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**CHAPTER 62-160  
QUALITY ASSURANCE**

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**PART I GENERAL****62-160.100 Purpose. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 2-4-93, Formerly 17-160.100, Repealed 3-24-96.

**62-160.110 Purpose Scope and Applicability**

(1) The purpose of this chapter is to assure that chemical, physical, biological, microbiological and toxicological data used by the Department are appropriate and reliable, and are collected and analyzed by scientifically sound procedures. To this end, this chapter defines the minimum field and laboratory quality assurance, methodological and reporting requirements of the Department.

(2) Except as provided in subsection (3) of this section, this chapter shall apply to all programs, projects, studies or other activities that are required by the Department, and that involve the measurement, use or submission of environmental data or reports to the Department. This chapter shall apply to all entities that participate in the process of generating environmental data. This process includes, but is not limited to: field activities (sample collection, sample preservation, field measurements, and site evaluation); sample handling, storage and/or transport (except common carriers); laboratory activities (e.g., sample receipt, analysis, data review and data validation); additional data review, summaries or data presentation activities; and all activities that impact data quality such as providing sample containers, instrument calibration services, or reagents and standards (except commercial vendors).

(3) Programs, projects, studies or activities pertaining to air quality, meteorology, atmospheric radiation, atmospheric noise, electric and magnetic fields or air pollutant emissions, and having no requirements for monitoring contamination of soil, water, or tissue are excluded from the scope of this chapter. These excluded activities include those specified in Chapters 62-204, 62-210, 62-212, 62-213, 62-214, 62-252, 62-296 and 62-297 (Air Resources Management), F.A.C.

(4) The provisions of this chapter shall take precedence over quality assurance requirements in any other Department rule except as otherwise specifically provided for elsewhere in this chapter. However, nothing in this subsection shall be construed to prevent additional or more stringent requirements imposed by any specific contract, order, permit, or Title 62 rule.

(5) All local and state programs or other organizations with delegated responsibility for Department activities shall assure that the Quality Assurance requirements of this chapter are met for the specified activities.

(6) If specifically required by the United States Environmental Protection Agency (EPA) for activities conducted for or funded by EPA, Quality Assurance Project Plans (QAPPs) shall be prepared in accordance with "EPA Requirements for Quality

Assurance Project Plans, EPA QA/R-5" (EPA/240/B-01/003 March 2001), which is incorporated by reference in Rule 62-160.800, F.A.C. These QAPPs will be reviewed and approved by the appropriate EPA office or delegated authority.

(7) This chapter supports the Quality Assurance Management Plan required by the EPA for any environmental programs funded in part or in whole by the EPA, as specified in EPA Order CIO 2105.0 (formerly 5360.1 A2), dated May 5, 2000, which is incorporated by reference in Rule 62-160.800, F.A.C.

(8) All requirements specified in this chapter shall take effect on the date that this chapter is effective. Quality assurance requirements in Department contracts, orders or permits issued or entered into prior to the effective date of this chapter shall remain in effect until such contracts, orders or permits are modified or renewed. Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.110, Amended 3-24-96, 4-9-02, 6-8-04, 12-3-08.

#### **62-160.120 Definitions and Standards**

For purposes of this chapter:

(1) "Alternative method" is a field procedure or analytical laboratory method that involves the collection or testing of environmental samples for an analyte (chemical compound, component, microorganism, etc.) in a specified matrix where a Department-approved method already exists. An alternative method is one intended to be used in place of an existing Department-approved laboratory method or field procedure.

(2) "Audit" is a systematic review of laboratory and field protocols to determine if proper procedures are being used and supporting documentation is present. An audit shall consist of an on-site assessment of sample collection, field sampling procedures, laboratory procedures and/or a review, assessment and/or validation of data associated with a Department program activity. If necessary, an audit shall include the submission of performance samples (for example, blind, split and/or performance check samples) to an organization for subsequent use in the evaluation of that organization's technical performance associated with a specific Department project or program activity.

(3) "Common Carrier" is a business or agency that is available to the general public for the transportation of goods over a definite route and according to a regular schedule.

(4) "Commercial Vendor" is a retail or wholesale company whose business is to sell commodities to customers and who is not a part of the process that generates environmental data. These businesses do not include organizations that purchase commodities with the intent of providing the commodities as a service to clients.

(5) "Data quality objectives" are a set of qualitative and quantitative statements derived from a systematic planning process that clarify the purpose of the study, define the most appropriate type of information to collect, determine the most

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appropriate conditions from which to collect that information, and specify tolerable levels of potential decision errors.

(6) “Data validation” is an evaluation of the technical usability of the verified data with respect to the planned objectives or intention of a project.

(7) “Data verification” is a consistent, systematic process that determines whether the data have been collected in accordance with project specifications with respect to compliance, correctness, consistency and completeness as compared to a method standard or contract specification.

(8) “Department” is the Florida Department of Environmental Protection.

(9) “Department-approved method” is a field procedure or laboratory analytical method specified as acceptable for use in this chapter and in any other Department contract, order, permit or Title 62 rule.

(10) “Department of Health (DOH) Environmental Laboratory Certification Program (ELCP)” is the state of Florida’s environmental laboratory certification program, authorized by Section 381.00591, F.S., and recognized by the National Environmental Laboratory Accreditation Program (NELAP) as an authority with responsibility and accountability for granting accreditation for specified fields of laboratory testing through Chapter 64E-1, F.A.C.

(11) “Electronic signature” means an electronic sound, symbol, or process attached to or logically associated with a record and executed or adopted by a person with the intent to sign the record.

(12) “Holding time” is the storage time allowed between sample collection and sample preparation and/or analysis as specified by regulatory requirements or by the field sample collection protocol or laboratory method.

(13) “Limited-use method” is an analytical laboratory method that is validated for the testing of environmental samples from a particular site, waste stream (e.g., facility location) or sample matrix (e.g., effluent, groundwater or drinking water). A limited-use method is validated by a single laboratory and may only be used by that laboratory.

(14) “Matrix” is the predominant material in which an analyte of interest is contained. For example, soil, groundwater and drinking water are three environmental matrices.

(15) “Method-defined analyte” is defined by the U.S. Environmental Protection Agency as an analyte whose result is totally dependent on how the measurement is made. Any changes or modifications in the preparation or determinative techniques of these methods have the potential of changing the result. Examples are: Carbonaceous Biological Oxygen Demand, Oil and Grease, and Toxicity Characteristic Leaching Procedure (TCLP).

(16) “Method detection limit (MDL)” is an estimate of the minimum amount of a substance that an analytical process can reliably detect. An MDL is analyte- and matrix-specific and is laboratory-dependent. The MDL for an analyte is determined from the preparation and analysis of a sample in a given matrix containing the analyte. MDLs shall be determined for each matrix/analytical technology/analyte combination reported

by the laboratory. MDLs shall be calculated following the procedures specified in “New and Alternative Analytical Laboratory Methods”, DEP-QA-001/01 (February 1, 2004) which is incorporated by reference in Rule 62-160.800, F.A.C., or by any other technically justifiable and scientifically sound method. A specific method must be used when mandated by a Department program.

(17) “Method modification” is any modification to an approved field procedure or analytical laboratory method that is specifically allowed by the approved field procedure or analytical laboratory method.

(18) “NELAC Field of Accreditation Matrix” is defined in the Glossary of the 2001 NELAC Standards, which is incorporated by reference in Rule 62-160.800, F.A.C., and shall be used to determine matrices under which a laboratory must be certified:

(a) Drinking Water: any aqueous sample that has been collected from a water source designated by the Department as a potable or potential potable water source.

(b) Non-potable Water: any aqueous sample excluded from the definition of drinking water matrix including surface water, groundwater, effluents, water treatment chemicals, and toxicity characteristic leaching procedures (TCLP) or other extracts. To be considered as non-potable water, water treatment chemicals must be in an aqueous solution. If the laboratory receives the original environmental sample as a solid or chemical material for TCLP extraction, the laboratory must be certified for the TCLP extraction in the Solid and Chemical Material matrix. For the analytical tests to be performed on the TCLP extract, the laboratory must be certified in the non-potable water matrix for at least one method for each analytical technology/analyte combination for each reported analyte.

(c) Solid and Chemical Materials: includes soils, sediments, sludges, products and by-products of an industrial process that results in a matrix not previously defined. For purposes of accreditation, biosolids are considered a solid.

