Receptor Evaluation Frequently Asked Questions (FAQs)

These frequently asked questions are designed to help the person responsible for conducting the remediation to comply with the New Jersey Department of Environmental Protection (Department) requirements regarding receptor evaluations established by the Technical Requirements for Site Remediation (Technical Requirements) N.J.A.C. 7:26E. This frequently asked questions will be used by many different people involved in the remediation of a contaminated site, such as Licensed Site Remediation Professionals (LSRP), Non-LSRP environmental consultants and other environmental professionals. Therefore, the generic term "investigator" will be used to refer to any person that uses these frequently asked questions to remediate a contaminated site on behalf of a remediating party, including the remediating party itself.

1. What is the purpose of a receptor evaluation and to whom do I submit a completed receptor evaluation form?

A receptor evaluation is an assessment conducted pursuant to the Technical Requirements at N.J.A.C. 7:26E-1.12 through 1.16. A receptor evaluation identifies potential human and natural resource receptors at or near a contaminated site and evaluates all contaminant migration pathways. Pursuant to N.J.A.C 7:26E-1, the person responsible for conducting remediation (PRCR) must begin to conduct the receptor evaluation when a discharge is confirmed and continue to evaluate potential receptors throughout the remediation process. The PRCR must submit the results of these evaluations to the Department using the Receptor Evaluation form available at NJDEP| Contaminated Site Remediation & Redevelopment Program | Forms The Receptor Evaluation form provides a snapshot in time that captures the results of the ongoing evaluation to accurately reflect conditions at and around the contaminated site at the time the evaluation is conducted. The PRCR must also send a copy of each completed Receptor Evaluation form to the municipal clerk and the local health official where the contaminated site is located. See N.J.A.C. 7:26E-1.12(f).

2. Are there timeframes associated with the initial receptor evaluation?

Yes, pursuant to N.J.A.C. 7:26E-1.12(c) the initial Receptor Evaluation form is due no later than one year after the earliest applicable requirement to remediate listed in the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) at N.J.A.C. 7:26C-2.2.

3. When does an updated Receptor Evaluation form need to be submitted?

Pursuant to N.J.A.C. 7:26E-1.12(e), the PRCR must submit the updated Receptor Evaluation form with, as applicable, the immediate environmental concern (IEC) source control report, the remedial investigation report, and the remedial action report. In addition, pursuant to N.J.A.C. 7:26E-1.12(d), the PRCR shall update the receptor evaluation when the known concentration or extent of contamination in any medium increases, a new area of concern is identified, a new receptor is identified, or a new exposure pathway is identified.

4. Is the receptor evaluation process related to the immediate environmental concern process?

Yes, during the receptor evaluation, the investigator could identify an immediate environmental concern (IEC). An IEC is defined at N.J.A.C. 7:26E-1.8. When an IEC has been identified, the investigator must follow the

requirements outlined at N.J.A.C. 7:26E-1.11, including but not limited to sampling, mitigation, and reporting. The most common IECs identified during the receptor evaluation are potable water and vapor intrusion IECs.

5. Is a receptor evaluation required to be conducted for all sites?

No. Pursuant to N.J.A.C. 7:26E-1.12(b), a PRCR who completes an unrestricted use remedial action is not required to conduct a receptor evaluation when a final remediation document is filed with the Department within one year after the earliest applicable requirement to remediate listed at N.J.A.C. 7:26C-2.2. As explained at N.J.A.C. 7:26E-1.16, an exception to this is if the PRCR conducts an ecological receptor evaluation.

6. How should the Receptor Evaluation form be filled out if a site is very complex, or the form does not address the site-specific circumstances?

When the site is very complex or the Receptor Evaluation form does not address site-specific circumstances, include a short, concise narrative with the form that clearly explains the site-specific circumstances and describes how receptors are being protected. If you need assistance, please refer to the Contaminated Site Remediation & Redevelopment's contact for receptor evaluations. Contact information can be found here: NJDEP| Contaminated Site Remediation & Redevelopment Program | Contact List.

7. Should an updated Receptor Evaluation form be submitted with the Remedial Action Protectiveness/Biennial Certification if a limited restricted or restricted use No Further Action Letter or Response Action Outcome was issued, and a Remedial Action Permit was required/obtained?

No, an updated Receptor Evaluation form is not required to be submitted with a Remedial Action Protectiveness/Biennial Certification. The continued evaluation of receptors is required and should be documented on the Remedial Action Protectiveness/Biennial Certification form. For more information, see the instructions for the ground water and soil Remedial Action Protectiveness/Biennial Certification forms at NJDEP| Contaminated Site Remediation & Redevelopment Program | Forms.

