

Reasonable Potential Analysis

TECHNICAL GUIDANCE FOR
PRETREATMENT COORDINATORS,
PLANT AND LAB STAFF, AND
UTILITIES MANAGEMENT





Agenda Overview

- What Is a Reasonable Potential Analysis (RPA)?
- How RPAs Are Conducted
- Impacts and Practical Considerations

Definition and Purpose of RPA

Reasonable Potential Analysis Explained

RPA evaluates if facility discharges might exceed water quality standards developed to protect ecosystems.

Purpose of RPA

To assist regulatory bodies to ensure environmental protection and compliance.



Key Regulatory Frameworks and Requirements

Clean Water Act Mandates

RPAs operate under the Clean Water Act to protect water quality and regulate pollutants.

NPDES Program Enforcement

The NPDES program enforces pollutant discharge permits ensuring regulatory compliance.

Legally Defensible Permitting

Adhering to these frameworks guarantees permits are legally defensible and enforceable.



Role of RPAs in Permit Decision-Making

Data Support for Regulators

RPAs deliver important data that assist regulators in setting suitable permit limits.

Water Quality Standards (WQS) have been developed and approved by EPA.

The RPA is used to determine if a direct discharger may contribute to the exceedance of the WQS

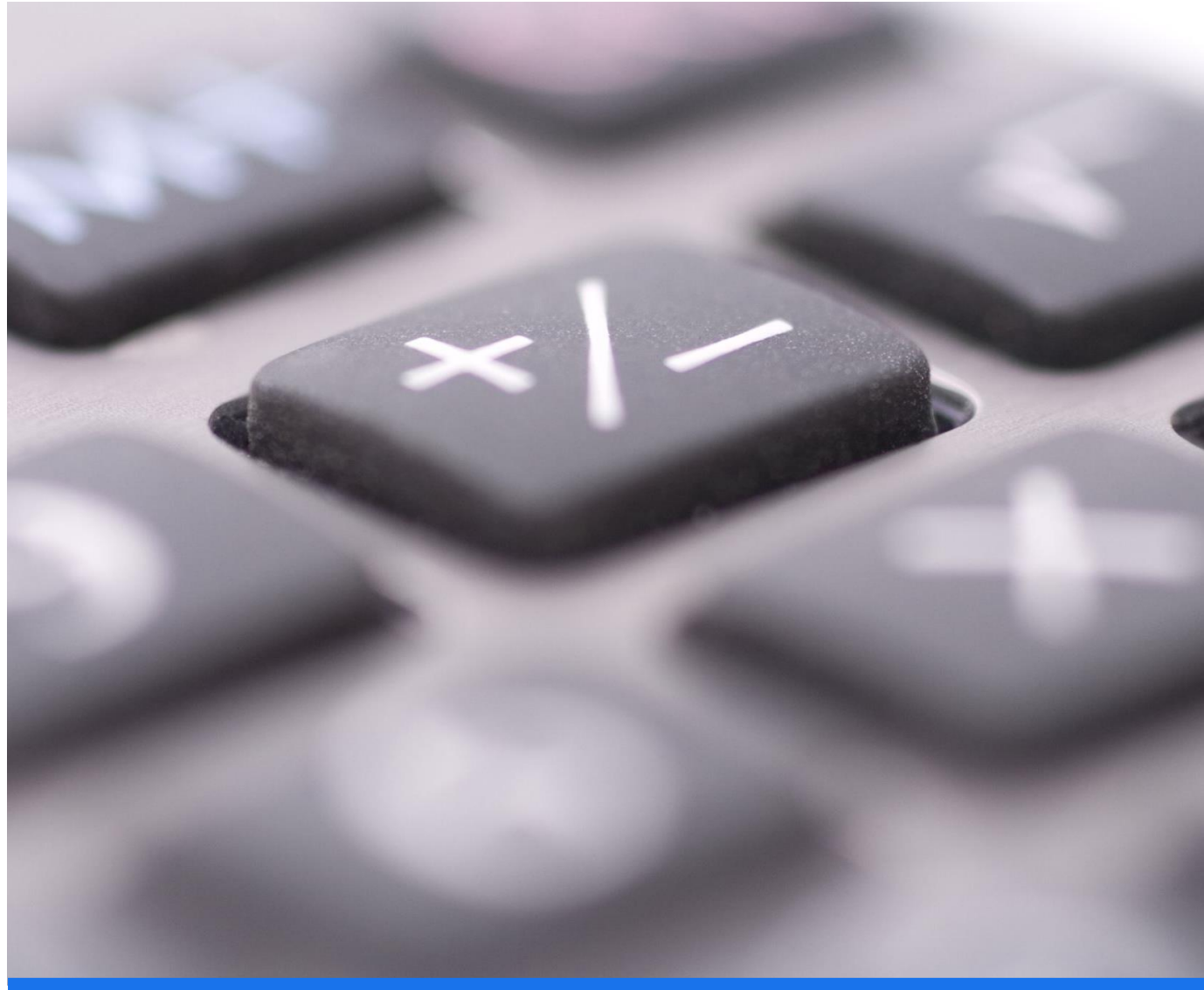


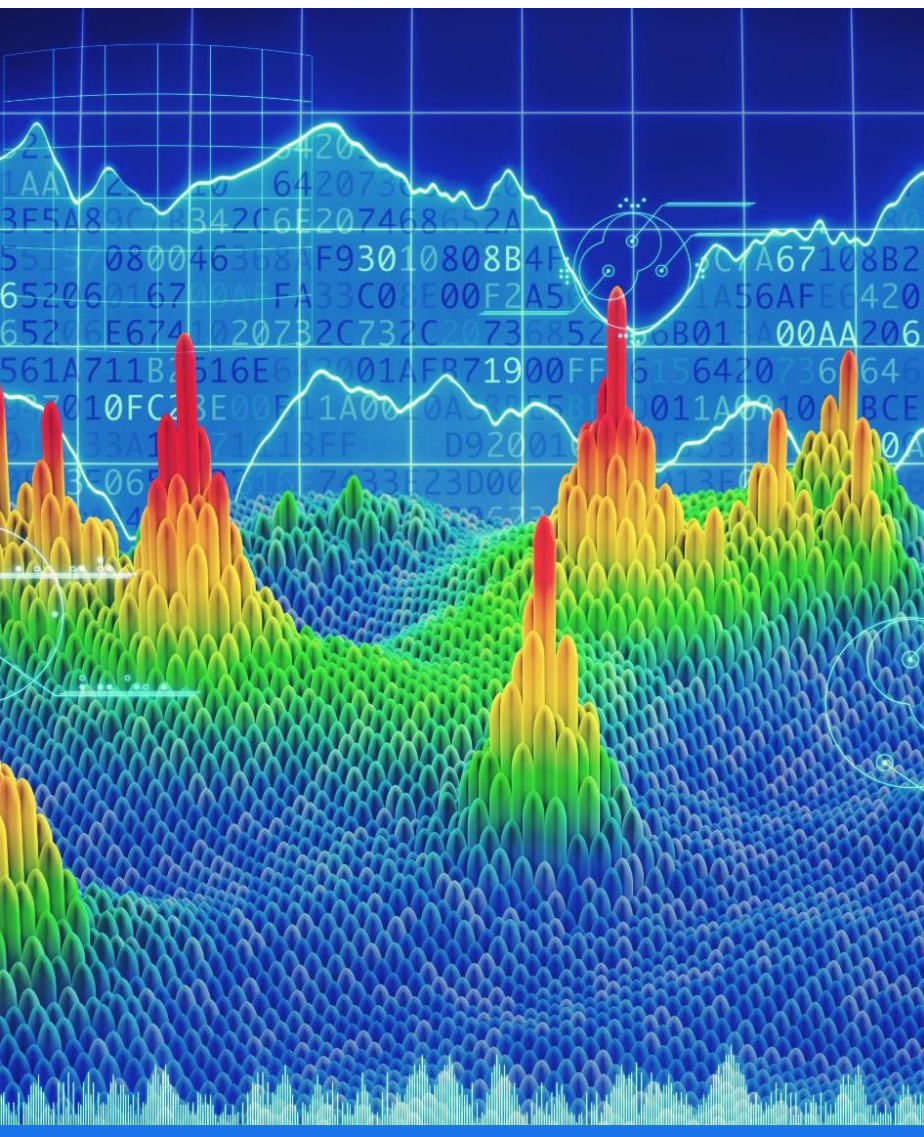
How RPAs Are Conducted

Data Collection

All data collected, Long-Term Monitoring Plan (LTMP), Priority Pollutant Analysis (PPA), NPDES Permit sampling and any other sampling results, collected and reported, in the eDMR is used.

A statistical analysis is conducted for each reported pollutant to determine a predicted maximum concentration of the pollutant.





What is the Statistical Analysis used to determine the Reasonable Potential of a Pollutant