(d) Biological Tissue: any sample of a biological origin such as fish tissue, shellfish, or plant material.

(19) “National Environmental Laboratory Accreditation Conference (NELAC)” was a voluntary organization of state and federal environmental agencies, sponsored by the EPA, and formed to establish and promote mutually acceptable performance standards for the operation of environmental laboratories seeking NELAP accreditation.

(20) “National Environmental Laboratory Accreditation Program (NELAP)” is a program that implements standards that have been found to be acceptable to the NELAP accrediting authorities.

(21) “NELAP accreditation” is an accreditation status applied to a laboratory’s field(s) of testing upon satisfying all requirements for certification as provided in Chapter 64E-1, F.A.C.

(22) “New method” is a field procedure or analytical laboratory method that involves the collection or testing of samples for an analyte (chemical compound, component, microorganism, etc.) in a specified matrix where a Department-approved method does not exist.

(23) “Percent relative standard deviation (% RSD)” is a calculated measure of precision from results of replicate sample analyses. It is calculated as specified in DEP-QA-001/01 (February 1, 2004), which is incorporated by reference in Rule 62-160.800, F.A.C.

(24) “Permit” is any permit or license issued by the Department pursuant to its lawful authority, or by another government agency under delegation of authority from the Department.

(25) “Practical quantitation limit (PQL)” is the lowest level of measurement that can be reliably achieved during routine laboratory operating conditions within specified limits of precision and accuracy. For Departmental use, if a laboratory fails to report a PQL, the PQL shall be calculated as four times the MDL.

(26) “Quality assurance” is an integrated system of management activities involving planning, implementation, documentation, assessment, reporting and quality improvement to ensure that a process, product or service meets defined standards of quality.

(27) “Quality assurance project plan (QAPP)” is a document required by the EPA for certain activities conducted for or funded by the EPA. The plan outlines the quality assurance criteria, as well as all protocols and quality control measures needed to meet the project data quality objectives. These plans are prepared in accordance with “EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5”, (EPA/240/B-01/003 March 2001). These QAPPs are reviewed and approved by the appropriate EPA office or delegated authority.

(28) “Quality control” is the overall system of technical activities that measures the attributes and performance of a process, product or service against defined standards to verify that they meet the established data quality objectives.

(29) “Relative percent difference (RPD)” is a calculated measure used to compare results from duplicate sample analyses. It is calculated as specified in DEP-QA-001/01 (February 1, 2004), which is incorporated by reference in Rule 62-160.800, F.A.C.

(30) “Research method” is a field procedure or analytical laboratory method that involves the evaluation or use of a new, innovative technology.

(31) “Secondary Use Date” means information submitted to the Department that is being considered for use for purposes other than that for which the data were originally generated.

(32) “Site-specific sampling method” is a field method that is validated for the collection of environmental samples from a particular site, waste stream (e.g., facility location), or sample matrix (e.g., effluent, groundwater or drinking water). A site-specific sampling method is approved for use on a specific site by any field organization that is conducting field activities for that site. The approval of a site-specific sampling method does not apply to a sampling organization that wishes to use the method on other sites or intended for other projects. The alternate approval process is outlined in Sections FA 2100 and FA 2200 of FA 1000 of DEP-SOP-001/01 (March 31, 2008), which is incorporated by reference in Rule 62-160.800, F.A.C.

(33) "Spike" is an environmental sample that has been fortified with a known chemical of interest, at a known concentration. The purpose of a spike is to determine the method recovery efficiency for the chemical of interest, at the fortified concentration level, in the particular environmental sample of interest.

(34) "Statewide method" is a field procedure or analytical laboratory method that is validated for the collection or testing of environmental samples from similar sites or waste streams within the state of Florida by multiple field sampling organizations or laboratories, as applicable. The process for the validation of a statewide method is outlined in Sections FA 2100 and FA 2200 of FA 1000 (Regulatory Scope and Administrative Procedures for Use of FDEP SOPs) in DEP-SOP-001/01 (March 31, 2008), and "New and Alternative Analytical Laboratory Methods", DEP-QA-001/01 (February 1, 2004)" which are incorporated by reference in Rule 62-160.800, F.A.C.

(35) "Surrogate spikes" are samples fortified at known concentration(s) with a compound(s) having similar chemical characteristics to the compounds of interest, but which are not normally found in environmental samples.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.120, Amended 3-24-96, 4-9-02, 6-8-04, 12-3-08.

## PART II FIELD PROCEDURES

### **62-160.200 Introduction and General Requirements. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 2-4-93, Formerly 17-160.200, Repealed 3-24-96.

### **62-160.210 Approved Field Procedures.**

(1) All entities that conduct or support field activities and field measurements shall follow the applicable procedures and requirements described in DEP-SOP-001/01 (March 31, 2008), which is incorporated by reference in Rule 62-160.800, F.A.C., unless specifically exempted by the rules of a particular Department program.

(2) Any party that wishes to apply for new or alternative field procedures other than those specified in DEP-SOP-001/01 (March 31, 2008) shall follow the requirements provided in Rule 62-160.220, F.A.C.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853

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FS. History–New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.210, Amended 3-24-96, 10-15-96, 4-9-02, 6-8-04, 12-3-08.

**62-160.220 Approval of New and Alternative Field Procedures.**

(1) Any party may apply for use of a field procedure other than those specified in DEP-SOP-001/01 (March 31, 2008). Any field procedure not included in DEP-SOP-001/01 (March 31, 2008) must be approved by the Department prior to use according to the requirements of Sections FA 2100 and FA 2200 of FA 1000 of DEP-SOP-001/01 (March 31, 2008). Field procedures approved for use by a contract, order, or permit before the effective date of this chapter shall remain approved for the duration of the project. The documentation that approved the use of the procedure must be retained for at least five years after the last use of the procedure.

(2) Field procedures not included in DEP-SOP-001/01 (March 31, 2008) or not specified by Department contracts, orders or permits, fall into one of the following two categories:

(a) New – a field procedure that involves the collection of an analyte (chemical compound, component, microorganism, etc.) in a specified matrix where a Department-approved field procedure does not exist.

(b) Alternative – a field procedure that involves the collection of an analyte (chemical compound, component, microorganism, etc.) in a specified matrix where a Department-approved procedure already exists. An alternative procedure is one intended to be used in place of an existing Department-approved field procedure. Alternative procedures cannot be approved for the following methods in DEP-SOP-001/01:

1. FS 7410, Rapid Bioassessment (Biorecon) Method;
2. FS 7420, Stream Condition Index (D-Frame Dipnet) Sampling;
3. FS 7460, Lake Condition Index (Lake Composite Sampling);
4. FT 3000, Aquatic Habitat Characterization;
5. FS 7220, Qualitative Periphyton Sampling;
6. FS 7230, Rapid Periphyton Survey, and
7. FS 7310, Lake Vegetation Index Sampling (LVI).

(3) A modification to an approved field procedure that is specifically allowed by the approved procedure is not considered an alternative or new procedures and does not require approval by the Department prior to use. However, the entity performing the modified procedure shall retain all data that demonstrate that the modification produces equivalent results when applied to the relevant sample matrix. These records shall be retained for at least five years after the last use of the modification.

(4) A new or alternative field procedure shall be evaluated based on its intended use. A new or alternative field procedure falls into one of two use categories:

(a) Site-Specific Sampling Method – the field procedure is validated for a specified project. A site-specific sampling method is approved for the project, and may be used by any organization designated to perform the procedure for the project.

(b) Statewide-Use Sampling Method – the field procedure is collaboratively validated for the collection of environmental samples from similar sites, matrices, waste streams, etc. within the state of Florida by multiple parties.

(5) Research field collection procedures shall be submitted for review and approval according to the requirements provided in Rule 62-160.600, F.A.C. If a method is initially developed for research purposes but will subsequently be used for compliance or other regulatory activities, the procedure(s) shall be submitted for review and approval according to subsections 62-160.220(1), (2), (4) and (6), F.A.C.

(6) Complete requests for a new or alternative field procedure shall be approved if the Department determines that the circumstances for the modification are justified, based on technical merit or logistical limitations in the sampling design, and that the requested modification would cause no loss in the ability of the requesting organization to evaluate data quality. In addition, any alternative field procedure must be demonstrated to meet or exceed the data quality objectives of the project.

