2017 METHOD UPDATE RULE

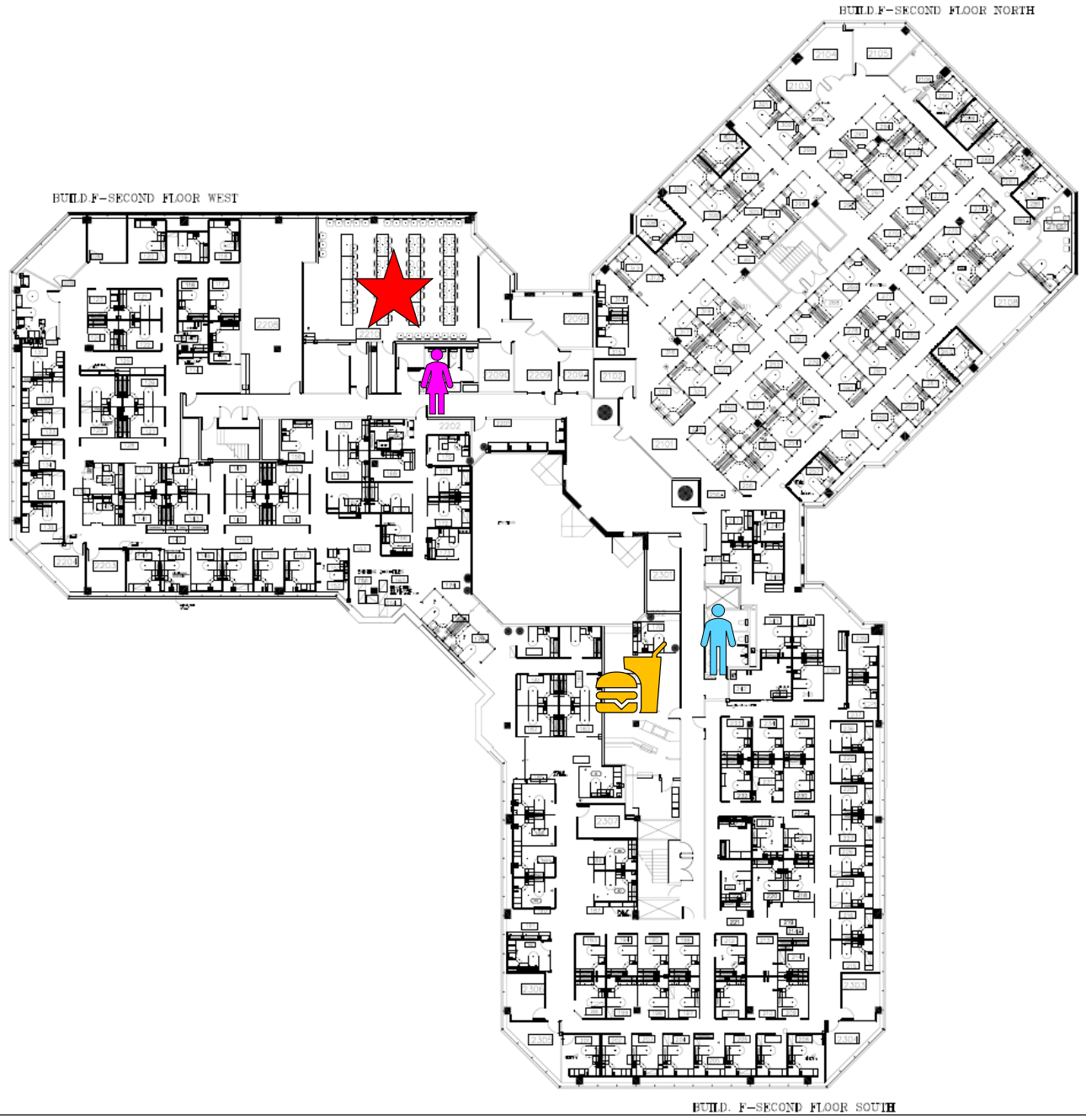
STAKEHOLDER MEETING

TCEQ Water Quality Division • August 20, 2019

TCEQ

Welcome

- Sign-in
- Logistics
- Restrooms, deli, exits, etc.



