

# OKR04 Requirements for: Quality Assurance Inspections, Monitoring Recordkeeping

## GCSA Employee Training

Tulsa Mohawk Education Auditorium

August 26, 2015

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# OKR04 Inspection / Monitoring Concepts

## DEFINITIONS AND CONCEPTS RELATING TO OKR04:

**Monitoring** - refers to the collection of samples for analysis for the purpose of assessing an environmental condition. This includes making field measurements, examining samples, using field test kits, and collecting samples for lab analysis.

**Sampling** – the process of collecting substances (water, soil, pollutants, etc.) for chemical analysis or measurements.

**Inspections** – refers to making visual observations, such as of waterbodies, facility structures or storage areas to assess conditions, or reviewing written records of facilities to assess condition or compliance with codes and permits.

Terms developed by INCOG; not taken from any written sources.

# Programs With Inspections, Sampling and/or Monitoring

- Dry Weather Field Screening (DWFS).
- MS4 system complaint investigations.
- Source-tracking of MS4, creeks and facilities.
- Construction site inspections.
- Good housekeeping inspections of city facilities.
- Inspections of likely illicit discharge areas in 303(d) watersheds.
- TMDL-required monitoring.
- Inspections of BMPs and LID structures.

# Pollutants in Urban Stormwater

- Sediment
- Nutrients
- Oxygen-Demanding Substances
- Pathogens
- Trash
- Road Salts
- Oil and Grease
- Heavy Metals
- Heat
- Petroleum
- Pesticides
- Other organics



*Clip Art*

# 303(d) Impairment

A stream or lake can be listed for any combination of parameters:

*Dissolved oxygen, nutrients*

*Toxics (metals, organics, pesticides, “unknown”)*

*Sediment, suspended solids, turbidity*

*Pathogens (bacteria)*

*Biological (fish, macroinvertebrates)*

*pH*

*Oil & grease*

*Chloride, sulfate, TDS*



# 303(d) Category 5, the “TMDL List”

- Biennial “Oklahoma Integrated Water Quality Assessment Report” (2014 is now effective)
- Listed segments usually require a TMDL.
- Recent new trends in water quality impairments:
  - *1990s = TMDLs for dissolved oxygen in streams.*
  - *Now bacteria, specific metals, dissolved solids (salts), turbidity / suspended solids.*
  - *Future = TMDLs for nutrients, and Fish / M.I.*

# What is a TMDL ?

## “Total Maximum Daily Load”

Calculates the maximum allowable pollutant loading for a waterbody.

All point source loads (**WLAs**) + all nonpoint source loads (**LA**s) + a margin of safety (**MOS**).

Special WLA just for stormwater permittees: “**WLA\_MS4**”

$$\text{TMDL} = \Sigma \text{WLA} + \Sigma \text{LA} + \text{Background} + \text{MOS}$$

# TMDL Appendix for Stormwater

“Compliance with the following provisions will constitute compliance with the requirements of this TMDL”.

- 1. Develop A Pollutant Reduction Plan*
- 2. Develop or Participate In A Pollutant Monitoring Program*
- 3. Annual Reporting*

Some TMDLs do not have Stormwater Permit requirements  
(e.g., Turbidity TMDLs)



**Present Text in OKR04  
(from EPA-reviewed version)**

# OKR04: “Part 136” & “Representative”

## PART V: MONITORING, RECORD KEEPING, AND REPORTING

### V. A *Monitoring*

Both are very important concepts !

1. **Designing Your Monitoring Program**: You must evaluate program compliance ... appropriateness [of BMPs] ... and progress toward achieving identified measurable goals. If ... a TMDL has been approved, you may have additional monitoring requirements under Part III of this Permit.
2. **Conducting Monitoring**: If you plan to conduct monitoring, you are required to comply with the following:
  - a. **Representative monitoring**: Samples and measurements taken for the purpose of monitoring shall be **representative** of the monitored activity.
  - b. **Laboratory Methods**: If laboratory analysis is conducted it must be conducted according to **test procedures** approved under **40 CFR part 136**.



# Problems With Representativeness





# OKR04: “Quality Assurance”

## PART VI: STANDARD PERMIT CONDITIONS

### ***VI. J Proper Operation and Maintenance***

You must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by you to achieve compliance with the conditions of this Permit and with the conditions of your stormwater management program. Proper operation and maintenance also includes adequate laboratory controls and appropriate **quality assurance** procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by you only when the operation is necessary to achieve compliance with the conditions of the permit.