(7) The approval or disapproval of any submitted new or alternative field procedure shall be noticed as follows:

(a) For procedures that are submitted for site-specific use, the Department shall issue an order of approval or disapproval of the new or alternative field procedure to the person who submitted the procedure (including the Department). Any additional administrative or scientific information pertinent to the approval or disapproval of the procedure shall be included or incorporated by reference in the order. On the date of its issuance, the order and the new or alternative field procedure shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the approval or disapproval of the submitted procedure via the designated listserve.

(b) For procedures that are submitted for statewide use, the Department shall issue an order to the person who submitted the procedure (including the Department). Any additional administrative or scientific information pertinent to the approval or disapproval of the procedure shall be included or incorporated by reference in the order. A notice of the order approving or disapproving the procedure shall be published in the Florida Administrative Weekly. On the date of its issuance, the order and the new or alternative field procedure shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the approval or disapproval of the submitted procedure via the designated listserve.

(c) Any person substantially affected by the approval or disapproval of the new or alternative field procedure may request an administrative hearing as provided in Chapter 120, F.S., within 21 days of the date of the order for site-specific use and within 21 days of the date of publication of the order in the Florida Administrative Weekly for state-wide use.

(8) Any new or alternative field procedure approved for statewide use shall be incorporated into updates of the Department's field sampling procedures (DEP-SOP-

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001/01). New or alternative field procedures approved for limited use shall not be incorporated into DEP-SOP-001/01.

(9) A field procedure approved by the Department shall be removed from approval if new technical, scientific or regulatory information justifies its removal. The Department shall use the best scientific and technical information, methods and data in its possession in making the determination to remove a procedure from approval.

(a) For a new or alternative field procedure that was approved for site-specific use, the Department shall issue an order of rescission of approval of the new or alternative field procedure to the person who submitted the procedure (including the Department). Any additional administrative or scientific information pertinent to the rescission of approval of the procedure shall be included or incorporated by reference in the order. On the date of its issuance, the order shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the rescission of approval of the procedure via the designated listserve. Any person substantially affected by the rescission of approval of the new or alternative field procedure may request an administrative hearing as provided in Chapter 120, F.S., within 21 days of the date of the order.

(b) For a new or alternative field procedure that was approved for statewide use, the Department shall issue an order of rescission of approval of the new or alternative field procedure to the person who submitted the procedure (including the Department). Any additional administrative or scientific information pertinent to the rescission of approval of the procedure shall be included or incorporated by reference in the order. A notice of the order rescinding approval of the procedure shall be published in the Florida Administrative Weekly. On the date of its issuance, the order shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the rescission of approval of the procedure via the designated listserve. Any person substantially affected by the rescission of approval of the new or alternative field procedure may request an administrative hearing as provided in Chapter 120, F.S., within 21 days of the date of publication of the order in the Florida Administrative Weekly.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 1-1-91, Amended 2-4-93, Formerly 17-160.220, Amended 3-24-96, 10-15-96, 4-9-02, 6-8-04, 12-3-08.

#### **62-160.230 Research Quality Assurance Plans. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 2-4-93, Formerly 17-160.230, Repealed 3-24-96.

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**62-160.240 Record Keeping and Reporting Requirements for Field Procedures**

(1) The record keeping requirements for entities that conduct or support field activities and field measurements are specified in DEP-SOP-001/01 FD 1000 (March 31, 2008). The specified records shall contain sufficient information to allow independent reconstruction of all activities related to generating data that are submitted to the Department. These records shall be kept by the generator of the records for a minimum of five years after the date of project completion or permit cycle unless otherwise specified in a Department contract, order, permit or Title 62 rules.

(2) When requested by the Department, the following field sampling information shall be provided to the Department for each site/facility and sampling location, as applicable:

- (a) Project information including:
  - 1. Project and/or program identification or name; and
  - 2. Site and/or facility name, address and phone number.
- (b) Site and/or facility locational information to include:
  - 1. Latitude measure in degrees-minutes-seconds (seconds may contain up to four decimal places);
  - 2. Longitude measure in degrees-minutes-seconds (seconds may contain up to four decimal places);
  - 3. Datum – the horizontal reference for measuring locations on the Earth's surface;
  - 4. Spheroid – the ellipsoid used as a model for the surface of the Earth; and
  - 5. Geolocational collection information:
    - a. Collection method – the method or mechanism used to derive the measurements;
    - b. Collector name – name of individual who collected the locational data;
    - c. Collector affiliation – collector's agency or entity affiliation;
    - d. Collection date – date locational data were collected;
    - e. Relationship of point to feature – the type of the feature for which the measurement is being made;
    - f. Coordinate accuracy level – the measured, estimated or deduced degree of correctness of the measurement; and
    - g. Verification information including name of the person verifying the measurement, the date and the time when verification was performed.
- (c) Information about the collected samples:
  - 1. Name(s) and affiliation of individual(s) collecting samples;
  - 2. Sampling method(s) used;
  - 3. Sample description such as sample type, sample matrix, and sample treatments (preservation, filtration, etc.);
  - 4. Client or field identification number for each sample;
  - 5. Date and time of sample collection, including date and time sample collection ended (if collecting a composite sample);

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6. Sample collection depth;
  7. Unambiguous identification of all field-generated quality control samples such as field or equipment blanks, replicate samples or split samples; and
  8. Any additional information from the field documentation records specified in DEP-SOP-001/01 (March 31, 2008).
    - (d) Information about field measurement activities:
      1. Method(s) used to make field measurement;
      2. Name of field parameter;
      3. Result, result units and associated data qualifier code(s); and
      4. Any additional information from the field documentation records specified in DEP-SOP-001/01 (March 31, 2008).
    - (e) Information about site conditions:
      1. Weather;
      2. Flow (including units); and
      3. Any additional information from the field documentation records specified in DEP-SOP-001/001/01 (March 31, 2008).
    - (f) Any additional information specified by the Department in contracts, orders, permits or Title 62 rules.
  - (3) Field sampling data issued to a client(s) for Department-related work or directly to the Department shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, as specified by the Department in applicable contracts, orders, permits or Title 62 rules. In addition, certain Department programs specify the submission of paper reports. Field sampling information may be incorporated into laboratory reports specified in Rule 62-160.340, F.A.C. Specific electronic and paper report format requirements shall be as specified by the Department in the applicable contract, order, permit or Title 62 rule. Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 4-9-02, Amended 6-8-04, 12-3-08.

### PART III LABORATORY CERTIFICATION AND PROCEDURES

#### **62-160.300 Laboratory Certification.**

(1) Except as provided in subsections 62-160.300(2), (3), (4) and (5), F.A.C., or other Title 62 rules, all laboratories generating environmental data for submission to the Department or for use in Department-regulated or Department-sponsored activities shall hold certification from the DOH ELCP.

(a) Certification shall be based on the matrix of the sample. The matrix of a sample is defined to be the condition under which the laboratory originally receives the sample, and shall be classified according to the NELAC Field of Accreditation Matrix groups defined by subsection 62-160.120(18), F.A.C.

(b) For laboratories reporting data for drinking water compliance, certification shall be for all matrix/text method/analyte(s) combinations being reported.

(c) For the non-potable water matrix, laboratories shall apply for and receive certification in at least one method for each matrix/ analytical technology/analyte combination being measured. For informational purposes, the Department shall maintain a list of the acceptable equivalent matrix/analytical technology/analyte combinations and the methods associated with them.

1. When a Department contract, order, permit or Title 62 rule, requires a specific method to be reported, laboratories shall report only that method. Laboratories may report additional analytes not published in the reported method, if method(s) for the analyte(s) have not been specified by the Department and the laboratory has met the certification requirement of paragraph 62-160.300(1)(c), F.A.C.

2. Except as noted in sub-paragraph 62-160.300(1)(c)1., F.A.C., above, laboratories may report results by any method that is equivalent in technology to the method for which they hold certification, provided they are certified for the analyte that is reported. When laboratories report a method for which they do not hold certification, the laboratory shall ensure that all the requisite quality control and calibration requirements of the reported method are met.

3. If a laboratory is required to provide data for an analyte for which no method exists in the non-potable water matrix, but exists for the drinking water matrix, the laboratory is not required to obtain certification for the method-technology/analyte combination in the non-potable water matrix. However, the laboratory must be certified in the drinking water matrix for the reported method/analyte combination.

