

New Jersey Drinking Water Systems

Best Management Practices During Emergency Conditions

April 2021

EXECUTIVE SUMMARY

In the event of an emergency, public water systems may face unforeseen challenges and limitations. The Best Management Practices (BMPs) contained within this document address identified concerns drinking water systems may face during a crisis. **It is essential to remind all public water systems of the obligation to continually adhere to all federal and state regulatory standards, timelines, operating practices and processes.**

If public water systems, due to conditions created by an emergency, cannot meet their regulatory requirements, they should follow the BMPs contained within this document. Public water systems are required to operate with public health and safety as the primary guide in all decisions and document these decisions and any obstacles as outlined later in this document. In general, public water systems must immediately notify and see DEP authorization/approval for any actions that could result in a contravention of the regulatory requirements.

Public water systems shall notify DEP under N.J.A.C. 7:10-2.4(b) within six hours of the occurrence of any emergency that may tend to lessen the quality or pressure of delivered water, or increase the likelihood of delivery of water that does not meet the standards set forth in N.J.A.C. 7:10-5.

The DEP appreciates the public water system community's continued dedication to protecting New Jersey's drinking water supply and its residents.

Who should I contact with questions?

To report an emergency:
DEP Hotline
1-877-WARN-DEP

For Drinking Water questions, contact:
Division of Water Supply & Geoscience
www.nj.gov/dep/watersupply
Please use "Best Management Practices" in the subject line. watersupply@dep.nj.gov

For Certified Laboratories, contact:
Office of Quality Assurance
Please use "Best Management Practices" in the subject line. OOA@dep.nj.gov

For licensed operator rule, compliance, inspection or enforcement questions, contact:
Division of Water and Land Use Enforcement
(973) 656-4099 (Northern) or Water_North@dep.nj.gov
(609) 292-3010 (Central) or Water_Central@dep.nj.gov
(856) 614-3655 (Southern) or Water_South@dep.nj.gov

I. Distribution System Sampling and Reporting Criteria

Any changes, as outlined below, to a Sample or Monitoring Plan must be captured in a supplemental addendum to the Plan. It is important to label the supplemental addendum to reflect the specific reason for the modification. These changes must be kept on file at the water system and be available for DEP review.

A. Revised Total Coliform Rule (RTCR)

The purpose of the RTCR (40 CFR 141 Subpart Y) is to provide for public health protection through the reduction of potential pathways of entry for fecal contamination into distribution systems. The rule requires public water systems to perform distribution system monitoring and conduct assessments in accordance with a RTCR Sample Siting Plan to identify sanitary defects and subsequently take action to correct them. DEP has incorporated the federal RTCR into its rules at N.J.A.C. 7:10-5.2(a)2.

The following are DEP's chronological BMPs for purpose of collecting total coliform samples within a water system's distribution system. Sampling within the distribution system may become difficult during emergency situations, however microbial pathogens are an acute drinking water parameter and are a high priority for drinking water sampling during an emergency.

1. Sampling from Alternate Locations Identified in Sample Siting Plan

Pursuant to 40 CFR 141.853, public water systems must develop a written Sample Siting Plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system. Public water systems must first sample from the routine and if necessary, the alternate sample site locations outlined in their RTCR sample siting plan. If a routine sample is positive for total coliform, the water system must first sample from the repeat locations identified in the RTCR sample siting plan, and if necessary, the alternate repeat sample site locations outlined in their RTCR sample siting plan.

What is required to be maintained on site by the water system?

- Records of changes in monitoring locations, including dates each alternate site was sampled;
- Records indicating that the alternate site selected is in close in proximity to original site; and
- Person(s) and title(s) responsible for making these changes.

What is required to be sent to DEP?

- No DEP approval is needed to sample from an alternate site outlined in the RTCR sample siting plan. Records must be maintained on site.