Meeting Etiquette

- ✓Place all cell phones on silent mode
- ✓One question at a time
- ✓Respect each other –
  be courteous when others are speaking
- ✓Keep side conversations at a minimum and low volume

Action Items/Goals for meeting

- Review the 2017 Method Update Rule (MUR)
- Highlights of the MUR
- Discuss how this will affect Laboratories, Permittees, and Pretreatment Programs
- Discuss TCEQ's implementation activities
- Stakeholder discussion and feedback

Clean Water Act Methods Update Rule for the Analysis of Effluent (2017 MUR)

Rule proposed:
- February 19, 2015

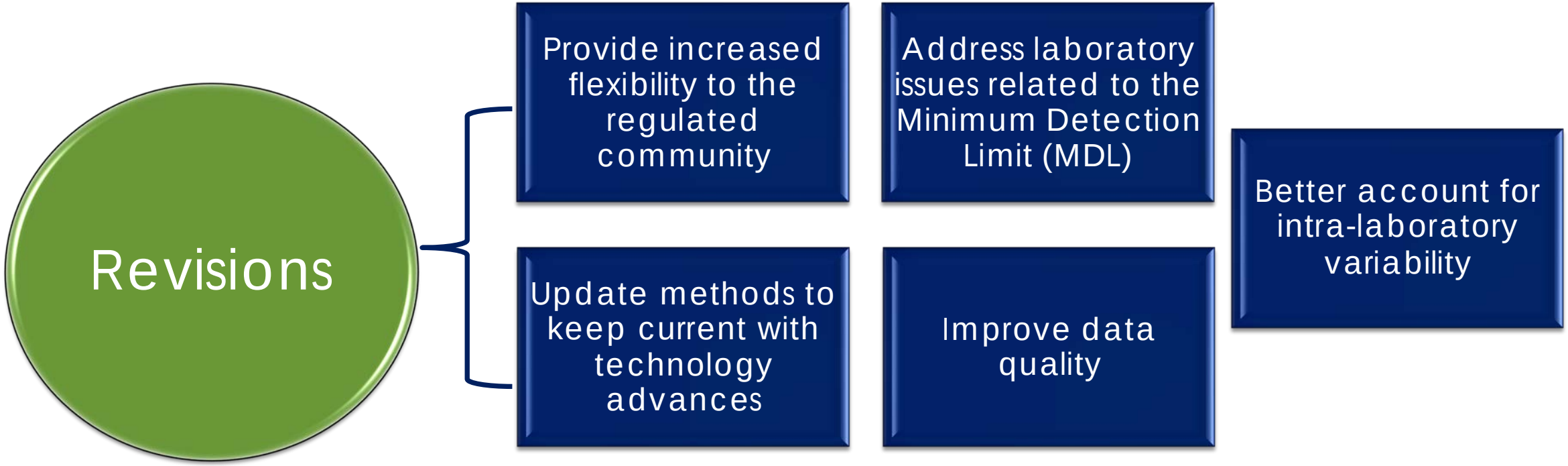
Final Rule signed:
- December 15, 2016

Final Rule published:
- August 28, 2017

Effective date:
- September 27, 2017

- Final rule amended 40 CFR Part 136
  - Laboratory testing procedures approved for analysis and sampling under the Clean Water Act

2017 MUR: Summary of Changes



2017 MUR: Summary of Changes

Changes include:

- Revised methods published by EPA and voluntary consensus standard bodies, such as ASTM International and the Standard Methods Committee.
- Added certain methods reviewed under the alternate test procedures (ATP) program to 40 CFR Part 136
- Clarified the procedures for EPA approval of nationwide and limited use ATPs
- Revised the procedure for determination of the MDL

Updated Methods

Revised three EPA Methods that replace:

608 (Pesticides and PCBs), 624, and 625 (volatile and semi-volatile organic compounds)

- **608.3**: Organochlorine Pesticides and PCBs by GC/HSD (replaces Method 608)
- **624.1**: Purgeables by GC/MS (replaces Method 624)
- **625.1**: Base/Neutrals and Acids by GC/MS (replaces Method 625)

Updated Methods

Revised microbiological methods for *E. coli* and fecal coliform

Clarified and corrected chemical, radiochemical, and whole effluent toxicity (WET) methods

