



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

---

# Data Review and Exclusion Guidance for Determining Reasonable Potential and Deriving Water Quality-Based Effluent Limits

Michael Abbott, Chief  
Operating Permit Section

# Key Topics





# Purpose



Permit writer's guidance



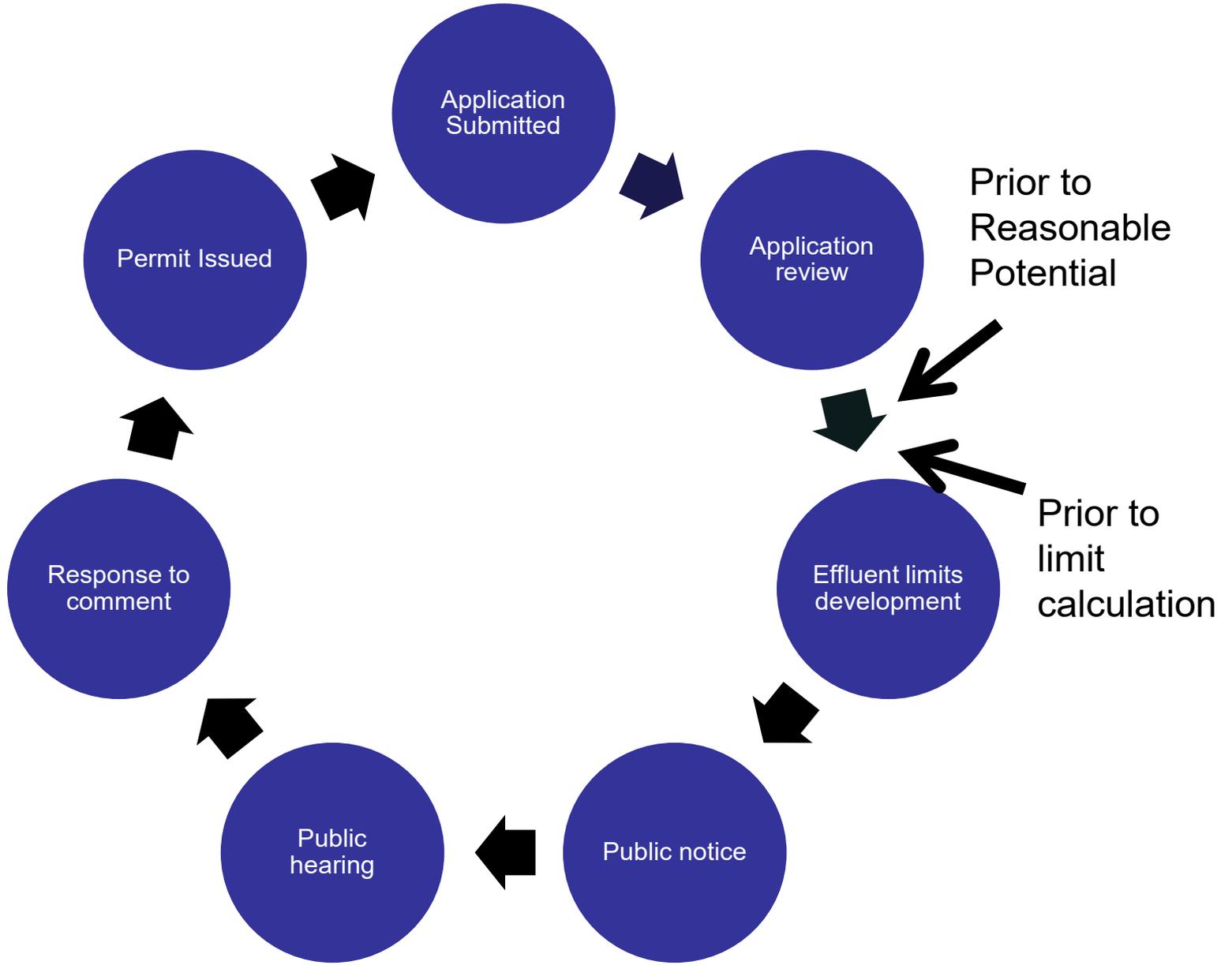
Appropriateness of data removal



Clarity



$3\sigma$  rule



# Data Exclusion

## Prior to reasonable potential

- Is data erroneous?
- Justifiable Exclusions

## Prior to effluent calculation

- Does data represent normal operations?
- $3\sigma$  rule



# Justifiable Exclusions

Allowable  
exclusions  
regardless if  
data is an  
outlier or not.

