Overview of LT2 Rule Requirements

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Overview of LT2 Rule

- Applies to all public water systems using surface water sources (including GWUDI)
- Targeted approach supplements existing regulations to address *Cryptosporidium* in systems with higher risk
  - Filtered systems with high source water occurrence
  - All unfiltered systems
- Final rule published January, 2006

Key LT2 Rule Requirements

Disinfection Profiling And Benchmarking

Source Water Monitoring (Round 1)

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Risk Bin Classification

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Implement Treatment from Microbial Toolbox If Required

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Source Water Monitoring (Round 2)

Uncovered Finished Water Reservoirs

Source Water Monitoring Requirements- Systems ≥10,000 People

- Monthly sampling for *Cryptosporidium*, *E. coli*, and turbidity for 24 months
  - Required sampling schedule, location, analytical methods, and laboratories
- "Grandfather" equivalent data
- Second round of monitoring
- All unfiltered systems monitor for *Cryptosporidium*

Source Water Monitoring Requirements - Systems <10,000 People

- *E. coli* monitoring for one year to determine if *Cryptosporidium* monitoring is required
- If *E. coli* above trigger value then complete *Cryptosporidium* sampling (24 samples)
  - Trigger values: mean *E. coli* > 10/100 ml for lakes and reservoirs or > 50/100 ml for flowing streams
  - For guidance (allowed for under rule), EPA recommended revised *E. coli* triggers to states, >100/100 ml
    - Based on large system monitoring results to reduce burden on small systems while remaining protective