Method Detection Limits (MDLs)

Amended procedure for the determination of MDLs to:

- address laboratory contamination and
- better account for intra-laboratory variability

Minimum Levels (MLs) and MDLs

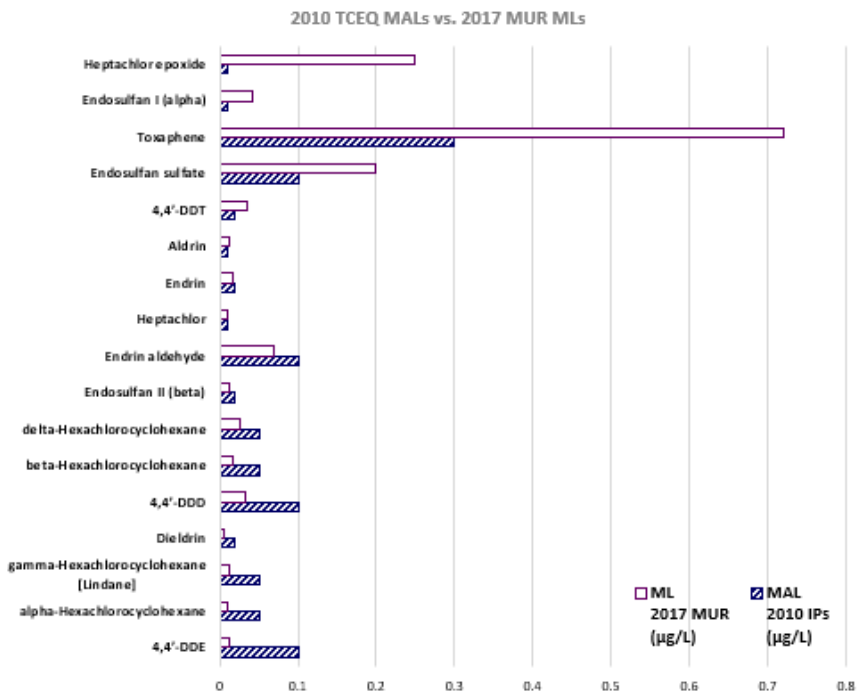
The final rule includes MLs and MDLs for some analytical methods.

- Some MLs and MDLs in the rule are lower or higher than those in TCEQ's *IPs (June 2010)**
- The rule includes different MLs for the same pollutant depending on the method used.

**See Handout for differences between rule and IPs*

2010 TCEQ MALs vs. 2017 MUR MLs

*See Handout



Pollutant	MAL 2010 IPs (µg/L)	ML 2017 MUR (µg/L)	% Change Relative to MAL
4,4'-DDE	0.1	0.012	-88%
alpha-Hexachlorocyclohexane	0.05	0.009	-82%
gamma-Hexachlorocyclohexane [Lindane]	0.05	0.012	-76%
Dieldrin	0.02	0.006	-70%
4,4'-DDD	0.1	0.033	-67%
beta-Hexachlorocyclohexane	0.05	0.018	-64%
delta-Hexachlorocyclohexane	0.05	0.027	-46%
Endosulfan II (*beta*)	0.02	0.012	-40%
Endrin aldehyde	0.1	0.07	-30%
Heptachlor	0.01	0.009	-10%
Endrin	0.02	0.018	-10%
Aldrin	0.01	0.012	20%
4,4'-DDT	0.02	0.036	80%
Endosulfan sulfate	0.1	0.198	98%
Toxaphene	0.3	0.72	140%
Endosulfan I (*alpha*)	0.01	0.042	320%
Heptachlor epoxide	0.01	0.249	2390%

ML Definition

The rule added a “multiplier” to the definition of ML.

- MLs may be obtained in several ways:
  - published in a method;
  - based on the lowest acceptable calibration point used by a laboratory;
  - or calculated by multiplying by a factor of 3 the MDL in a method or the MDL determined by a laboratory
    - ***adding the multiplier factor is new in the 2017 MUR***
- Historically, 40 CFR Part 136 included only MDLs for the specified analytes in the listed methods (MLs were not typically listed).