2. Sampling from Alternate Locations Not Identified in Sample Siting Plan

Public water systems may use alternate locations not identified in their sample siting plan due to access issues or other issues, as long as the alternate locations are representative of the distribution system. Alternate locations may only receive water from the water system's distribution system (not point of entry or raw water), i.e.

water from outside the building is entering the sample location and there are no cross connections. The following may be used as alternate locations:

- i. Municipal buildings
- ii. Employee homes
- iii. Storage tanks
- iv. Regulating stations
- v. Pumping stations (not chlorine booster stations)
- vi. Well houses
- vii. Interconnection sites

What is required to be maintained on site by the water system?

- A supplemental addendum to the Sample Siting Plan that includes the following:
 - Records of changes in monitoring locations including dates and locations of attempts to sample from routine, repeat or alternate locations contained in the RTCR Sample Siting Plan;
 - Justification for selecting the alternate location, including proximity to original site, and why it is representative of water quality in that area of the distribution system (e.g. pressure zones, historical low chlorine residuals, areas known to have total coliform issues, long stagnation times, etc.); and
 - Person(s) and title(s) responsible for making these changes and decisions.

What is required to be sent to DEP?

- No DEP approval is needed to sample from an alternate location not outlined in the RTCR sample siting plan or addendum provided it is representative of the distribution system. Records must be maintained on site.

3. Inability to Collect the Required Number of Routine Samples or Routine Samples Representative of the Entire Distribution System. (Note: Must receive DEP Approval)

The number of routine samples collected under the RTCR is based on the water system source type (surface water or groundwater) and population in accordance with 40 CFR 141.854 through 141.857. Due to the emergency circumstances, such as staffing shortages, access to sampling sites, and/or laboratory unavailability, a water system may be forced to reduce the number of required routine samples collected.

In the event a routine sample cannot be collected, and an alternate site cannot be located under options 1 and 2 above **or** routine samples collected will not be representative of the entire distribution system (e.g. pressure zones, different water quality or sources, areas of low water usage or chlorine residual, etc.), DEP approval is needed. The water system must report the situation to DEP immediately, and submit and certify the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* form available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will evaluate

information provided to determine what further action will be required of the water system. The water system should:

- Attempt to sample all approved sample locations in the RTCR sample siting plan;
- Attempt to use alternate locations in accordance with options 1 and 2 above;
- Determine if samples can be collected from routine or alternate sites using alternate approaches, such as the use of personal protective equipment (PPE);
- Train additional water system staff to collect samples under the direction of the licensed operator;
- For situations where reduced sampling is necessary due to limited laboratory capacity, maintain documentation that the contracted NJ certified laboratory is unable to meet the regulatory requirements;
- Contact additional NJ certified laboratories for sample collection and/or analysis, as applicable; and
- Adequately document the situation including all steps and decisions taken including person(s) responsible as described in detail below.

What is required to be maintained on site by the water system?

- A Site Sampling Plan Addendum that includes the following:
 - Documentation and details concerning the specific emergency circumstance which caused the difficulty in complying with monitoring and reporting requirements;
 - Documentation of decisions and actions by the water system to collect required RTCR samples, including:
 - Best efforts to comply with options 1 and 2 above;
 - The date and time of such efforts;
 - How alternate locations were exhausted;
 - Other measures taken to collect the required number of total coliform samples for the month;
 - The percentage of required total coliform samples collected for the month; and
 - Number of samples projected to be collected.;
 - Records of denial of access to standard and alternate locations from property owners;
 - Documentation from the contracted certified laboratory of inability to sample/perform sample analysis;
 - Documentation of attempts to use another NJ certified laboratory to complete the analysis;
 - Documentation regarding how staff shortages impacted ability to collect required samples;
 - Records of changes in monitoring locations including dates each alternate site was sampled; and
 - Justification why alternate sample locations are representative of water quality in that area of the distribution system (e.g. pressure zones, historical low chlorine residuals, areas know to have total coliform issues, long stagnation times, etc.).

What is required to be provided to DEP?

- DEP approval is needed. Upon becoming aware that the public water system may not be able to collect the required number of routine samples or samples representative of the entire distribution system, public water systems must notify the DEP immediately and submit and certify the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* form available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will review the information certified on the form to evaluate sample schedules and identify what further action will be required of the water system. Public water systems will be notified of any approved schedule modifications in writing; and
- Copy of the water system's most recent RTCR Sampling Plan including any addendums.