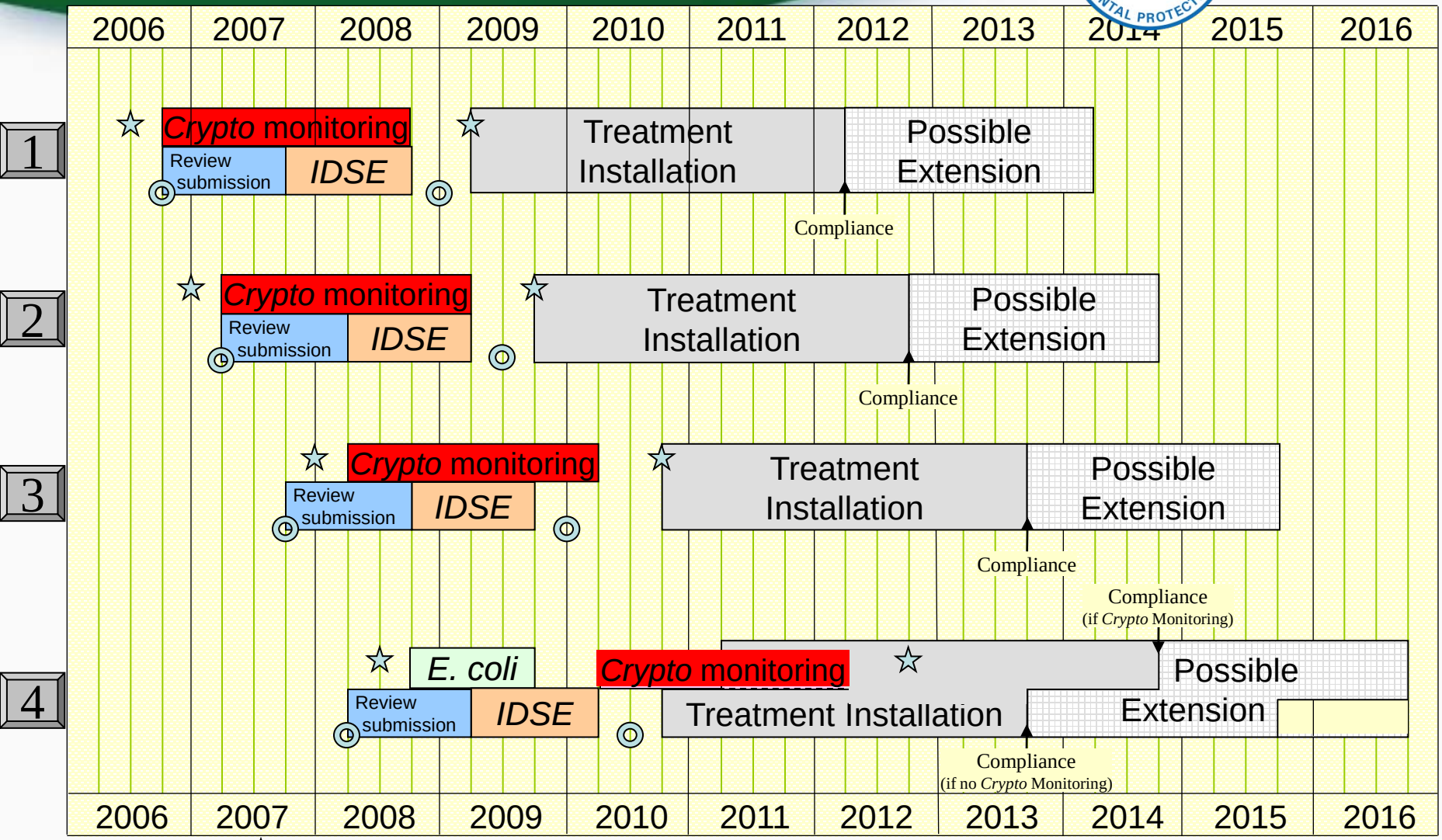
Source Water Monitoring Schedule

- Divided into 4 phases based on:
  - System size based on population served
  - System type (e.g., wholesale systems)

Overview of 4 Phases of Schedule

If you have a Subpart H source and are this kind of system:	***You are on Schedule number:***
System serving 100,000 or more people OR a wholesale system in a CDS that contains a system serving ≥100,000	1
System serving 50,000 to 99,999 people OR a wholesale system in a CDS that contains a system serving 50,000 to 99,999	2
System serving 10,000 to 49,999 people OR a wholesale system in a CDS that contains a system serving 10,000 to 49,999	3
System serving fewer than 10,000 and not a wholesale system	4

LT2 Rule Schedule



☆ LT2 Plan or bin classification due

◎ Stage 2 IDSE Plan or report due

** Includes associated consecutive systems*

Second Round Monitoring

Schedule	Population served	Begin 2nd round no later than
1	≥ 100,000	April 2015
2	50,000 – 99,999	October 2015
3	10,000 – 49,999	October 2016
4	< 10,000 & monitor for *E. coli*	October 2017
4	<10, 000 & monitor for *Crypto*	April 2019

Appendix

Monitoring:
Systems Serving >10,000

- Filtered systems serving ≥ 10,000
  - Monitor for *Crypto*, *E. coli*, and turbidity
  - At least monthly for 24 months
- Unfiltered systems serving ≥ 10,000
  - Monitor for *Crypto*
  - At least monthly for 24 months

Monitoring:
Filtered Systems Serving <10,000

- *E. coli* monitoring once every 2 weeks for 12 months
  - Must monitor for *Crypto* if > 10 *E. coli*/100 mL (lake/reservoir source)
  - Must monitor for Crypto if >50 *E. coli*/100 mL (flowing stream source)
    - GWUDI systems comply based on nearest water body (if none nearby, based on lake/reservoir source)
  - EPA recommended revised *E. coli* triggers to states, >100/100 ml, based on large system monitoring results to reduce burden on small systems

Monitoring:
Filtered Systems Serving <10,000

- *Crypto* monitoring
  - Can be done in lieu of *E. coli*
    - Notify state within 3 months prior to *E. coli* start date
  - 2/month for 12 months OR 1/ month for 24 months
  - Compliance date not affected by monitoring frequency
  - Must be done if the PWS fails to properly monitor for E.Coli

Monitoring:
Unfiltered Systems Serving <10,000

- Unfiltered systems serving <10,000 (Schedule 4)
  - Monitor for *Crypto*
  - 2/month for 12 months OR 1/ month for 24 months
  - Compliance date not affected by monitoring frequency

Additional Monitoring

- More frequent sampling is permitted
- Must be evenly spaced throughout monitoring period