ML Definition

- For the purposes of NPDES compliance monitoring, EPA considers the following terms to be synonymous:
  - "quantitation limit,"
  - "reporting limit," and
  - "minimum level."
- The rule introduces MLs to the following EPA methods:
  - Method 608.3;
  - Method 624.1; and
  - Method 625.1.

Alternate Test Procedures (ATPs)

- Clarified the procedures for EPA approval of nationwide and limited use ATPs
  - Only EPA can approve ATPs (no state approval)

Six new ATPs

1. Coliform/E. *coli*
2. Nitrate-nitrogen
3. Inorganic ammonia
4. Total Kjeldahl nitrogen (TKN)
5. Nitrate in water & wastewater
6. Total phosphorus

Alternate Test Procedures (ATPs)

- A laboratory may modify certain types of approved 40 CFR Part 136 methods *if* the modification is documented as described at 40 CFR 136.6.
  - The laboratory will no longer receive or require a letter from EPA.
  - The permittee must notify the state of its intent to use a modified method.

Pollutants With No Method in 40 CFR Part 136

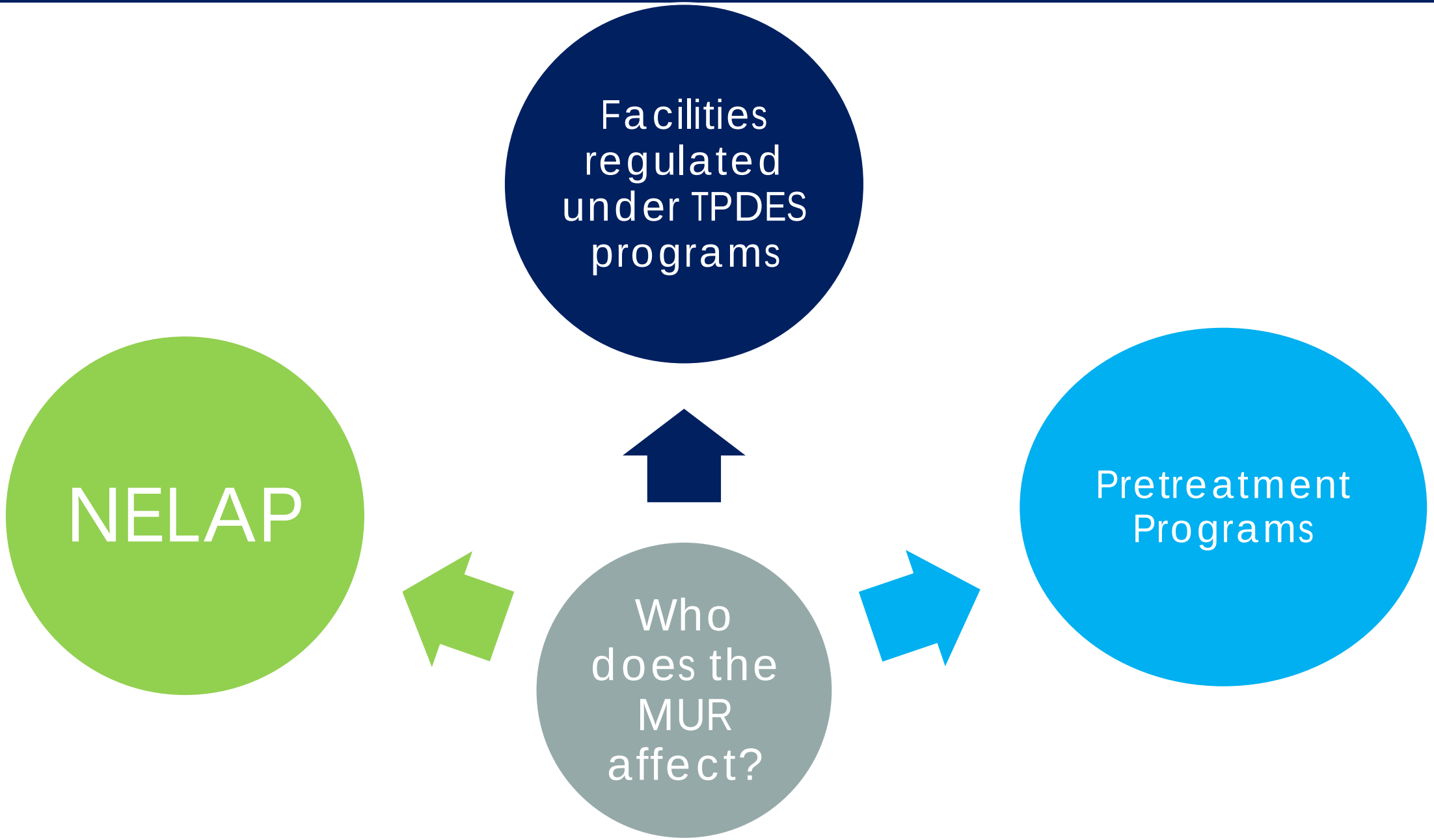
- Some pollutants no longer have a method listed in 40 CFR Part 136
- TCEQ is evaluating how to proceed