B. Disinfection Byproduct Sampling

The Stage 2 Disinfectants and Disinfection By-Products Rules (40 CFR 141 Subpart V) improve public health protection by reducing exposure to disinfection byproducts that have been shown to cause cancer and reproductive effects. Public water systems are required to sample for disinfectant by-products in accordance with the monitoring plan established under 40 CFR 141.622 and report the results in accordance with 40 CFR 141.629. DEP has incorporated the Disinfectants and Disinfection By-products (DBP) Rules at N.J.A.C. 7:10-5.2(a)8. As with total coliform sampling, a water system is expected to take all necessary steps to remain in compliance with the federal Safe Drinking Water Act.

1. In the event an established site cannot be accessed, public water systems may sample at another location that is representative of the system. The alternate location must be in close proximity to the original sampling location and have similar water quality. These samples can be reported through DEP's E2 Reporting System under existing sample IDs, but must include a comment stating that the sample location is located in close proximity or sampled at an outside tap.

What is required to be maintained on site by the water system?

- A Monitoring Plan Addendum which must include:
 - Records of changes in monitoring locations including dates of attempts to sample from locations specified in the DBP sampling plan
 - Justification for selecting the alternate location including proximity to original site, and why it is representative of water quality in that area of the distribution system (e.g. pressure zones, historical low chlorine residuals, areas know to have DBP issues, long stagnation times, etc.)

What is required to be sent to DEP?

- No DEP approval is needed to sample from an alternate location not outlined in the DBP sample plan provided the alternate location is in close proximity with similar water quality.

2. In the event that the water system cannot submit results for the required number of samples due to collection issues, an alternate site that is representative cannot be located under option 1 above, and/or the certified laboratory is unable to perform the analysis and reporting results within the timeframe specified, DEP approval is needed. The water system must report the situation to DEP immediately by submitting and certifying the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* form available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will evaluate information provided to determine what further action will be required of the water system. The water system should:
 - Attempt to sample all approved sample locations in the DBP sample plan;
 - Attempt to use DEP alternate locations in accordance with 1 above;
 - Determine if samples can be collected from routine or alternate sites using alternate approaches, such as the use of personal protective equipment (PPE);
 - Train additional water system staff to collect samples under the direction of the licensed operator;
 - For situations where reduced sampling is necessary due to limited laboratory capacity, maintain documentation that the contracted NJ certified laboratory is unable to meet the regulatory requirements;
 - Contact additional NJ certified laboratories for sample collection and/or analysis, as applicable; and
 - Adequately document the situation including all steps and decisions taken including person(s) responsible as described in detail below

What is required to be maintained on site by the water system A Monitoring Plan Addendum which must include;

- Documentation and details concerning the specific emergency circumstance which caused the difficulty in complying with monitoring and reporting requirements;
- Documentation of decisions and actions by the water system to collect required DBP samples, including:
 - Best efforts to comply with Options 1 above
 - The date and time of such efforts
 - How alternate locations were exhausted
 - Other measures taken to collect the required number of samples
 - The percentage of required samples collected for the month; and
 - Number of samples projected to be collected;
- Records of denial of access to standard and alternate locations from property owners;
- Documentation from the contracted certified laboratory of inability to sample/perform sample analysis;
- Documentation of attempts to use another NJ certified laboratory to complete the analysis;

- Documentation regarding how staff shortages impacted ability to collect required samples;
- Records of changes in monitoring locations including dates each alternate site was sampled; and
- Justification why sample locations are representative of water quality in that area of the distribution system (e.g. pressure zones, historical low chlorine residuals, areas know to have DBP issues, long stagnation times, etc.)

What is required to be sent to DEP?

- DEP approval is needed. Upon becoming aware of the situation, public water systems must notify the DEP immediately and submit and certify the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* form available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will review the information certified on the form to evaluate sample schedules to determine what further action will be required of the water system. Public water systems will be notified of any approved schedule modifications in writing; and
- Copy of the water system's most recent DBP Monitoring Plan, including any addendums.