(d) For all other matrices, laboratories shall apply for and receive certification for all matrix/test method/analyte combinations that are reported to the Department.

(2) To the extent possible, a laboratory must be certified as specified in subsection 62-160.300(1), F.A.C., before reporting results for a given matrix/analytical technology or test method/analyte combination. However, if a laboratory makes a written request to the Department to use a method that is not certified, a Department program will allow a laboratory to begin using a method before the certification process is complete if the laboratory wishes to add an analyte to a matrix/analytical technology or test method combination that is already certified; or if the laboratory is certified for a specific matrix/analytical technology or test method/analyte combination and wishes to add the capability of analyzing samples using the same analytical technology or test method/analyte combination in a different matrix.

(a) The laboratory must have met all the requirements for certification except for the on-site visit by DOH ELCP inspectors. The laboratory must be prepared to provide to the Department copies of the relevant application, applicable performance test sample results and the initial demonstration of capability.

(b) The precision, accuracy and method detection limits generated by the laboratory must meet or exceed the project-specific data quality objectives.

(c) The laboratory shall notify the Department of the status of its certification application within 90 days of the on-site visit by DOH ELCP inspectors.

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(3) Laboratory certification by the DOH ELCP is not required for the following test procedures when conducted for the purposes of drinking water compliance:

- (a) Alkalinity;
- (b) Bromide;
- (c) Calcium;
- (d) Chlorite (only at entrances to distribution systems);
- (e) Specific conductance;
- (f) Disinfectant residual (includes residual chlorine);
- (g) Orthophosphate;
- (h) pH;
- (i) Silica;
- (j) Specific ultraviolet absorbance;
- (k) Temperature;
- (l) Total organic carbon; or
- (m) Turbidity.

In cases where the Department has a specific field testing method standard operating procedure (e.g., FT 1100 for pH), the laboratory shall follow the Department's procedures. For all other analytes, a laboratory shall only use test methods that are acceptable for drinking water compliance.

(4) Except for drinking water compliance testing (see subsection 62-160.300(3), F.A.C.), laboratories are not required to be certified by the DOH ELCP when conducting the following test procedures:

- (a) pH;
- (b) Dissolved oxygen;
- (c) Specific conductivity;
- (d) Temperature;
- (e) Total residual chlorine (including free available chlorine);
- (f) Transparency or light penetration;
- (g) Salinity;
- (h) Oxidation/reduction potential;
- (i) Turbidity;
- (j) Explosive gases (when monitoring for the Lower Explosive Limit);
- (k) Sulfite (when performed at the sampling location);
- (l) Sediment oxygen demand;
- (m) Any other test with a specific holding time of fifteen minutes or less when performed at the sampling location; and
- (n) Any test in which the reported result is a calculation from the results of other tests for which the laboratory holds certification by the DOH ELCP. When conducting the analyses specified in paragraphs 62-160.300(4)(a) through (n), F.A.C., laboratories shall follow the applicable standard operating procedures in DEP-SOP-001/01 (March 31, 2008). If a method is not listed in DEP-SOP-001/01, the laboratory shall use an approved laboratory method as identified in Rule 62-160.320, F.A.C.

(5) Certification is not required for:

(a) Any analyses related solely to internal process control;

(b) Geochemical parameters and bacteriological tests conducted at the sampling location for the purposes of evaluating remediation activities;

(c) Those matrix/method/analyte combinations (such as taxonomic identification) that are not included in the DOH ELCP scope of accreditation;

(d) Research-oriented methods as described in Rule 62-160.600, F.A.C.; or

(e) Methods developed for site-specific, limited-use purpose if such certification is specifically waived by the Department program for which the method will be used.

(6) Even if certification is not required (see subsections 62-160.300(3), (4) and (5), F.A.C.), laboratory organizations shall follow the relevant Department-approved methods as provided in Rule 62-160.320, F.A.C., as applicable. In addition, the laboratory shall operate a quality assurance program consistent with the quality systems standards of the NELAC specified in Chapter 64E-1, F.A.C.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853, 403.803 FS. History—New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.300, Amended 3-24-96, 4-9-02, 6-8-04, 12-3-08.

#### **62-160.310 Direct Contracts with the Department. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 10-30-91, Formerly 17-160.310, Repealed 3-24-96.

#### **62-160.320 Approved Laboratory Methods.**

(1) Approved laboratory methods are specified in the Department's program rules, contracts, orders or permits. When methods are specified by a Department program, rule, contract, order or permit, only those methods shall be used. For informational purposes, the Department maintains a list of methods and method compendiums that have been recognized by various Departmental programs. However, this list shall not supersede or limit the use of other methods that are required by contract, order, permit or Title 62 rule. Upon request, this list will be provided by the Department, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

(a) On March 12, 2007, and March 26, 2007, the Environmental Protection Agency published updated lists of methods to be used by laboratories reporting data under the Clean Water Act and Safe Drinking Water Act (Federal Register, Vol. 72, No. 47 and Vol. 72, No. 57, respectively), which are incorporated by reference in Rule 62-160.800, F.A.C. These lists withdrew many older methods.

(b) Laboratories that are certified under the withdrawn method(s) shall apply for and receive certification for a method to take the place of the withdrawn method(s).

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Laboratories shall be certified for the replacement method(s) within six (6) months after the effective date of this rule.

(2) Laboratories performing taxonomic identification for periphyton or macrobenthic invertebrates shall use DEP-SOP-002/01, Method LQ 7000 (found in LQ 1000), which is incorporated by reference in Rule 62-160.800, F.A.C.

(3) Laboratories calculating the Stream Condition Index (SCI), the Lake Condition Index, the Lake Vegetation Index or making a Biorecon determination shall follow DEP-SOP-002/01, Methods LD 7000 and LT 7000 found in LD 1000 and LT 1000 respectively, which are incorporated by reference in Rule 62-160.800, F.A.C.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 4-9-02, Amended 12-3-08.

### **62-160.330 Approval of New and Alternative Laboratory Methods.**

(1) Any party may apply for use of a laboratory method other than those specified in the Department's contracts, orders, permits, or Title 62 rules. Laboratory methods that have been approved for use in a contract, order, permit or Title 62 rule before the effective date of this chapter shall remain approved. The documentation that approved the use of the procedure must be retained for at least five years after the last use of the procedure.

(2) All laboratory methods that support a Department contract, order, permit or Title 62 rule must be approved by the Department prior to use. These methods fall into one of two categories:

(a) New – an analytical laboratory method that tests for an analyte (chemical compound, component, microorganism, etc.) in a specified matrix where a Department-approved method does not exist;

(b) Alternative – an analytical laboratory method that tests for an analyte (chemical compound, component, microorganism, etc.) in a specified matrix where a Department-approved method does exist. An alternative method is one intended to be used in place of an existing Department-approved method. Alternative procedures cannot be approved for:

1. Alternatives to methods that the United States Environmental Protection Agency has designated as "method-defined analyte"; and

2. The following methods from DEP-SOP-002/01, LT 1000:

a. LT 7100, Biorecon Determination;

b. LT 7200, Stream Condition Index (SCI) Determination;

c. LT 7300, Lake Condition Index (LCI) Determination; and

d. LT 7500, Lake Vegetation Index (LVI) Determination.

(3) A method modification is any modification to an approved analytical laboratory method that is specifically allowed by the approved method. Method modifications are not considered alternative methods and do not require approval by the Department prior to use. However, the laboratory shall retain all data that demonstrate

that the modification produces equivalent results to the unmodified method. These records shall be retained for at least five years after the last use of the modification.

(4) New and alternative methods shall be demonstrated as appropriate for use according to the requirements in New and Alternative Analytical Laboratory Methods, DEP-QA-001/01 (February 1, 2004) unless otherwise specified in a Department contract, order, permit or Title 62 rule. A new or alternative laboratory method shall be evaluated based on its intended use:

(a) Limited-Use Method – the laboratory method is intended only for testing environmental samples from a particular site, waste stream (e.g., facility location) or sample matrix (e.g., effluent, groundwater or drinking water). A limited-use method is validated by a single laboratory and shall only be used by that laboratory.