New Pollutants Regulated in Texas

- Four new pollutants were added to the Human Health Criteria in the Texas Surface Water Quality Standards (TSWQS).

Parameter	CASRN	MAL in IPs mg/L	Suggested Method
Epichlorohydrin	106-89-8	1.0	ASTM D-3695; 624.1
Ethylene Glycol	107-21-1	--	*No water method identified*
4,4'-Isopropylidenediphenol (bisphenol A)	80-05-7	--	ASTM D7065
Methyl tert-butyl ether (MTBE)	1634-04-4	--	624.1

- Pollutants1-3 were based on the EPA's 2013 Toxics Release Inventory and MTBE was at the TCEQ's discretion.


Facilities regulated under TPDES programs
NELAP
Pretreatment Programs
Who does the MUR affect?

1st NELAP Accreditation Memo – 9/24/18

- WQD's request to Environmental Laboratory Accreditation Program to implement changes of EPA's 2017 MUR
- New methods include: 608.3, 624.1, and 625.1
- WQD will accept analytical data under the previous 2012 MUR up to **August 28, 2019**
- Accept data from non-accredited and in-house laboratories using new methods in the 2017 MUR within **6 months** after the field of accreditation effective date or if laboratory has accreditation in a state other than Texas

TCEQ Interoffice Memorandum

To: Ken Lancaster, Manager
Laboratory and Quality Assurance Section
Monitoring Division

From: Gregg Easley, Manager GE 9/27/18
Water Quality Assessment Section
Water Quality Division

Date: Sept. 24, 2018

Subject: Texas Environmental Laboratory NELAP Accreditation Request

The Water Quality Division respectfully requests the TCEQ Environmental Laboratory Accreditation Program to offer NELAP accreditation for new laboratory methods provided in the EPA 2017 Final Methods Update Rule amending 40 CFR Part 136, which became effective on September 27, 2017. This memo includes the analytes in Table 1 of Methods 608.3 and 624.1, and in Tables 1 and 2 of Method 625.1, and the corresponding CASRNs for a non-potable matrix.

The Water Quality Division (WQD) will accept analytical data from accredited and in-house laboratories based on the previous Method Update Rule (2012) up to but not beyond August 28, 2019. The WQD will accept analytical data from non-accredited and in-house laboratories using new laboratory methods in the current Methods Update Rule (2017) within six months after the Field of Accreditation (FOA) effective date or if the laboratory has accreditation for the pollutant and new method in a state other than Texas.

Analyte	CASRN	Matrix	EPA Method
Aldrin	309-00-2	Non-potable	608.3, Table 1
4,4'-DDD	72-54-8	Non-potable	608.3, Table 1
4,4'-DDE	72-55-9	Non-potable	608.3, Table 1
4,4'-DDT	50-29-3	Non-potable	608.3, Table 1
Dieldrin	60-57-1	Non-potable	608.3, Table 1
Endosulfan I (alpha)	959-98-8	Non-potable	608.3, Table 1
Endosulfan II (beta)	33213-65-9	Non-potable	608.3, Table 1

Available as Handout

2nd NELAP Accreditation Memo – Draft in progress

Clarification on additional changes requested

Sets date for implementing new MDL procedure as **January 31, 2020** *(coincides with TNI Standard date)*

Requested changes to methods under the MUR for 40 CFR 136.3 – Tables 1A-1H

Discussion and Questions?

