method utilized. Calibration records should include all relevant information so that DEQ and other interested parties can independently verify the quality of the calibration. Any records of this calibration should be kept as part of the quality assurance plan for a minimum of 3 to 5 years depending on the regulated activity. These records may be asked for during a compliance inspection, during permit renewal, or at any other time DEQ needs to validate pH data submitted as part of NPDES permit conditions. These are the relevant Clean Water Act, regulations:

- 40 CFR 122.41(e) requires permittees to develop and implement quality assurance procedures as part of NPDES permit coverage to ensure proper operation and maintenance.
- 40 CFR 136.7 requires that permittees and laboratories use suitable QA/QC procedures when conducting compliance analyses with any part 136 chemical method.
- 40 CFR 136.3(a) Table IB specifies the approved methods for pH (Identified as "Hydrogen ion (pH), pH units" in Table IB).

#### Translation or other formats

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- 40 CFR 136.3(e) Table II specifies the maximum holding time for pH is 15 minutes. Note 4 of this table specifies that the times listed are maximum times that samples may be held before the start of analysis and still be considered valid and that grab sample start times begin at the time of collection.
- 40 CFR 122.41(j)(2) specifies that data records must be kept for 3 years for wastewater and 5 years for sewage sludge and disposal activities and CAFOs.
- In addition to the CFR regulations, these requirements are usually included in Schedules B and F of NPDES permits.

## Resources

DEQ has developed resources to aid permittees in developing a Quality Assurance Project Plan and to develop robust monitoring programs, including calibration logs. DEQ recommends reviewing the following resources:

Quality Assurance Plans:

- [Template for Quality Assurance Project Plan and Sample Analysis Plan](#)
- [Example Template for Quality Assurance Project Plans](#)

Monitoring and Sampling Guidance:

- [Guidance for NPDES and WPCF Permit Monitoring](#) – this document contains a section devoted to pH monitoring for both effluent and ambient samples.
- [Attachment Examples for Guidance for NPDES and WPCF Permit Monitoring](#) – this document contains example calibration logs for pH and other analytes.
- [Ambient Monitoring Guidance](#)

## Contact

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