C. Lead and Copper Rule (LCR)

1. Lead and Copper Tap Sampling

The Lead and Copper Rule (LCR) protects public health by minimizing lead (Pb) and copper (Cu) levels in drinking water, primarily by reducing water corrosivity. Lead and Cu enter drinking water mainly from corrosion of Pb and Cu containing plumbing materials. Community and non-transient non-community water systems must collect first-draw samples at taps in homes/buildings that are at high risk of PB/CU contamination as identified in 40 CFR 141.86(a). The number of samples collected is based on system size. DEP has incorporated the LCR at N.J.A.C. 7:10-5.1 and 5.2(9).

- a. Public water systems on standard monitoring have 6 months to collect the required number of samples. If the water system exhausts all of its approved standard and alternate locations and has to add additional locations **that meet the same tier category as their standard and alternate sites** as defined under 40 CFR 141.86 (a), the water system shall complete and submit the PBCU Sample Location Spreadsheet (BWSE-18) to watersupply@dep.nj.gov as soon as possible to allow your laboratory to submit the results on your behalf.
- b. If a water system has exhausted all its highest tiered sites and needs to sample sites of a lower tier, the water system must contact DEP immediately.

DEP approval is needed. Upon becoming aware of the water system no longer being able to sample from its highest tiered sites, the water system must notify the DEP immediately, submit and certify the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* form available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will evaluate information provided to determine what further action will be required of the water system. The water system should:

- Attempt to sample all approved sample locations in the PB/CU sample plan;
 - Attempt to use DEP alternate locations in accordance with (a.) above;
 - Determine if samples can be collected from routine or alternate sites using alternate approaches, such as the use of personal protective equipment (PPE);
 - Train additional water system staff to collect samples under the direction of the licensed operator;
 - For situations where reduced sampling is necessary due to limited laboratory capacity, maintain documentation that the contracted NJ certified laboratory is unable to meet the regulatory requirements;
 - Contact additional NJ certified laboratories for sample collection and/or analysis, as applicable; and
 - Adequately document the situation including all steps and decisions taken including person(s) responsible as described in detail below
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- What is required to be maintained on site by the water system A Sampling Plan Addendum which must include:
 - Documentation and details concerning the specific emergency circumstance which caused the difficulty in complying with monitoring and reporting requirements;
 - Documentation of decisions and actions by the water system to collect required PB/CU samples, including:
 - Best efforts to comply with a above
 - The date and time of such efforts
 - How alternate locations were exhausted
 - Other measures taken to collect the required number of samples
 - The number of required samples collected for the month; and
 - Number of samples projected to be collected;
 - Records of denial of access to standard and alternate locations from property owners;
 - Documentation from the contracted certified laboratory of inability to sample/perform sample analysis;
 - Documentation of attempts to use another NJ certified laboratory to complete the analysis;
 - Documentation regarding how staff shortages impacted ability to collect required samples;
 - Records of changes in monitoring locations including dates of attempts to sample from locations in the sampling plan; and

- Justification why sample locations are representative of water quality in that area of the distribution system (e.g. Tier classification)

What is required to be sent to DEP?

- DEP approval is needed. Upon becoming aware of the situation, public water systems must notify the DEP immediately and submit and certify the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* form available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will review the information certified on the form to evaluate sample schedules to determine what further action will be required of the water system. Public water systems will be notified of any approved schedule modifications in writing; and
- Copy of the water system's most recent PB/CU Sampling Plan including any addendums.

2. Water Quality Parameter (WQP) Monitoring

Pursuant to the Federal Lead and Copper Rule (40 CFR 141.87), public water systems are required to sample for WQPs at taps within the distribution system and at each point of entry to the distribution system. WQP monitoring may be conducted under the LCR through three schedules: initial, following the installation of corrosion control (i.e. follow-up) and after the state sets optimal WQPs. Public water systems' WQP monitoring schedules for each applicable parameter are available on DEP's Drinking Water Watch.