Case-by-  
case basis

Primarily the  
permittee's  
responsibility

Supporting  
Information

QAQC,  
Data Entry  
Force majeure,  
Equipment failure,  
Vandalism,  
Start up  
Industrial contributors,  
Slug Loading, and  
Changes in  
Technology

# Normal operations and $3\sigma$ rule

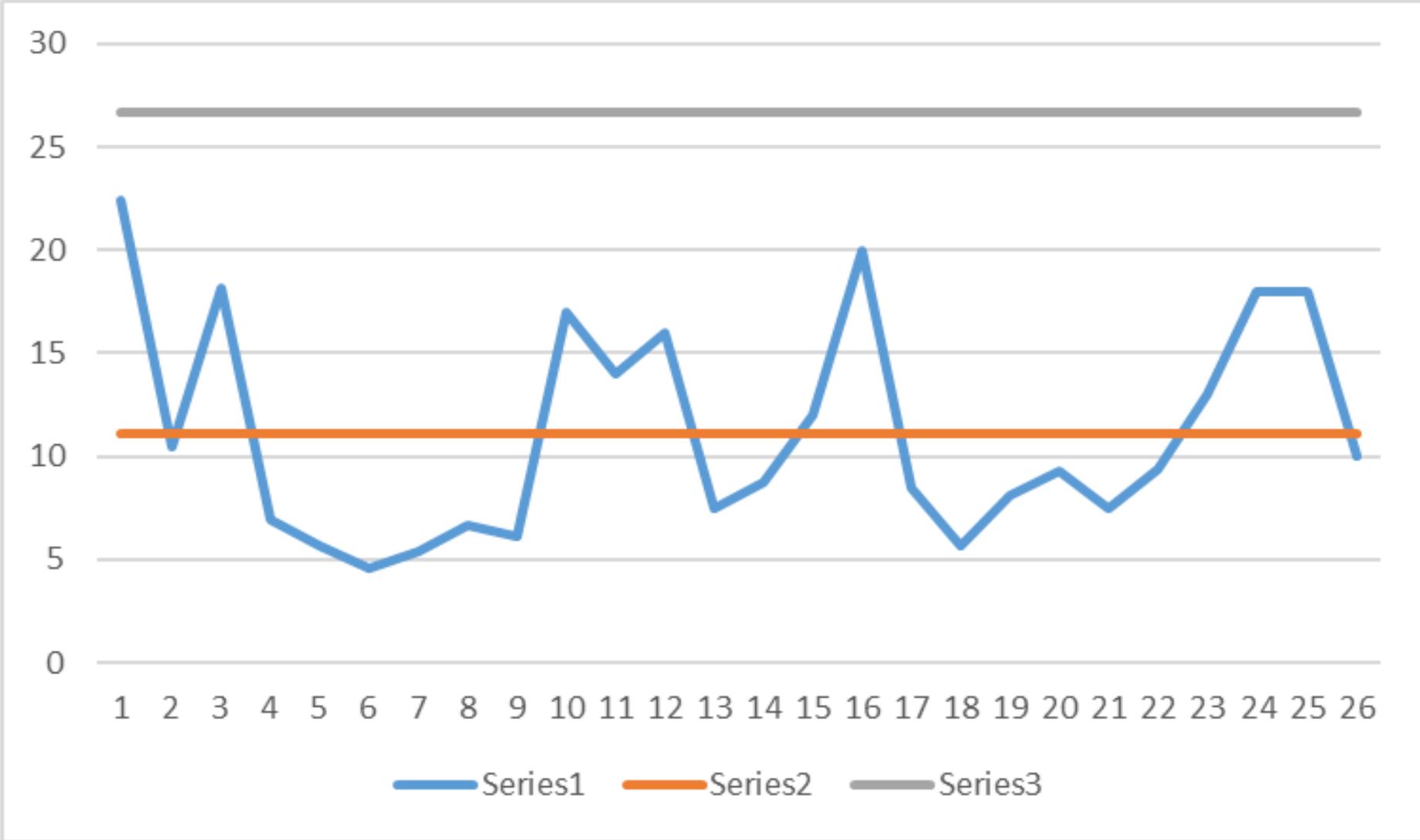
Data  
variability