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TCEQ Implementation of the MUR

Procedures to Implement the Texas Water Quality Standards (IPs)

Rule making to Chapter 307 and Chapter 319

Revised Permit Language

Permitting Activities

- Applications
- Screening

Implementation Procedures (IPs)

- Removal of Appendix E
- Stand-alone document
- Streamlined IP revision

*See Handout

Table 1. Minimum Analytical Levels (MALs) and Suggested Methods for Permit Application Screening.

Pollutant	CASRN[1]	MAL (µg/L)	MAL Source Documentation
Acenaphthene	83-32-9	5.7	625.1
Acenaphthylene	208-96-8	10.5	625.1
Acetaldehyde	75-07-0	50	The MAL is based on the value outlined in the 2010 IPs for Method 1667.
Acrolein	107-02-8	50	624.1
Acrylonitrile	107-13-1	50	The MAL is based on the value outlined in the 2010 IPs for Method 1624B.
Aldrin	309-00-2	0.012	608.3
Allyl alcohol	107-18-6	50	The MAL is based on the value outlined in the 2010 IPs for Method 1624

30 TAC Chapter 319 Rulemaking

Revise Section 319.12 to state:

(a) Should a permittee determine that the required standard sampling and testing techniques are not suited to its particular situation, the permittee shall make a written request for authorization to use alternate test procedures. Applications for alternate testing procedures shall be made to the executive director following the requirements of 40 CFR § 136.5.

~~(1) Applications for alternate testing procedures will be made to the executive director.~~

~~(2) Items that shall be included with an application for alternate testing procedures are:~~

~~(A) name and address of the firm making the discharge;~~

~~(B) Texas Water Commission permit number;~~

~~(C) list of parameters for which alternate procedures are being requested;~~

~~(D) copy of the method of the alternate procedures; and~~

~~(E) the justification for the alternate test procedures.~~

~~(3) Additional information such as the comparability of data may also be requested by the executive director or his designee.~~

(b) In no instance shall a permittee use procedures not included in the references cited in §319.11 of this title (relating to Sampling and Laboratory Testing Methods) until written approval to do so has been received from ~~the executive director or his designee.~~ EPA. For TPDES permits, a permittee shall only use procedures included in the references cited in §319.11 of this title (relating to Sampling and Laboratory Testing Methods) unless other test procedures have been specified in the permit.

30 TAC Chapter 307 Rulemaking

Revise Section 307.3(a)(38) to state:

(38) **Method detection limit** -The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is ~~greater than zero~~ distinguishable from method blank results and is determined from analysis of a sample in a given matrix containing the analyte. The method detection limit is estimated in accordance with 40 Code of Federal Regulations Part 136, Appendix B.

Revised Permit Language (Industrial)

The permittee may develop a matrix-specific method detection limit (MDL), in accordance with Appendix B of 40 CFR Part 136, to develop a matrix-specific MAL. For any pollutant for which the permittee develops a matrix-specific MAL, the permittee shall send to the TCEQ Industrial Permits Team (MC-148) a report containing quality assurance/quality control documentation, analytical results, and calculations necessary to support the requested matrix-specific MAL. A matrix-specific MAL must be derived from a matrix-specific MDL in accordance with the following equation:

$$MAL = 3.0 \times MDL$$

Upon written approval by the Wastewater Permitting Section of the TCEQ, an approved matrix-specific MAL will supersede the MAL listed above as the level of demonstrated compliance. The matrix-specific MDL must be verified annually in accordance with Appendix B of 40 CFR Part 136.

Revised Permit Language (Municipal)

Addition of the following to cover letters sent to applicants:

- "Beginning August 28, 2019, all analytical data submitted as required by Worksheet 4.0 must conform to the methods outlined in the 2017 Method Update Rule, which amended 40 CFR 136. The methods used must comply with the MALs listed in the rule and in TCEQ's most recent application forms. (Forms 10053ins and 10054)."

Revised Permit Language

‘Other Requirements’ Section:

- Updates to the MALs listed in the permit in accordance with the MUR updates.

