



Florida Department of Environmental Protection
Water Quality Standards Program
Aquatic Ecology and Quality Assurance Section

Proposed Changes to Chapter 62-160, F.A.C. Quality Assurance

DEAR Annual Monitoring Science Meeting
ROC Fest
May 2017





Current Status

- **Notice of Proposed Rule (NPR)** – published 3/14/17
 - Revisions to 62-160 and incorporated documents, including DEP SOPs
- **Objections to NPR** by Joint Administrative Procedures Committee (JAPC) – 4/7/17
- **Notice of Change (NOC)** – in draft
 - Further revisions to 62-160 in response to JAPC
 - Changes summarized in this presentation
 - Anticipated publication of NOC in May – June 2017
- **Effective Date of 62-160 Revisions** in June – July 2017



QA Rules – What's Covered?

- The **QA rules apply to** all entities involved with sampling, field testing, lab analysis, data review & presentation; and, vending services for sampling supplies (kits) or instrument calibration
- **More stringent requirements** can be imposed by contracts, orders, permits or other DEP rules
- Most sampling and field testing is routine and must follow the **DEP SOPs**
- There are **minimum documentation and reporting requirements** for both field & lab records
 - DEP can ask for any required records at any time
 - DEP can specify the format of data reports submitted to the Department
- Most lab analyses must be performed by **certified labs**



QA Rules – What's Covered?

- Most **lab methods** are routine, are “recognized” as approved by DEP and may be specified in DEP rules, contracts, orders or permits, where required
- **Alternative and modified field & lab procedures & methods** must usually be pre-approved by DEP
- Most **sample preservation & holding time procedures** are standard and are required as listed in the DEP SOPs (FS 1000 tables)
- **Research** field & lab procedures must be pre-approved via work plans, sampling & analysis plans or contracts and grants that provide required minimum information



QA Rules – What's Covered?

- DEP can **audit** samplers, field records and lab records at any time
 - Can include on-site audits by DEP auditors
- There are **minimum criteria for validating data** submitted to (or generated by) DEP
 - There is a **Data Usability document (DEP-EA-001/07)** to help explain the process of determining whether data is usable for a specific purpose
- Specific **Data Qualifier Codes** must be used for reported data associated with quality control failures (Table 1 in the QA Rule)



Rule Sections That Contain Proposed Changes and Clarifications

62-160.110 Purpose, Scope and Applicability

62-160.120 Definitions and Standards

62-160.210 Approved Field Procedures

62-160.220 Approval of Alternative and Modified Field Procedures

62-160.300 Laboratory Certification

62-160.320 Approved Laboratory Methods

62-160.330 Approval of Alternative and Modified Laboratory Methods

62-160.340 Recordkeeping and Reporting Requirements for Labs

62-160.400 Sample Preservation and Holding Times

62-160.600 Research Field and Laboratory Procedures

62-160.650 Field and Laboratory Audits

62-160.670 Data Validation by the Department

62-160.700 Data Qualifier Codes (Table 1)

62-160.800 Documents Incorporated by Reference



Summary of Changes to 62-160 Rule Sections

For details, see DEP 62-160 Revisions webpage
http://dep.state.fl.us/water/sas/62-160_Revise.htm



Rule 62-160.120

Updates to Definitions and Standards

- **Alternative and modified methods**
 - Updated definitions for types of approvals
 - Rare instances where DEP SOPs or approved lab methods are altered or substituted (e.g. freezing as a sample preservation)
- **Method Detection Limit (MDL)**
 - Revised the MDL definition per new 2016 TNI Standard (lab certification) and the revised EPA MDL procedure proposed for 40 CFR Part 136.
 - Added **examples where MDL is not required**, such as chlorophyll, BOD and bacteria tests
- **Practical Quantitation Limit (PQL)**
 - Clarified general requirements for **determining and verifying the PQL** reported by a lab for an analytical method
 - Default definition of **4XMDL = PQL** not applicable to reported results such as chlorophyll, BOD and bacteria tests
 - Default PQL used by DEP when a lab does not report a PQL



Rule 62-160.210

Revisions to Approved Field Procedures

- **Added Requirement:**
- DEP SOP **FT 1800** must be used for determining flow (discharge) in natural surface waters and constructed conveyances
 - Including for purposes of computing water quantity
 - Cited definitions for surface waters in rule and statute that apply to this requirement



Rule 62-160.220

Updates to Alternative and Modified Field Procedures

- **Rule section substantially revised** to fit proposed changes to definitions in Rule 62-160.120
- **Summary of clarifications and changes:**
 - **Allowed modifications** in published procedures (such as DEP SOPs) are pre-approved
 - **DEP Bioassessment SOPs may not be modified** except as above
 - **Validation data and equivalency demonstration required** for all alternative and modified procedures not pre-approved
 - **Statewide-use validations** require collaborative study by two or more independent persons or organizations on multiple sites