$3\sigma$  rule,  
99.7%

More  
appropriate  
limits

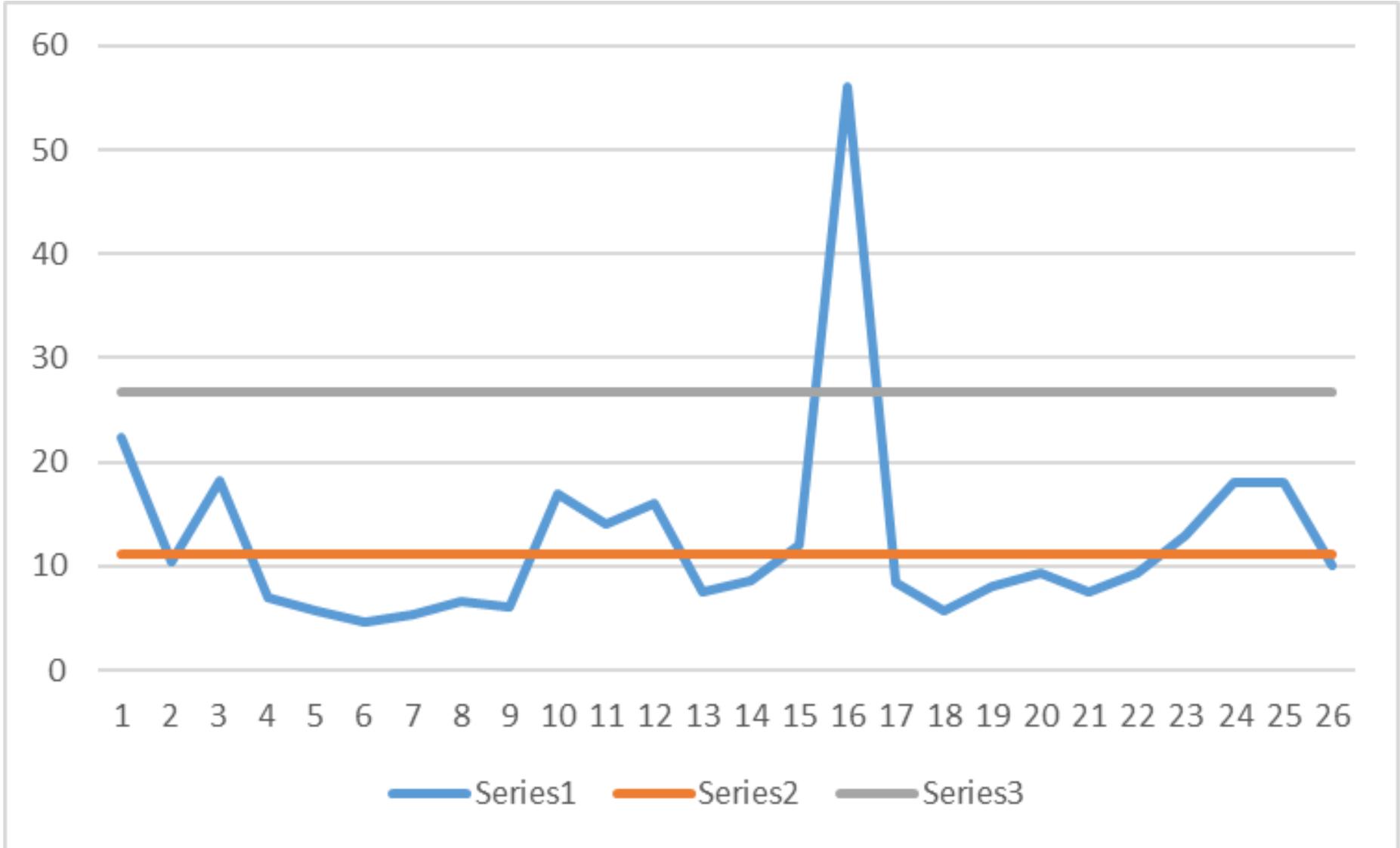


**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES





**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES



# Questions

- Thank you for comments!
- Update permits page
- Gov.delivery message
- Memorandum, guidance, comments, and responses.