(b) Statewide-Use Method – the laboratory method is intended for testing environmental samples from similar sites or waste streams within the state of Florida by multiple laboratories. For a statewide method, the Department requires an interlaboratory collaborative study following the specifications in Appendix D of the Official Methods of Analysis of the Association of Official Analytical Chemists (1995), incorporated by reference in Rule 62-160.800, F.A.C. Alternatively, an interlaboratory collaborative study that is designed based on procedures published by a nationally recognized consensus-based standards organization (e.g., American Society for Testing and Materials) may be used. Specifications for these studies are provided in DEP-QA-001/01 (February 1, 2004).

(5) Research methods shall be submitted for review and approval according to the requirements provided in Rule 62-160.600, F.A.C. If a method is initially developed for research purposes but will subsequently be used for compliance or other regulatory activities, the method shall be submitted for review and approval according to subsections 62-160.330(1), (2) and (4), F.A.C.

(6) The approval or disapproval of any submitted new or alternative method shall be noticed as follows:

(a) For methods that are submitted for limited use, the Department shall issue an order of approval or disapproval of the new or alternative method to the person who submitted the method (including the Department). Any additional administrative or scientific information pertinent to the approval or disapproval of the method shall be included or incorporated by reference in the order. On the date of its issuance, the order and the new or alternative method shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the approval or disapproval of the submitted method via the designated listserve.

(b) For methods that are submitted for statewide use, the Department shall issue an order to the person who submitted the method (including the Department). Any additional administrative or scientific information pertinent to the approval or disapproval of the method shall be included or incorporated by reference in the order. A notice of the order approving or disapproving the method shall be published in the Florida Administrative Weekly. On the date of its issuance, the order and the new or alternative

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method shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the approval or disapproval of the submitted method via the designated listserve.

(c) Any substantially affected party may request an administrative hearing as provided in Chapter 120, F.S., within 21 days of the date of the order for limited use or within 21 days of the date publication of the order in the Florida Administrative Weekly for state-wide use.

(7) Applicants who are analyzing discharges regulated under the National Pollutant Discharge Elimination System (NPDES) permit system shall comply with applicable provisions of the United States Environmental Protection Agency regulations in 40 CFR Part 136 paragraphs 136.4, 136.5 and 136.6 (2008). Applicants shall submit the application to the Department, which shall forward the application to the United States Environmental Protection Agency Administrator of Region 4 for review and approval. The determination for approval or rejection shall be made by the United States Environmental Protection Agency.

(8) Applicants who are analyzing compliance samples under the Safe Drinking Water Act shall comply with the applicable provisions of the United States Environmental Protection Agency regulations (40 CFR Part 141 paragraph 127) and Department Rule 62-550.550, F.A.C. Use of an alternative analytical technique requires written permission from the Department and United States Environmental Protection Agency.

(9) Except for methods promulgated by the United States Environmental Protection Agency in the Federal Register, a new or alternative laboratory method approved by the Department shall be removed from approval if new technical, scientific or regulatory information justifies its removal. The Department shall use the best scientific and technical information, methods and data in its possession in making the determination to remove a laboratory method from approval.

(a) For a new or alternative laboratory method that was approved for limited use, the Department shall issue an order of rescission of approval of the new or alternative laboratory method to the person who submitted the method (including the Department). Any additional administrative or scientific information pertinent to the rescission of approval of the method shall be included or incorporated by reference in the order. On the date of its issuance, the order shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the rescission of approval of the method via the designated listserve. Any person substantially affected by the rescission of approval of the new or alternative laboratory method may request an administrative hearing as provided in Chapter 120, F.S., within 21 days of the date of the order.

(b) For a new or alternative laboratory method that was approved for statewide use, the Department shall issue an order of rescission of approval of the new or alternative laboratory method to the person who submitted the method (including the Department). Any additional administrative or scientific information pertinent to the rescission of approval of the method shall be included or incorporated by reference in

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the order. A notice of the order rescinding approval of the method shall be published in the Florida Administrative Weekly. On the date of its issuance, the order shall be posted on the Department's Internet site, and all persons enrolled to receive the Department's Quality of Science eNewsletter shall be notified of the rescission of approval of the method via the designated listserv. Any person substantially affected by the rescission of approval of the new or alternative laboratory method may request an administrative hearing as provided in Chapter 120, F.S., within 21 days of the date of publication of the order in the Florida Administrative Weekly.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 4-9-02, Amended 6-8-04, 12-3-08.

#### **62-160.340 Record Keeping and Reporting Requirements for Laboratory Procedures.**

(1) Laboratory record keeping requirements shall follow those specified by the DOH ELCP Chapter 64E-1, F.A.C., and this chapter. Records shall be retained for a minimum of five years after the date of project completion or permit cycle unless otherwise specified in a Department contract, order, permit or Title 62 rules. The laboratory records shall contain sufficient information to allow independent reconstruction of all activities related to generating data that are submitted to the Department. In addition, the laboratory shall ensure that its records include all information necessary to support the analytical report (subsection 62-160.340(2), F.A.C.). When requested by the Department, the laboratory shall provide applicable records or copies of the records to the Department. These records shall include, but are not limited to:

- (a) Laboratory and project information including:
  - 1. Signed and dated final report as specified in subsection (2) below;
  - 2. Project information such as client name, site name, client project number, or client project name;
  - 3. When applicable, the quality assurance project plan associated with the project;
  - 4. Client or field identification number for each sample;
  - 5. Date and time of sample collection;
  - 6. Sample matrix (e.g., groundwater, effluent, waste, soil, etc.);
  - 7. Sample type (e.g., environmental sample, field blank, matrix spike); and
  - 8. Identification of all laboratories providing analytical results in the report and the appropriate laboratory certification numbers from the DOH ELCP (if applicable) for each laboratory.
- (b) Sample receipt, preparation and analysis information including:
  - 1. Laboratory identification number for each sample fraction;
  - 2. Sample receipt conditions such as proper and intact custody seals;

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3. Positive verification of chemical and/or physical sample preservation during sample receipt and/or before sample analysis. The information shall include the preservation acceptance criteria, an indication of acceptability, and the value(s) if the criteria are not met;
  4. Sample preparation information, if applicable, including method, date of sample preparation and time of sample preparation if the holding time specified in Rule 62-160.400, F.A.C., is less than or equal to 72 hours;
  5. Sample analysis information including analytical method, date of sample analysis, and time of sample analysis if the holding time specified in Rule 62-160.400, F.A.C., is less than or equal to 72 hours; and
  6. Original analysis records such as strip chart recordings, laboratory notebooks, chromatograms, etc.
    - (c) Sample result information including:
      1. Analyte or organism name as applicable;
      2. Test result with all applicable data qualifiers, as specified in Table 1: Data Qualifier Codes;
      3. Test result units;
      4. Other sample characteristics such as percent moisture or fraction (i.e., total or dissolved); and
      5. Textual comments, if applicable, that specify any deviations (such as failed quality control), additions to, or exclusions from, the analytical method, and any non-standard conditions (such as sample matrix or environmental conditions) that have affected the quality of results.
    - (d) Laboratory quality control information including:
      1. Identification that unambiguously links groups of samples to a specified set of activities such as preparation, analysis, shipping, reporting, or quality control;
      2. Laboratory blank results (results for any laboratory blank analysis as required by the DOH ELCP certification or the analytical method); and
      3. Information pertaining to replicate sample analysis including an unambiguous designation of the replicate sample (e.g., sample duplicate, sample matrix spike duplicate, laboratory control spike duplicate, etc.); result of laboratory replicate analysis; replicate precision expressed in terms required by the reported method or as Relative Percent Difference or Percent Relative Standard Deviation (defined in DEP-QA-001/01 (February 1, 2004)); and acceptance limits for controlling replicate precision (in-house control limits used by the data generator when control limits are not specified by the reported method or data quality objectives identified by the Department).
    - (e) Instrument Calibration/Verification including:
      1. Number of standards;
      2. Acceptability requirements for initial calibration, and initial and continuing calibration verifications; and
      3. Origin, and preparation (if applicable) for all standards used for calibration.
    - (f) For chemical testing:
      1. When applicable, indication that a sample was filtered in the laboratory;