Land Use

8. Does an investigator have to evaluate land use within 200 feet of the entire property boundary when conducting a receptor evaluation for a very large site with only one small area of concern?

The investigator can decide to limit the evaluation of land use based on existing site data and site conditions using independent professional judgment. However, the area around the site that must be evaluated can be reduced only when the extent of contamination in soil and ground water, the direction of ground water flow, and the distance to potential receptors are known. Limiting the evaluation of land use is a variance from the technical requirements and must be documented pursuant to N.J.A.C. 7:26E-1.7.

9. What should an investigator do in order to properly evaluate future land uses in Section B, "On Site and Surrounding Property Use" of the Receptor Evaluation form?

The investigator should conduct a site visit as part of the receptor evaluation. Pursuant to N.J.A.C. 7:26E-1.13(a)4, for off-site properties within 200 feet of the property boundary, the investigator shall identify all readily apparent changes in land use, such as a residential development under construction. In addition, identify use changes that have been approved by the municipal government (i.e., through a Planning Board or Zoning Board approval).

Changes in the allowable use of a property through a modification in the municipal Master Plan need not be considered until such time as there is a municipally approved land use application for the property. Signs advertising a potential future use are not sufficient evidence to establish a proposed future use but should be confirmed with the appropriate municipal official.

Ground Water

10. When is a receptor evaluation of ground water required?

Pursuant to N.J.A.C. 7:26E-1.14, a receptor evaluation of ground water is required when any contaminant is detected in ground water in excess of any Class II ground water quality standard upon receipt of the laboratory data.

11. When is a well search required?

An initial well search is required when ground water contamination that has resulted from a discharge is detected in excess of the Class II ground water quality standards at a site. Pursuant to N.J.A.C. 7:26E-1.14(a)1, a well search is required to be conducted within 90 days after ground water contamination is detected.

12. What information or data are required to be evaluated in a well search?

The complete list of what is required to be evaluated is included at N.J.A.C. 7:26E-1.14(a).

The Department offers the following guidance when conducting the well search:

- The purpose of conducting a well search is to ensure that potable wells are identified early in the ground water investigation and sampled when required by regulation. In addition, the location, well logs, and construction of wells identified in the well search are used by the investigator to understand the local hydrogeology and develop a hydrogeologic framework for the surrounding area to help guide the remedial investigation of ground water. Additional information regarding the investigation of ground water contamination can be found in the Ground Water SI/RI/RA Technical Guidance at NJDEP| Contaminated Site Remediation & Redevelopment Program | Guidance.

- When the groundwater flow direction is known, the Department recommends that the investigator determine and use the projected down gradient extent of the contamination as a known data point.

- Monitoring well information from adjacent contaminated sites is not required to be mapped or submitted for the receptor evaluation. However, this information should be maintained by the investigator because it may be useful during other phases of the remediation .

- An important step in the well search process is to identify community and non-community public supply wells, well head protection areas, and service areas for the water purveyors. This information is available on the Department's GIS data coverages and can be accessed at NJDEP Open Data (arcgis.com)

- When conducting a well search it is critical to check with the county and local health and environmental officials because they may have local well records and information that is not in the Department's well records or databases.

- The Department has significant information on permitted wells that can be obtained by conducting an electronic radial well search at NJDEP| Contaminated Site Remediation & Redevelopment Program | CEA Compliance.

- When conducting a well search to determine ground water use in a particular area, the investigator should not rely on only one source of information; instead, multiple sources should be used. The use of private wells can vary from community to community and sometimes from property to property. For instance, in some communities, private wells have not been used for potable purposes for decades and local ordinances prohibit the installation of new wells. In other communities, waterlines may exist but not all residents are connected, so private wells may also exist in areas served by public waterlines. Therefore, multiple sources of information should be used to effectively evaluate ground water use in a particular area, including the Department's records of well permits, water purveyor service area and detailed waterline information, the Department's GIS resources, and municipal and county environmental records.

- Mapping waterline and connection information from the local water purveyor or local government can also be an efficient way to identify areas or properties that are not supplied with public water. As noted above, the availability of public water does not necessarily mean that a property does not have well(s) in use.

13. What information needs to be submitted to the Department for a well search and when does the well search need to be updated?

Pursuant to N.J.A.C. 7:26E-1.14(a)1iv, the well search must include the following:

- A map of all well locations (except monitoring wells, borings, and other non-pumping wells) identified in the half-mile and one-mile radius searches from each point of ground water contamination; and
- A spreadsheet of all wells identified, and all the sources of records used to construct the search, including local or county health departments. The template spreadsheet can be downloaded at NJDEP| Contaminated Site Remediation & Redevelopment Program | Forms.