Revised Permit Example

Attachment X
WQ001XXXX00X
PERMITTEE NAME

DOMESTIC WORKSHEET 4.0

POLLUTANT ANALYSES REQUIREMENTS*

Section 1. Toxic Pollutants

For pollutants identified in Table 4.0(1), indicate type of sample.
Grab ☐ Composite ☐

Date and time sample(s) collected:

Table 4.0(1) – Toxics Analysis

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrylonitrile				50
Aldrin				0.01
Aluminum				2.5
Anthracene				10
Antimony				5
Arsenic				0.5
Barium				3
Benzene				10
Benzidine				50
Benzo(a)anthracene				5
Benzo(a)pyrene				5
Bis(2-chloroethyl)ether				10
Bis(2-ethylhexyl)phthalate				10
Bromodichloromethane				10
Bromoform				10
Cadmium				1

Municipal Permit Applications

- Changes to Application – Forms 10053ins and 10054
  - Changes to methods in instructions
  - Inclusion of reference to changes to MALs as part of the 2017 MUR (including dates of implementation)

Current Application (Rev. 6/1/17)

Minimum Analytical Levels and Suggested Methods for Application Screening

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
Acrolein	107-02-8	50	624
Acrylonitrile	107-13-1	50	624, 1624B
Aldrin	309-00-2	0.01	608

Future Application

Minimum Analytical Levels and Suggested Methods for Application Screening

POLLUTANT	CASRN*	MAL (µg/l)	Suggested Method
Acrolein	107-02-8	50	624.1
Acrylonitrile	107-13-1	50	1624B
Aldrin	309-00-2	0.012	608.3

Municipal Permit Applications

- Changes to Application – Forms 10053ins and 10054
  - Addition of four new pollutants to Worksheet 4.0 Tables
  - Updates to the MALs listed as appropriate

Parameter	Avg Effluent Conc. (µg/l)	Max Effluent Conc. (µg/l)	Number of Samples	MAL (µg/L)
Epichlorohydrin				1.0
Ethylene Glycol				TBD
4,4'-Isopropylidenediphenol (bisphenol A)				TBD
Methyl tert-butyl ether (MTBE)				TBD

Industrial Permit Applications

- New Analytes added to the Texas Water Quality Standards included in the next application revision
- Will be added to Table 6 of the Industrial Wastewater Application, Worksheet 2.0
- Testing will only be required if pollutants are believed to be present (*proposal*)

Table 6 for Outfall No.: Click to enter text

Samples are (check one): ☐ Composites ☐ Grabs

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☐					400
Color (PCU)	☐	☐					–
Nitrate-Nitrite (as N)	☐	☐					–
Sulfide (as S)	☐	☐					–
Sulfite (as SO_3)	☐	☐					–
Surfactants	☐	☐					–
Boron, total	☐	☐					20
Cobalt, total	☐	☐					0.3
Iron, total	☐	☐					7
Magnesium, total	☐	☐					20
Manganese, total	☐	☐					0.5
Molybdenum, total	☐	☐					1
Tin, total	☐	☐					5
Titanium, total	☐	☐					30
Epichlorohydrin	☐	☐					–
Ethylene Glycol	☐	☐					–
4,4'-Isopropylidenediphenol (bisphenol A)	☐	☐					–
Methyl tert-butyl ether (MTBE)	☐	☐					–

* Indicate units if different from µg/L.

Screening Permit Applications

MOST SENSITIVE WATER QUALITY SCREENING SCENARIO

POLLUTANT	Monitoring Screening Threshold	Limitation Screening Threshold	Daily Average Limitation
Bisphenol A (CAS # 80-05-7)	1045 µg/L	1268 µg/L	1492 µg/L
Epichlorohydrin (CAS # 106-89-8)	51.1 µg/L	62.1 µg/L	73.1 µg/L
Ethylene Glycol (CAS # 107-21-1)	44732 µg/L	54318 µg/L	63903 µg/L
Methyl tert-Butyl Ether (CAS # 1634-04-4)	14.3 µg/L	17.4 µg/L	20.5 µg/L

Discussion and Questions?