Public water systems are encouraged to conduct continual sampling for WQPs in the distribution system where possible; if a water system cannot gain access to a site identified in the sampling plan, the system is permitted to select an alternate site in close proximity. Public water systems are also required to maintain documentation records regarding their attempts to sample each location including the specific emergency circumstance which caused the noncompliance (monitoring and reporting), and the decisions and actions taken by the water system and licensed operators in response. This includes, best efforts to comply, the date and time of such efforts, outline how alternate locations were exhausted, and other measures taken to collect the required number of WQP distribution system samples for the monitoring period. Upon becoming aware, public water systems must provide the documentation requested above on the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* form available at www.state.nj.us/dep/watersupply/emergency.html and keep the above detailed documentation onsite and available for DEP review.

Point of entry to the distribution system WQP sampling must continue following the water system's established biweekly schedule. If a treatment is offline, the water system is to notify DEP under normal reporting protocols.

II. Point of Entry Sampling Requirements

A. Non-Acute Parameter Monitoring

(*Volatile Organic Compounds, PFNA, Synthetic Organic Compound,*)

i. *Systems on Annual Monitoring*

In accordance with 40 CFR 141.24, public water systems that have been determined to be “reliably and consistently below the MCL” for a specific parameter may be reduced to an annual frequency and they must monitor during the quarter which previously yielded the highest result.

Public water systems that have annual monitoring that is required to be collected during a specific quarter for a specific parameter may request to have that quarter modified to a later quarter provided they can document the specific emergency circumstance which caused the monitoring and reporting noncompliance as noted below.

What is required to be maintained on site by the public water system

- Documentation of decisions and actions by the water system to collect required samples;
- Documentation from the contracted certified laboratory of inability to sample/perform sample analysis; and
- Documentation of attempts to use another NJ certified laboratory to complete the analysis.

What is required to be sent to DEP?

DEP approval is needed. Public water systems must submit and certify the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will evaluate information provided to determine what further action will be required of the water system. Public water systems will be notified of any approved schedule modifications in writing.

ii. *Systems on Quarterly Monitoring*

In the event that the required samples cannot be collected, or the water system is unable to meet the deadlines for analysis and reporting, the water system must adequately document the situation and report it to DEP immediately.

The DEP will evaluate information provided to determine if modifications can be made to the sampling requirements or if further action is required to be taken by the water system.

- What is required to be maintained on site by the water system Documentation and details regarding the specific emergency circumstance which caused the difficulty in complying with monitoring and reporting requirements;
- Documentation of decisions and actions by the water system to collect required samples;

- Documentation from the contracted certified laboratory of inability to sample/perform sample analysis; and
- Documentation of attempts to use another NJ certified laboratory to complete the analysis.

What is required to be sent to DEP?

DEP approval is needed. Upon becoming aware that the sample(s) cannot be collected, public water systems must submit and certify the *Request for DEP Guidance on Public Water System Monitoring During an Emergency* available at www.state.nj.us/dep/watersupply/emergency.html. The DEP will evaluate information provided to determine what further action will be required of the water system. Public water systems will be notified of any approved schedule modifications in writing.

III. Process Control Sampling

Public water systems shall continue all process control sampling and analysis of treatment. This includes completing and submitting monthly operator reports required pursuant to N.J.A.C. 7:10A-1.12. Any sample results outside of an acceptable range or atypical of normal operations must be reported to the DEP within six hours in accordance with N.J.A.C. 7:10-2.4(b).

IV. Public Notification

A. Tier 1 Public Notification

Each owner or operator of a public water system (community water systems, non-transient non-community water systems, and transient non-community water systems) must give notice for all violations of national primary drinking water regulations in accordance with 40 CFR 141.201.

All Tier 1 Public Notices (required for violations and situations with significant potential to have serious adverse effects on human health as a result of short-term exposure) must be approved by the DEP prior to issuance. The DEP has developed Tier 1 Public Notification templates that incorporate specific situations into existing Tier 1 Public Notices to assist public water systems in providing their customers assurance as well as making sure they are taking the necessary steps due to potential microbial contamination.

For all Tier 1 Public Notices, the water system is required to notify the mayor and municipal clerk of each affected municipality within 1 hour of becoming aware of the emergency. This notification must be given by both telephone and electronic mail and documented in the water system's records.