Results for each pollutant are summarized from the data submitted in the eDMR's for the past 3 – 4 years

A maximum predicted concentration is calculated

The calculation is based on the number of data points collected for each pollutant and the coefficient of variability for the pollutant

If the calculations determine that the maximum effluent limit is at the 95th % of probability of exceeding the allowable effluent concentration, chronic and acute limits will be recommended for the permit.

Monitoring may be required for Results above 50% of the maximum effluent limit but less than the 95% .

What can you do to mitigate the potential for limits



Risk Identification

Review all eDMR data closely. Is there an unusual result? What occurred to potentially cause this result? What actions should you be taking



What is unusual

Detection for a pollutant that has previously been below the detection limit.

A result below the detection limit for a pollutant that is consistently detected



eDMR comments

If there is an identifiable reason for the unusual result, it should always be reported in the applicable eDMR

Sampling and Accidental Discharges

Sampling

If a significant weather event is occurring, any sample results may not be considered typical

Accidental Discharges

If a spill occurred that coincides with the discharge for that day results may not be considered typical

Documentation

Make sure to document anything that occurred. Proper documentation can be considered to remove a result from consideration in the RPA



Avoiding Costly Limits and/or Monitoring Requirements



Questionable analytical results

If possible – if a result does not “look” correct, ask to have the sample reanalyzed if possible

Documentation

Document in the eDMR that the result is questionable, and what actions you will or have taken

What if the result is correct?