This is OKR04’s only direct reference to “QA”, but it covers O&M of all city facilities and systems used to comply with OKR04.

# OKR04: “Inspections”

## PART III: SPECIAL CONDITIONS (303d, WQS, TMDLs, ORW)

### *III. A Compliance with Water Quality Standards*

... If you have discharges to receiving waters included on the latest CWA §**303(d)** list of impaired waters, you must document in your SWMP how you will comply with the following requirements:

**1.** If you discharge to waters identified on the latest CWA § **303(d)** list of impaired waters, ... You must consider the following in development or revision of your SWMP:

...

**d.** You must locate those areas likely to have illicit discharges and conduct inspections based on the priority areas in the watershed of your **303(d)** listed water bodies.

OKR04 does not define further how these inspections are to be conducted.

# OKR04: “Inspections” (cont.)

## PART IV.C: MINIMUM CONTROL MEASURES

### *4. Construction Site Stormwater Runoff Control*

#### Requirements:

“Implement and enforce procedures for site inspection...”

“Document inspection findings...”

OKR04 does not define further how these inspections are to be conducted.

#### Recommendations:

“Conduct a staff training to address requirements for inspection and enforcement...”

“Expand your procedures for ... site inspection and enforcement to smaller sites.” (< 1 acre disturbance)

# OKR04: “Inspections” (cont.)

## PART IV.C: MINIMUM CONTROL MEASURES

### *5. Post-Construction Management in New Development and Redevelopment*

O&M is EPA’s Major Concern...

#### Requirements:

“Implement and enforce procedures to ensure adequate long-term **operation and maintenance of BMPs** ..., including [inspections](#) of each BMP.”

#### Recommendations:

“Within your required long-term **operation and maintenance (O&M) program**, consider including ..., [inspection during construction](#) to verify BMPs are built as designed, and penalty provisions for noncompliance.”

OKR04 does not define how these inspections are to be done.

# OKR04: “Inspections” (cont.)

## PART IV.C: MINIMUM CONTROL MEASURES

### *6. Pollution Prevention/Good Housekeeping for MS4 Operations*

#### **Requirements:**

“Implement [inspection/maintenance](#) for structural and non-structural BMPs, including maintenance activities, maintenance schedules and [long term inspection procedures](#) for controls to reduce floatables and other pollutants discharged to your small MS4;...”

#### **Recommendations:**

“Establish procedures for [catch basin inspections](#), cleaning and repairs, and sweeping streets, sidewalks, and permittee-owned parking lots within your small MS4.”

OKR04 does not define how these inspections are to be done.



# OKR04: “Inspections” (cont.)

## **PART VIII: OPTIONAL PERMIT REQUIREMENTS FOR MUNICIPAL CONSTRUCTION ACTIVITIES (“7<sup>th</sup> MCM”)**

There are numerous requirements for conducting inspections of construction sites owned / operated by the Phase II permittee, including reporting and documentation.

These only apply if the permittee selected the “7<sup>th</sup> MCM” option.

All requirements are taken verbatim from the 2012 OKR10 (ODEQ’s general permit for construction activities).

# OKR04: “Monitoring”

## PART V: MONITORING, RECORD KEEPING, AND REPORTING

### *V. A Monitoring*

**1. Designing Your **Monitoring** Program:** You must evaluate program compliance, the appropriateness of identified [BMPs] , and progress toward achieving identified measurable goals. If you discharge to a water of the State for which a TMDL has been approved, you may have additional **monitoring** requirements under Part III of this Permit.

The slide on PART V about Part 136 methods and Representativeness has the other major references to “monitoring” in OKR04.

Mostly, “monitoring” in OKR04 refers to “if you plan to conduct monitoring”, or “you may have additional monitoring” for TMDLs.

# OKR04: “Record Keeping”

## PART V: MONITORING, RECORD KEEPING, AND REPORTING

### *V. B Record Keeping*

1. **Retain Records of All Monitoring Information:** Include all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, copies of DMRs, a copy of the OPDES permit, and records of all data used to complete the NOI for this Permit, for a period of at least three (3) years from the date of the sample, measurement, report or application, or for the term of this Permit, whichever is longer. This period may be extended by request of the Director at any time.

2. **Submit Your Records:** Mail your completed DMR reports, if required, to DEQ along with your annual report. You must retain a description of the SWMP required by this Permit (including a copy of the permit language) at a location accessible to the Director. You must make your records, including the NOI and the description of the SWMP, available to the public.

OKR04's most important recordkeeping requirement. Also see Annual Report.

# Thank you.

## Any Questions ?



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