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2. For each analyte, records to support:
    - a. When applicable, determination of method detection limit(s) and practical quantitation limit(s) including the method by which each are determined; the raw and processed data supporting the determination(s); and effective dates; and
    - b. Dilution factor (if applicable).
  3. Matrix or laboratory control spike information including concentration level (level of analyte added to a spiked sample), matrix or laboratory control spike recovery (results for matrix spike/duplicate sample analysis including those required by methods) and matrix or laboratory control spike recovery limits (in-house recovery limits used by the data generator when control limits are not specified by the reported method or data quality objectives identified by the Department); and
  4. When performed, surrogate spike information including concentration level (level of analyte added to the sample), surrogate spike recovery, and surrogate recovery limits (in-house recovery limits used by the data generator when control limits are not specified by the reported method or data quality objectives identified by the Department).
    - (g) For microbiological testing:
      1. Results of all applicable reagent or dilution water quality or suitability test associated with samples;
      2. Results of all media quality control tests; and
      3. Sample ID of sample used to verify positive results and results of such verifications.
    - (h) For toxicity (bioassay) testing:
      1. Test type (acute or chronic);
      2. Test organism(s) used;
      3. Age(s) of test organism(s);
      4. Test result(s);
      5. Statistical method used to generate the result(s);
      6. Control data (mortality/weight/reproduction, etc.) as appropriate to test type;
      7. Test end points and confidence intervals;
      8. Standard reference toxicant data associated with batch of test organisms;
  - and
  9. Physical and chemical measures that are associated with the test (pH, temperature, dissolved oxygen, etc.).
  - (i) For benthic invertebrate taxonomic identification:
    1. Sorting efficiency, as percent (%);
    2. Number and identity of taxa in sample;
    3. Percent agreement between or among identifications performed by two or more independent taxonomists associated with the period when results were generated;
    4. Indication of which organisms were verified against standard reference collection; and
    5. Indication of whether the organism range includes Florida.
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- (j) For algal taxonomic identification:
1. Percent agreement between or among identifications performed by two or more independent taxonomists associated with the period when results were generated;
  2. Number and identity of taxa in the sample;
  3. Microscope magnification;
  4. Dilution factor;
  5. Surface area sampled (periphyton) or volume sampled (phytoplankton);
  6. Number of fields counted; and
  7. Counting chamber dimensions.
- (k) Field quality control results including trip blanks, field blanks, equipment blanks, and field replicates as required by DEP-SOP-001/01 (March 31, 2008) or the applicable contract, order, permit, or Title 62 rule; and
- (l) Any additional elements specified by the Department in contracts, orders, permits, or Title 62 rules.
- (2) Except as noted in subsection (3) below, a laboratory shall generate an analytical report that is consistent with the requirements of the DOH ELCP Chapter 64E-1, F.A.C. and 5.5.10.5 and 5.5.10.6 of 2003 NELAC Standards (incorporated by reference in Rule 62-160.800, F.A.C.), contains all applicable reporting elements specified in Sections 5.5.10.3 and 5.5.10.4 of the 2003 NELAC Standards, and uses the applicable qualifiers as defined in Table 1: Data Qualifier Codes (Rule 62-160.700, F.A.C.). In addition to the stated requirements, laboratories shall ensure that the following requirements are met or reported:
- (a) All results that are less than the laboratory's practical quantitation limit shall be reported using the applicable data qualifiers.
  - (b) Except for tests in which a method detection limit is not required, non-detected analytes shall be indicated by the method detection limit value, followed by the code "U".
  - (c) For tests that do not require a method detection limit study, values below the reporting limit attributed to the test shall be reported as the reporting limit value followed by the code "U".
  - (d) When the holding time for a preparation step is specified, the date of sample preparation shall be reported. The time shall also be reported if the holding time for sample preparation is equal to or less than 72 hours.
  - (e) Any additional information specified by the Department in contracts, orders, permits or Title 62 rules shall be reported.
- (3) Laboratories that are operated by a facility and whose sole function is to provide data to the facility management for compliance purposes (in-house or captive laboratories as described in 5.5.10.1 of the 2003 NELAC Standard) shall meet the requirements specified in 5.5.10.1 of the NELAC Standard.
- (4) If required by the Department in an applicable contract, order, permit or Title 62 rule, or requested by a Department program, laboratory data issued to a client(s) for Department-related work or directly to the Department shall be provided in the Department-specified paper format or in an electronic format meeting Department

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requirements for importing into Department databases or for other electronic submission requirements.

(5) Once issued, a laboratory report is considered final and shall not be amended. Amendments or corrections to a final laboratory report shall be made in accordance with the requirements of 5.5.10.8 of the 2003 NELAC Standard.

(6) When data are provided to the Department in a document that is a summary, a re-published format or in a reduced form (e.g., report, table, report form), the document shall not change the original data, or delete any data qualifiers reported by the originating laboratory unless specified by Department contract, order, permit, or Title 62 rule. Copies of the original laboratory report(s) shall be submitted with all such reports unless directed to do otherwise by the Department.

(7) When data qualifiers are added through a validation or review process that is independent of the laboratory reporting process, the reason for the addition, the date of the addition, and the person adding the qualifier(s) shall be included. These qualifiers shall be included in any documents that are summaries or re-published formats, as described in subsection (6) above.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 4-9-02, Amended 6-8-04, 12-3-08.

#### **PART IV MISCELLANEOUS**

##### **62-160.400 Sample Preservation and Holding Times.**

(1) Except as noted in subsection (2) below, or as otherwise provided for in the rules of a specific Department program, sample preservation methods, container types and holding times shall follow those requirements specified in DEP-SOP-001/01 (March 31, 2008), section FS 1006 in FS 1000, which is incorporated by reference in Rule 62-160.800, F.A.C.

(2) Sample preservation procedures, container material and maximum allowable holding times for analytes not specified in DEP-SOP-001/01 (March 31, 2008) shall follow the preservation, container and holding time requirements specified in the selected analytical method. If no method-specified requirements exist, the best available scientific knowledge shall be used as guidance for determining the appropriate procedures for use.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 1-1-91, Amended 2-4-93, Formerly 17-160.400, Amended 3-24-96, 10-15-96, 4-9-02, 6-8-04, 12-3-08.

**62.160.405 Electronic Signatures.**

Laboratory and field documents signed with an electronic signature are acceptable as written signatures when:

- (1) The integrity of the electronic signature can be assured;
- (2) The signature is unique to the individual;
- (3) The organization using electronic signatures has written policies for the generation and use of electronic signatures; and
- (4) The organization using electronic signatures has written procedures for ensuring the security, confidentiality, integrity and auditability of each signature.

Specific Authority 403.0623, 668.006 FS. Law Implemented 668.006, 668.50 FS.

History—New 12-3-08 .

**62-160.410 Quality Control Requirements (Field)(Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.410, Repealed 3-24-96.

**62-160.420 Required Containers, Preservation and Holding Times.**

**(Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 2-4-93, Formerly 17-160.420, Repealed 3-24-96.

**62-160.430 Approval of Alternate Field Procedures. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.430, Repealed 3-24-96.

**62-160.500 Approved Analytical Methods. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 2-4-93, Formerly 17-160.500, Repealed 3-24-96.

**62-160.510 Quality Control Requirements (Laboratory). (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.510, Repealed 3-24-96.

**62-160.520 New Methods, Validation Requirements. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.520, Repealed 3-24-96.

**62-160.530 Approval of Alternate Test Procedures. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.530, Repealed 3-24-96.

**62-160.600 Research Field and Laboratory Procedures.**

(1) Research field sampling and laboratory procedures involve one or more of the following:

(a) Evaluation, development or use of new, innovative technologies not yet approved by the Department;

(b) Evaluation, development or use of innovative field sampling or analytical laboratory methods not yet approved by the Department;

(c) Evaluation of new methodology or technology to be used in lieu of a Department-approved method; and

(d) Other projects not included in the above areas but designated as research by the relevant Department project or contract manager.

(2) If a research field sampling or laboratory method is being developed for subsequent use in compliance or other regulatory activities, the method shall be reviewed and approved according to the requirements provided in Rules 62-160.220 and 62-160.330, F.A.C.