Follow up with increased sampling. Through the plant and potentially in the collection system. Look for the source of the issue.

Impacts of data variants and sampling issues

If you have enough data from further monitoring, you can potentially remove the requirement for a permit limit or NPDES required sampling. Both of these can result in violations.

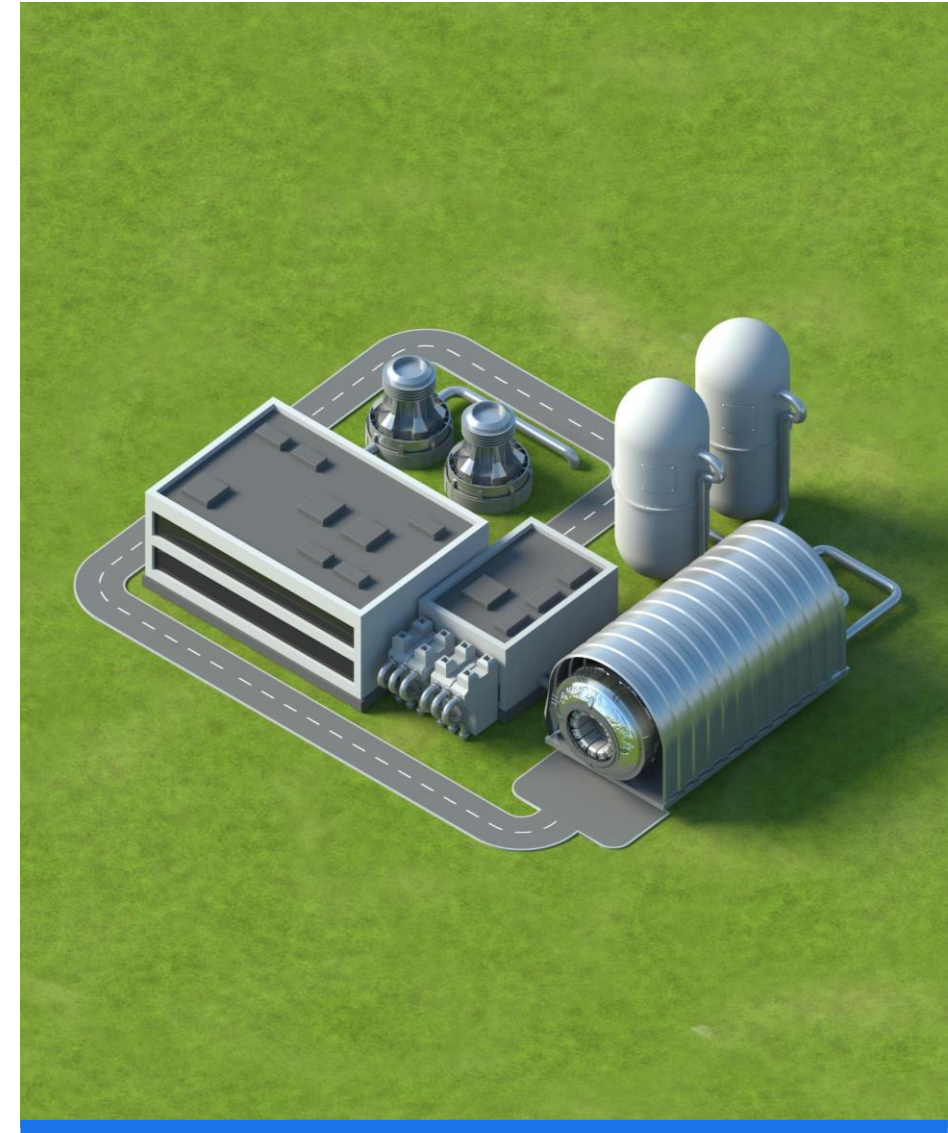
Any result that exceeds (no matter the number of samples collected) the predicted NPDES effluent limit will result in a permit limit.

Implications for Permittees and Facility Operators

If the minimum number of samples were collected, one positive result may result in monitoring requirements or NPDES Limits

Not collecting the samples as required, in a new permit, may result in violations and civil penalties

Costs for the extra sampling and analyses may be significant





Benefits for NPDES Permit Holders

Fair Environmental Enforcement

Knowledge that the issued permit limits or monitoring requirements are appropriate

Community Benefits

The Utility can show what actions were taken to address potential water quality issues and/or potential for higher costs that may have impact the community

Conclusion

Environmental Compliance Importance

Reasonable Potential Analyses help ensure adherence to environmental laws protecting natural resources.

Water Quality Protection

These analyses safeguard water quality by identifying and managing pollution risks effectively.

Work with Regulators

Work with NPDES Permit writers to ensure limits are appropriate and address current water quality limits.