Public water systems shall notify DEP immediately of any plans to issue a Boil Water Advisory or Notice. The DEP will issue further direction in consideration of the circumstances. Consultation with the DEP is necessary to ensure that language contained in the Precautionary Boil Water Advisory is accurate.

B. Tier 2 Public Notice

Tier 2 Public Notice is required for violations of the Federal Safe Drinking Water Act that have the potential to have adverse effects on human health due to long-term exposure. Under 141.203 Tier 2 Public Notice—Form, manner, and frequency of notice, section (b), public water systems must provide the public notice as soon as practical, but no later than 30 days after the system learns of the violation. If a water system has resolved the violation, the regulations allow states in appropriate circumstances to provide additional time for the initial notice to be provided.

DEP will consider extensions for any public water system in which the Tier 2 violation has been resolved or will be resolved within the 30 day timeframe.

What is required to be submitted to DEP?

Water system may submit a request in writing to watersupply@dep.nj.gov with “Tier 2 PN Extension Request” in the subject matter requesting a 30 day extension to issue the Tier 2 public notice.

- If granted, the water system will receive an additional 30 days to mail the notice to all customers. If the water system has a website it will be expected to post the Tier 2 public notice within 30 days of the violation.
- Following the issuance of the Tier 2 public notice, the Public Notice Certification Form will be required to be submitted to the Bureau of Safe Drinking Water within 30 days instead of the required 10 days.

It is strongly recommended public water systems and licensed operators consult with DEP when developing any Tier 2 Public Notice (required for other situations with potential to have serious adverse effects on human health) prior to distribution.

V. Recordkeeping

Documentation for the above modifications to routine sampling requirements is essential during emergencies as public water systems experience limitations and restrictions. It is always crucial for public water systems to maintain as many records as possible and have them available to DEP upon request. Supporting records may consist of logs, laboratory correspondence, correspondence from customers, water bill/usage statements, chains of custody, forms and tracking mechanisms, and photographs.

VI. **Child Care Systems**

A. *Child Care - Certification of Acceptable Drinking Water Quality*

The Department of Children and Families (DCF) is granting childcare license extensions of 3 months for all childcare license renewals. If a current license expires on 4/15/2020, the license will now expire on 7/15/2020. You can check the status of your license at <https://childcareexplorer.njccis.com/portal/provider-search>.

VII. Other Federal & State non-permitting requirements

A. Synthetic Organic Compound (SOC) Requirements

One of the conditions that allows States to grant waivers for Synthetic Organic Compound (SOC) monitoring under 40 CFR 141.24(f) is the evaluation of factors outlined in the SOC Well Vulnerability Questionnaire (WVQ).

- DEP is providing an additional 30 days to the 60-day requirement for new or reclassified systems to submit WVQ. Be advised, however, that an SOC waiver decision for the 2020-2022 compliance period cannot be made until the WVQ is received.
- WVQs are required for newly installed community water system wells prior to the well being placed into service/prior to DEP issuing a permit to operate.

B. CCRs

40 CFR 141.152 requires every community water system to prepare and distribute an annual consumer confidence report (CCR) to their customers to provide consumers with information on the quality of their drinking water. The reports are required to be delivered to customers by July 1st of each calendar year for water quality data from the previous year.

Water systems that cannot meet the July 1st deadline due to emergency circumstances should contact the DEP as follows:

What should be submitted to DEP?

Public water systems should send an email to watersupply@dep.nj.gov with “CCR Extension Request” in the subject line.

The email must include a description of the reasons why the system is unable to meet the July 1st deadline, including:

- Closure of printing services;
- Inability to deliver electronically (lack of email addresses for consumers);
- Inability to mail any correspondence to systems (i.e. a water bill with a link to CCR on website);
- Inability for a small system to provide copies door-to-door (i.e. nursing homes or long-term care facilities) due to access issues;
- Limited personnel which have been redirected to focus on satisfying acute parameter requirements.

DEP will evaluate all requests and determine if the water system must take additional steps to meet the July 1st deadline. Any approvals to extend the deadline for notice to customers will be done in writing. The CCR Certification deadline of submittal to DEP by October 1st will remain.