Proposed Revisions to Rules 62-160.300 & .330

- **Lab Certification**

- Updates proposed for existing and additional exceptions to lab certification requirements (**draft revisions pending final legal review**)

- **Alternative and Modified Lab Methods**

- **Rare occurrence for surface water lab methods**
- Similar to field procedures, **entire rule section substantially revised** to fit proposed changes to definitions in Rule 62-160.120
- **Validation data, demonstration of capability** to perform the method and **equivalency demonstration required** for all alternative and modified procedures not pre-approved
 - **Statewide-use validations** require collaborative study by 5 - 8 independent laboratories
- Companion document **substantially revised** per above changes and incorporated into QA rules (***Alternative and Modified Laboratory Methods, DEP-QA-001/01***).



Proposed Revisions to Rules 62-160.340 - .670

- **Laboratory Records & Reporting Requirements**
 - Added examples where MDL is not applicable
 - Laboratory “reporting limit” is required with a “U” data qualifier code for non-detect results
 - Examples are BOD, bacteria, chlorophyll
- **Sample Preservation and Holding times Requirements**
 - Added a new subsection for **modified or alternative preservations, holding times and containers**
 - Must meet applicable requirements for alternative and modified procedures in 62-160.220 (field) and .330 (lab)
- **Field and Laboratory Audits**
 - Clarified that field bioassessment procedures are exempted from for audits of records and audit reports
 - Indicated that labs performing macroinvertebrate taxonomic analyses of samples are not exempt from those requirements
- **Data Validation by the Department**
 - Added additional references to **DEP-SAS-001/11** and **DEP-SAS-002/11** for criteria relevant to validations of **SCI**, **Biorecon** and **LVI** data



Rule 62-160.700

Data Qualifier Codes (Table 1)

- Added the following clarifications for specific codes:
 - Added **SCI, Biological Oxygen Demand (BOD), bacteria tests** and Inductively Coupled Plasma (ICP) analyses as examples where **"A" does not apply** to test replicates or dilution series
 - Clarified that **"K"** only applies to tests using calibration curves
 - Clarified that **"Q"** must be used **when any component test** used for a calculated result is performed **out of holding time**
 - Clarified that **"U"** must also be used **for reporting limits** for tests where Method Detection Limit (MDL) is not required



Summary of Changes to DEP SOPs

DEP-SOP-001/01, DEP-SOP-002/01, DEP-SOP-003/11

For details, see DEP 62-160 Revisions webpage
http://dep.state.fl.us/water/sas/62-160_Revise.htm



DEP SOP Revision Highlights

- **FA 1000 Administrative**
 - Changes per 62-160.220 (Alt/Mod Field Procedures)
 - Deletions per revisions to bioassessment SOPs
- **FD 1000 Documentation**
 - Added documentation per revised Flow SOP (FT 1800)
 - Tweaks to incorporated bioassessment forms (HA and SCI)
- **FQ 1000 Quality Control**
 - Added examples for blank types and clarified selected text
 - Re-stated blank requirements for autosamplers (per FS 2100 & FS 2400)
- **FS 1000 General Sampling Requirements**
 - Clarified selected text and tables (e.g. preservation, equipment materials)
- **FS 2000 General Aqueous Sampling**
 - Clarified frequency of preservation pH checks for repeat sample sites
 - Clarified selected text for various other topics



DEP SOP Revision Highlights

- **FS 2200 Groundwater Sampling**
 - Clarified selected text for various topics (e.g. well volume calculations, allowed materials, sampling flow rates for VOCs)
 - Added new section for guidance on purging & sampling artesian wells
- **FS 2300 Drinking Water Sampling**
 - Clarified text for disinfection of sample faucets, taps, spigots
- **FS 2400 Wastewater Sampling**
 - Clarified selected text (preservation table references, autosampler tubing blanks)
- **FS 3000 Soil Sampling**
 - Clarified and updated text per current information for soil VOCs (EPA Method 5035A)
- **FS 7000 Bioassessment Procedures**
 - Clarifications and changes for various topics (algal preservation, LVS, macroinvertebrate preservation reagents)



DEP SOP Revision Highlights

- **Field Testing SOPs**

- Clarifications to selected text for calibration verifications
- Instructions to record readings to limit of sensor resolution
- Clarified that DO and temperature must be measured in situ
- Flow SOP (FT 1800) completely rewritten per USGS methods
- Clarified selected instructions in HA procedure (FT 3000)

- **Lab Bioassessment SOPs (LT 7000)**

- Updated references for selected metric and scoring information for invertebrates & plants

- **Field Bioassessment SOPs**

- **BRN 1000** — updates guidance, instructions, performance, references, records, training
- **LVI 1000** — updates references, adds preventive measures for invasive plant spreading
- **SCI 1000** — updates references, fixative options, training; clarifies selected instructions