(3) All research field sampling and laboratory procedures shall be described in a Department-approved work or study plan or in direct contract language. The following minimum elements shall be addressed, as applicable:

(a) Project purpose and intended end use of the data, including specific hypotheses;

(b) Brief historical overview or literature searches;

(c) Statement of anticipated results or effects of the research project;

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- (d) Description of work to be conducted, including the types of analyses to be performed to monitor the effectiveness of the research;
- (e) The information and records to be included in the data report package and the reporting format for hard copy and electronic reports. Minimum requirements for record keeping shall follow those specified in Rules 62-160.240 and 62-160.340, F.A.C., as applicable;
- (f) Identification of any specialized training or certification needed by personnel in order to successfully complete the project or task. This requirement includes specifying any laboratory certification requirements as provided in Rule 62-160.300, F.A.C. The Department project manager may waive the requirement for laboratory certification as provided in Rule 62-160.300(5)(e), F.A.C. Regardless of this waiver of certification requirement, laboratories conducting work for these projects shall operate a quality assurance program consistent with the quality systems standards of the NELAC specified in Chapter 64E-1, F.A.C.
- (g) All aspects of data generation and acquisition to ensure appropriate methods for sampling, measurement and analysis, data collection or generation, data handling, and quality assurance and quality control activities are employed and documented;
- (h) The experimental data generation or data collection design for the project, including as appropriate:
1. types and numbers of samples required;
  2. design of the sampling network;
  3. sampling locations and frequencies;
  4. sample matrices;
  5. analytes of interest;
  6. rationale for the design;
  7. procedures for collecting samples, including sample handling, preservation and custody in the field, laboratory and transport, and sampling equipment specifications and equipment decontamination procedures;
  8. sample preparation (if applicable) and analytical methods used;
  9. quality control activities needed for sampling and analysis, and the assessment of the quality control results. Quality control activities for the field and the laboratory include, but are not limited to, the use of blanks, duplicates, matrix spikes, laboratory control samples and surrogates;
  10. quality assurance activities that occur after the data collection or generation phase of the project, such as data verification validation, and field and laboratory audits;
  11. criteria to be used to objectively and consistently review, verify and validate project data, including the chain of custody for data throughout the life of the project or task;
  12. proposed methods to analyze the data and determine possible anomalies or departures from assumptions established in the planning phase of data collection; and

13. any additional elements specifically required by the Department project manager.

(4) The Department shall conduct a technical review of the project work plan prior to the project's initiation in order to assess its technical and scientific merit and appropriateness.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History - New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.600, Amended 3-24-96, 10-15-96, 4-9-02.

**62-160.610 Field Sampling and Sample Custody Records. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.610, Repealed 3-24-96.

**62-160.620 Laboratory Sample Preparation, Analysis and Custody Records. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.620, Repealed 3-24-96.

**62-160.630 Quality Control Data and Charts.( Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.630, Repealed 3-24-96.

**62-160.640 Quality Assurance Reports: Guidance and Frequency. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Formerly 17-160.640, Repealed 3-24-96.

**62-160.650 Field and Laboratory Audits**

(1) The Department and agencies or individuals with delegated authority from the Department shall conduct periodic audits of field and laboratory procedures or records to determine if approved protocols are being followed as required and to ensure data are being generated in compliance with the requirements of this chapter.

(2) An audit shall consist of one or more of the following:

(a) An on-site assessment of field sampling and/or laboratory procedures;

(b) A review, assessment and/or validation of data associated with a Department program activity;

(c) The submission of performance samples (e.g., blind, split and/or performance check samples) to an organization for subsequent use in the evaluation of that organization's technical performance associated with a specific Department project or program activity; or

(d) Other relevant information as specified in a Department contract, order, permit or Title 62 rule.

(3) Upon request, the field sampling organization, consultant or responsible party shall provide copies of all applicable records as specified in Rule 62-160.240, F.A.C. Sufficient information shall be provided to enable the auditor to independently reconstruct all field procedures related to the project.

(4) Upon request, the laboratory, consultant or responsible party shall provide copies of those applicable records as specified in Rule 62-160.340, F.A.C. Sufficient information shall be provided to enable the auditor to independently reconstruct all laboratory procedures related to the project.

(5) Within ninety (90) days of the audit, the Department shall provide a preliminary audit report to the audited party. The audited party shall have forty-five (45) days thereafter to respond with a detailed plan of corrective actions and an implementation schedule for the deficiencies that were noted in the preliminary audit report; justification for noted deficiencies that will not be addressed or corrected; and any corrections to the audit findings.

(6) Failure to respond with a plan of corrective action or to additional requests by the Department for a plan of corrective action shall result in a recommendation to the affected program that the data not be used.

(7) Once a response has been received, the Department shall evaluate the response for technical applicability and completeness. The Department will issue a final response to the audited party and any affected laboratory that specifies acceptance or rejection of the audited party's plan of corrective actions, provides recommendations concerning the usability of the audited data, and includes a statement of any substantially affected person's rights under Chapter 120, F.S. Any substantially affected person (e.g., affected permittee, facility owner/operator, laboratory, or field sampling consultant) may request an administrative hearing as provided in Chapter 120, F.S., within 21 days of receipt of the final response.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623,

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403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 1-1-91, Formerly 17-160.650, Amended 3-24-96, 4-9-02, 12-3-08.

**62-160.660 Project Audits - Data Validation by the Department. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 10-30-91, 2-4-93, Formerly 17-160.660, Repealed 3-24-96.

**62-160.670 Data Validation by the Department.**

(1) All data generated for Department activities are subject to data verification and data validation to determine if the data are suitable and usable for a specified purpose. Data shall be verified and validated based on the assessment of the following:

- (a) Completeness of the Department requested data package(s) and the response of involved parties to any Department requests for additional data;
- (b) Integrity of samples as determined by complete and proper sample transmittal documentation, and records that demonstrate adherence to proper preservation, transport or other sample handling protocols, as applicable;
- (c) Proper use of sample collection methods;
- (d) Proper selection and use of analysis methods;
- (e) Sufficient use and routine evaluation of quality control measures to establish the precision, accuracy, sensitivity, selectivity, and potential bias associated with the analytical system and associated results;
- (f) Proper instrument calibration and verification procedures;
- (g) Documentation of all generated data as provided in Rules 62-160.240 and 62-160.340, F.A.C.;
- (h) Ability to reconstruct all field sampling and laboratory procedures through the documentation and records of the laboratory or field sampling organization as provided in Rules 62-160.240 and 62-160.340, F.A.C.;
- (i) Ability to trace data in the final report to a specific sampling site, date and time;
- (j) Status of the laboratory's certification through the DOH ELCP as provided in Chapter 64E-1, F.A.C., for any given analyte or category of analytes; and
- (k) Appropriateness of the collected data as related to the specific data quality objectives of the Department program activity or project for which they were collected including those data being considered for secondary use.

(2) The Department will evaluate data according to the criteria in paragraphs (a) through (k) above and determine if the data are usable.

(3) In addition to subsection (2) above, the Department shall also evaluate data according to the procedures outlined in the Department's document "Department of Environmental Protection Process for Assessing Data Usability (DEP-EA-001/07)," dated March 31, 2008, which is incorporated by reference in Rule 62-160.800, F.A.C.

(4) If the audited data were originally generated for a specific purpose but are being considered for a secondary use for another purpose (secondary use), and the Department determines from the evaluation process, as described in subsections 62-160.670(2) and 62-160.670(3), F.A.C., above, that the data do not meet the data quality objectives for the secondary use, the Department will recommend that the data not be used by the program that is considering the secondary use. The recommendation not to use secondary data does not impact the usability or validity of the data for the program for which the data were originally intended.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.670, Amended 3-24-96, 4-9-02, 12-3-08.

#### **62-160.680 Administrative Procedures. (Repealed)**

Specific Authority 373.043, 373.171, 373.309, 373.418, 376.303, 376.3071, 403.061, 403.504, 403.704, 403.721, 403.853, 403.861, 403.912 FS. Law Implemented 373.026, 373.103, 373.106, 373.116, 373.216, 373.219, 373.308, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.087, 403.088, 403.0881, 403.101, 403.504, 403.704, 403.707, 403.722, 403.783, 403.853, 403.918 FS. History - New 1-1-91, Amended 10-30-91, 2-4-93, Formerly 17-160.680, Repealed 3-24-96.

#### **62-160.700 Tables.**

The following table has been referenced in this chapter and is identified by this title:  
Table 1: Data Qualifier Codes.