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MUR & Pretreatment

- Control Authorities need to ensure that permitted industrial users (IUs) and contract laboratories are aware of changes
- <u>Categorical IUs</u>
  - *40 CFR §403.12(b)(5)(v)*
  - "Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto …"
- <u>Non-categorical SIUs</u>
  - *40 CFR §403.12(h)*
  - <u>Non-categorical IUs</u> "…reports must be based on sampling and analysis performed… in accordance with the techniques described in [40 CFR] Part 136… and amendments thereto."

MUR & Pretreatment

- TPDES Permit Revisions
  - Contributing Industries and Pretreatment Requirements
    - Item #3 – Influent and effluent monitoring
      - Reference to Tables E-1 & E-2 of the *Procedures to Implement the TSWQS* (RG-194)
      - "The effluent samples shall be analyzed to the minimum analytical level (MAL)."
  - Pretreatment Program Annual Report Form 20218d
    - Footnote #4 – Effluent only
      - TCEQ MALs and analytical methods suggested in Tables E-1 & E-2
  - Influent and effluent data used for reassessing Local Limits

MUR & Pretreatment

- Technically-Based Local Limits (TBLLs) Development/Redevelopment
  1. "Priority Pollutants and Pollutants of Concern" Scans and Sampling Plan
     - Initial influent pollutant scan
       - 40 CFR Part 122, Appendix D
       - Table II, III, and V pollutants (if known or suspected to be present)
       - 30 TAC Chapter 307 pollutants
       - TPDES permit pollutants, etc.
     - Laboratory reports & chain-of-custody forms (COCs)
  2. TBLLs Package
     - Seven-day sampling event data (influent, effluent, sludge, & domestic/commercial)
     - Laboratory reports & COCs

- More info: https://www.tceq.texas.gov/permitting/wastewater/pretreatment/tblls.html

Implementation in Existing Permits

- For Municipal, Industrial, and Stormwater permits:
  - MALs in <u>existing</u> (issued) individual and general permits remain in effect until renewed or amended
  - Use of previously authorized alternative MALs or analytical methods will be continued in renewed and amended permits

Implementation in Applications

- For applications for Municipal, Industrial, and Stormwater permits:
  - TPDES Permit applications for individual permits that include the 2017 MALs will be available online at a later date
  - TCEQ expects that the 2017 MALs will be achieved for all effluent testing (including retests) conducted beginning **January 31, 2020**, for wastewater permit applications
  - Exception: TCEQ generally accepts the previous version of an application form for up to six months after a revised form is made available to the public

Implementation in Draft Permits

- For Municipal, Industrial, and Stormwater Draft Permits:
  - Permit writers will use 2017 MALs in the Other Requirements section of the permit (including effluent testing tables) when a draft permit is sent to the applicant for review/comment beginning **on a date to be determined.**
  - Permit writers will notify the permittee of the revisions to the MALs as part of the draft permit package.

Implementation in Pretreatment Programs

- The 2017 MALs are required to be used by developing and approved pretreatment programs beginning **on a date to be determined.**
  - This includes all wastewater treatment plant effluent test results submitted with pretreatment program annual reports, technically based local limits (TBLLs) development, and monitoring requirements for industrial users discharging into a POTW

Implementation in Pretreatment Programs

- The new 2017 MALs are required to be used beginning **on a date to be determined**, by significant industrial users (SIUs) discharging into a POTW without an approved pretreatment program.
  - This includes all wastewater effluent test results submitted with pretreatment baseline monitoring reports (BMRs), 90-day compliance reports, and semi-annual reports.
- *Exception*: Pretreatment coordinators may determine on a case-by-case basis whether a pretreatment program may use the 2010 MALs and analytical methods when the program or industrial user discharging into a POTW has executed a contract with a laboratory within a 6 month period preceding **on a date to be determined**, to conduct testing scheduled to be accomplished by **a date to be determined**.

Moving Forward

- Stakeholder Participation Input on:
  - Stand alone Appendix E document
  - Proposed permit applications revisions
  - 30 TAC Chapters 307 and 319 rulemakings
  - New TSWQS pollutants
- Provide comments on page provided or via e-mail
- More information:
  - https://www.epa.gov/cwa-methods/methods-update-rule-2017
  - https://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html

Contact Us

Email: WQ-MUR@Tceq.Texas.gov

- Accept e-mailed comments until **September 6, 2019**

Phone: (512) 239-4671