Monitoring: *Seasonal Plants*

- If plant does not operate year-round
  - Sample only in months plant is in operation
    - State can set different monitoring period
  - If monitoring for *Crypto* and plant operates less than 6 months
    - Collect 6 or more *Crypto* samples per year for 2 years
    - Samples evenly spaced

Monitoring Avoidance

- Filtered systems that provide at least 5.5-log *Crypto* treatment
- Unfiltered systems that provide at least 3-log *Crypto* treatment
- Notify state no later than sampling schedule submission deadline
- Can stop sampling if system notifies the state in writing that they will install treatment by the applicable treatment compliance date

New Sources and Systems

- Primacy Agency decides whether system should begin monitoring before or after source is on-line
  - Must meet all monitoring requirements
  - Monitor on state-approved schedule
- Meet bin classification and treatment requirements according to state schedule
- Above requirements also apply to new systems
- Begin second round no later than 6 years after bin classification or determination of mean *Crypto* level

Monitoring:
Sampling Schedules

- Submit sampling schedule no later than 3 months before required to begin monitoring
  - Specify calendar dates for collecting required samples
- Systems should submit electronically through the LT2/Stage 2 Data Collection & Tracking System (DCTS)

Monitoring:
Sampling Requirements

- Sample within 2 days before or after dates specified in schedule unless:
  - Extreme conditions or situations
    - Sample as close to scheduled date as feasible
    - Submit explanation to the State
  - Unable to report an analytical result
    - Sample no later than 21 days after notification of problem
    - Submit explanation to state
    - State can approve alternate resample date

Monitoring:
Sample Location

- Submit description of sampling location to state concurrent with submittal of sampling schedule
- Must sample for each plant treating surface or GWUDI source
- If multiple plants draw from same influent, state can approve one result

Monitoring:
Sample Location

- Collect prior to:
  - Chemical treatment – State Flexibility for alternatives
  - Point of filter backwash addition
  - Bank filtration (if used for treatment credit)
    - Collect after bank filtration if used as pretreatment to filtration plant

Monitoring:
Sample Location

- GWUDI sources
  - Collect from ground water prior to treatment
- Multiple sources
  - Sample at tap where sources are combined prior to treatment
  - If no tap, sample at each source near intake on the same day
    - Composite samples before analysis

    OR
    - Analyze samples separately and calculate weighted average

Monitoring:
Analytical Methods & Labs

- ***Cryptosporidium***
  - Method 1623 or 1622
  - Use U.S. EPA or approved lab
  - Use 10L sample or packed pellet volume of 2 mL
  - Matrix spike sample requirements
  - Samples should be shipped overnight
    - Must be stored between 0°C and 10°C (not frozen)

Monitoring:
Analytical Methods & Labs

- ***E. coli***
  - Use methods listed in 40 CFR 136.3(a)
  - Use U.S. EPA or state-certified lab or any lab that has been approved to measure total coliform or fecal coliform under 141.74
  - No more than 30 hours between collection and analysis
  - If 30 hour holding time not feasible, State can approve up to 48 hours between collection and analysis – only with Colilert reagent version of SM 9223B
  - Maintain samples between 0°C and 10°C

Monitoring:
Analytical Methods & Labs

- **Turbidity**
  - Use methods listed in 40 CFR 141.74(a)(1)
  - Must be measured by state-approved party

Monitoring
Reporting Results

- Report no later than 10 days after end of the month following month of sample collection
- Systems serving ≥ 10,000
  - Report to U.S. EPA electronically
  - May use alternative approach
- Systems serving < 10,000 report results to state
- All systems report second round results to state

Monitoring:
Reporting Results

Data Elements to Report	
Crypto	*E. coli*
PWSID	PWSID
Facility ID	Facility ID
Sample collection point	Sample collection point
Sample type (field or matrix spike)	Analytical method number
Sample volume filtered (L) to nearest ¼ L	Method type
Was 100% of filtered volume examined?	Source type
Number of oocysts counted	*E. coli*/100mL
Additional information	Turbidity