**Table 1**  
**DATA QUALIFIER CODES**

The following codes shall be used by laboratories and/or field organizations when reporting data values that either meet the specified description outlined below or do not meet the quality control criteria of the laboratory:

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#### SYMBOL MEANING

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A	Value reported is the arithmetic mean (average) of two or more determinations. This code shall be used if the reported value is the average of results for two or more discrete and separate samples. These samples shall have been processed and analyzed independently. Do not use this code if the data are the result of replicate analysis on the same sample aliquot, extract or digestate.
B	Results based upon colony counts outside the acceptable range. This code applies to microbiological tests and specifically to membrane filter colony counts. The code is to be used if the colony count is generated from a plate in which the total number of coliform

	colonies is outside the method indicated ideal range. This code is not to be used if a 100 mL sample has been filtered and the colony count is less than the lower value of the ideal range.
F	When reporting species: F indicates the female sex.
H	Value based on field kit determination; results may not be accurate. This code shall be used if a field screening test (i.e., field gas chromatograph data, immunoassay, vendor-supplied field kit, etc.) was used to generate the value and the field kit or method has not been recognized by the Department as equivalent to laboratory methods.
I	The reported value is greater than or equal to the laboratory method detection limit but less than the laboratory practical quantitation limit.
J	Estimated value. A "J" value shall be accompanied by a detailed explanation to justify the reason(s) for designating the value as estimated. Where possible, the organization shall report whether the actual value is estimated to be less than or greater than the reported value. A "J" value shall not be used as a substitute for K, L, M, T, V, or Y, however, if additional reasons exist for identifying the value as an estimate (e.g., matrix spiked failed to meet acceptance criteria), the "J" code may be added to a K, L, M, T, V, or Y. Examples of situations in which a "J" code must be reported include: instances where a quality control item associated with the reported value failed to meet the established quality control criteria (the specific failure must be identified); instances when the sample matrix interfered with the ability to make any accurate determination; instances when data are questionable because of improper laboratory or field protocols (e.g., composite sample was collected instead of a grab sample); instances when the analyte was detected at or above the method detection limit in a blank other than the method blank (such as calibration blank or field-generated blanks and the value of 10 times the blank value was equal to or greater than the associated sample value); or instances when the field or laboratory calibrations or calibration verifications did not meet calibration acceptance criteria.
K	Off-scale low. Actual value is known to be less than the value given. This code shall be used if: 1. The value is less than the lowest calibration standard and the calibration curve is known to be non-linear; or 2. The value is known to be less than the reported value based on sample size, dilution. This code shall not be used to report values that are less than the laboratory practical quantitation limit or laboratory method detection limit.
L	Off-scale high. Actual value is known to be greater than value given. To be used when the concentration of the analyte is above the acceptable level for quantitation (exceeds the linear range or highest calibration standard) and the calibration curve is known to exhibit a negative deflection.
M	When reporting chemical analyses: presence of material is verified but not quantified; the actual value is less than the value given. The reported value shall be the laboratory practical quantitation limit. This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is greater than or equal to the method detection limit. If the value is less than the method detection limit use "T" below.
N	Presumptive evidence of presence of material. This qualifier shall be used if:

	1. The component has been tentatively identified based on mass spectral library search; or 2. There is an indication that the analyte is present, but quality control requirements for confirmation were not met (i.e., presence of analyte was not confirmed by alternative procedures).
O	Sampled, but analysis lost or not performed.
Q	Sample held beyond the accepted holding time. This code shall be used if the value is derived from a sample that was prepared or analyzed after the approved holding time restrictions for sample preparation or analysis.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected. This symbol shall be used to indicate that the specified component <b>was not</b> detected. The value associated with the qualifier shall be the laboratory method detection limit. Unless requested by the client, less than the method detection limit values shall not be reported (see "T" above).
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value. Note: unless specified by the method, the value in the blank shall not be subtracted from associated samples.
X	Indicates, when reporting results from a Stream Condition Index Analysis (LT 7200 and FS 7420), that insufficient individuals were present in the sample to achieve a minimum of 280 organisms for identification (the method calls for two aliquots of 140-160 organisms), suggesting either extreme environmental stress or a sampling error.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present for accurate counting. Historically, this condition has been reported as "too numerous to count" (TNTC). The "Z" qualifier code shall be reported when the total number of colonies of all types is more than 200 in all dilutions of the sample. When applicable to the observed test results, a numeric value for the colony count for the microorganism tested shall be estimated from the highest dilution factor (smallest sample volume) used for the test and reported with the qualifier code.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.

The following codes deal with certain aspects of field activities. The codes shall be used if the laboratory has knowledge of the specific sampling event. The codes shall be added by the organization collecting samples if they apply:

SYMBOL MEANING	
D	Measurement was made in the field (i.e., in situ). This code applies to any value ( <b>except</b> field measurements of pH, specific conductance, dissolved oxygen, temperature, total

	residual chlorine, transparency, turbidity or salinity) that was obtained under field conditions using approved analytical methods. If the parameter code specifies a field measurement (e.g., "Field pH"), this code is not required.
E	Indicates that extra samples were taken at composite stations.
R	Significant rain in the past 48 hours. (Significant rain typically involves rain in excess of 1/2 inch within the past 48 hours.) This code shall be used when the rainfall might contribute to a lower than normal value.
!	Data deviate from historically established concentration ranges.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 1-1-91, Amended 2-4-93, 2-27-94, Formerly 17-160.700, Amended 3-24-96, 4-9-02, 6-8-04, 12-3-08.

### **62-160.800 Documents Incorporated by Reference.**

(1) Specific references to the documents listed below are made throughout this chapter and are incorporated by reference.

(a) Department of Environmental Protection Standard Operating Procedures for Field Activities, DEP-SOP-001/01 (March 31, 2008), Florida Department of Environmental Protection, Standards and Assessment Section.

(b) Department of Environmental Protection Standard Operating Procedures for Laboratory Activities, DEP-SOP-002/01 (March 31, 2008), Florida Department of Environmental Protection, Standards and Assessment Section:

(c) New and Alternative Analytical Laboratory Methods, DEP-QA-001/01 (February 1, 2004), Florida Department of Environmental Protection, Standards and Assessment Section.

(d) Department of Environmental Protection Process for Assessing Data Usability, DEP-EA-001/07, Florida Department of Environmental Protection, (March 31, 2008), Standards and Assessment Section.

(e) Interlaboratory Collaborative Study for Method Validation in the AOAC, Appendix D, Official Methods of Analysis of the Association of Official Analytical Chemists (AOAC), 16th edition (1995), Association of Official Analytical Chemists.

(f) EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, EPA/240/B-01/003, March 2001, United States Environmental Protection Agency.

(g) Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; National Primary Drinking Water Regulations; and National Secondary Drinking Water Regulations; Analysis and Sampling Procedures, Final Rule, Federal Register, Vol. 72, No. 47, Monday March 12, 2007 pp. 11200–11249.

(h) Guidelines Establishing Test Procedures for the Analysis of Pollutants; Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge; Final Rule, Federal Register, Vol. 72, No. 57, Monday March 26, 2007 pp. 14220–14233.

(i) Policy and Program Requirements for the Mandatory Agency-Wide Quality System, EPA Order CIO 21005.0 (formerly 5360.1 A2), May 5, 2000, United States Environmental Protection Agency.

(j) 2003 NELAC Standards, EPA/600/R-04/003, June 5, 2003, United States Environmental Protection Agency.

(k) Glossary of the 2001 NELAC Standards, EPA/600/R-01/100, May 2001, United State Environmental Protection Agency.

(2) The referenced documents are available for inspection at the Department's district and Tallahassee offices. Some referenced documents are available at the Department's Internet site.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History—New 4-9-02, Amended 6-8-04, 12-3-08.

### **62-160.900 Forms**

At this time, this Chapter contains no forms. If forms are added to this chapter in the future, they will be included in this section.

Specific Authority 403.061, 403.0623 FS. Law Implemented 373.026, 373.309, 373.409, 373.413, 373.414, 373.416, 373.4592, 376.303, 376.305, 376.3071, 403.0623, 403.0625, 403.087, 403.088, 403.0881, 403.504, 403.704, 403.707, 403.722, 403.853 FS. History - New 1-1-91, Amended 2-4-93, Formerly 17-160.900, Amended 3-24-96, 10-15-96, 4-9-02.