The well search must be updated every two years pursuant to N.J.A.C. 7:26E-1.14(a)3 and must be included within an IEC source control report (if applicable), the remedial investigation report, and the remedial action report as part of the receptor evaluation update requirements. These reports should include a section that documents any changes to the updated well search.

14. What is a door-to-door survey?

The Department considers a door-to-door survey to be an evaluation of all properties within the distances identified in N.J.A.C. 7:26E-1.14(a)1ii (trigger distances), to determine the existence of any unpermitted potable or irrigation wells. A door-to-door survey must be conducted pursuant to N.J.A.C. 7:26E-1.14(a)1ii.

15. When is a door-to-door survey required?

A door-to-door survey is required if potable or irrigation wells are identified within a half-mile of ground water contamination. In addition, the Department recommends that properties within the trigger distances identified in N.J.A.C. 7:26E-1.14(a)1ii, that are not serviced by municipal water and a well record was not identified, should also be included with the door-to-door survey.

16. What is expected in a door-to-door survey?

All properties within the trigger distances identified in N.J.A.C. 7:26E-1.14(a)1ii. must be evaluated to determine the existence of any unpermitted potable or irrigation wells. Not every door must be visited to complete the door-to-door survey. Well survey questionnaires should be sent to all properties within the sampling trigger distance via certified mail and standard mail to encourage a maximum neighborhood response to the inquiry. A follow-up inquiry/mailing should occur with any property owner who did not respond to the well survey questionnaire.

17. What lines of evidence can be used if a property owner doesn't respond to the door-to-door survey?

For property owners who do not respond to the well survey questionnaire, multiple lines of evidence may be provided to demonstrate that no further evaluation of their well is needed to determine the existence of any unpermitted potable or irrigation wells.

Some examples of multiple lines of evidence that may be used:

- Records from the water purveyor to demonstrate the property is receiving public water;
- Local and county health departments' records of well construction details ("as-built" drawings) and well abandonment records;
- Ground water directional flow used to demonstrate that the property in question may be upgradient or side gradient of the plume;
- Plume dimensions or plume delineation indicating that a non-responsive property is not impacted by the ground water contamination;
- Depth to contaminated ground water; and
- Local information on potable well constructions in the area (i.e., depth to well screening vs. depth to ground water contamination).

18. How can an investigator locate private unpermitted wells?

Active, unpermitted private wells are often found in areas currently serviced by water purveyors, unless a local ordinance required properties to decommission such wells before access to the public water supply was granted. Local and county health departments are great resources and may be able to assist with outreach to property owners.

19. When does an updated well search and door-to-door survey need to be conducted?

Pursuant to N.J.A.C. 7:26E-1.14(a)3, every two years after the first trigger for a well search, an updated well search must be conducted pursuant to N.J.A.C. 7:26E-1.14(a)1i, to identify if new wells have been installed. Updates to the well search are not needed when the plume is fully delineated, monitored, and entirely on-site. Also, if a local ordinance preventing new well installation is passed after a prior well search is conducted, then an updated well

search is not needed. In addition, the investigator should be cautious and reevaluate the well search if there is any new building construction in an area without a waterline, or if there has been any unexplained change in ground water flow direction.

Pursuant to N.J.A.C. 7:26E-1.12(d), the receptor evaluation is an iterative process and should be based on the most recent data available. As more information and data are gathered during the investigation of ground water contamination, the door-to-door survey/evaluation will need to be reevaluated by the investigator.

20. Based on the well search, which wells must be sampled, and when should they be sampled?

Pursuant to N.J.A.C. 7:26E-1.14(a)2ii, within 120 days after ground water contamination is detected at the site above any Class II ground water quality standard, the investigator shall conduct sampling of potable wells. The initial sampling must include all potable wells within 500 feet of any point of ground water contamination if ground water flow direction is not known, or if ground water flow direction is known, limit sampling to wells 250 feet up gradient, 500 feet side gradient, and 500 feet down gradient from any point of ground water contamination.

Pursuant to N.J.A.C. 7:26E-1.14(a)2iii, sample each irrigation well that may be used for potable purposes located within 500 feet of any point of ground water contamination if ground water flow direction is not known, or if ground water flow direction is known, limit sampling to wells 250 feet up gradient, 500 feet side gradient and 500 feet down gradient from any point of ground water contamination when there are concerns about exposure.

Pursuant to N.J.A.C. 7:26E-1.14(a)2iv, when ground water contamination is located within a Tier 1 well head protection area, sample each community and non-community supply well within the Tier 1 well head protection area, unless pre-treatment analytical results for the chemicals of concern in ground water are available from sampling completed within the last three months.

Pursuant to N.J.A.C. 7:26E-1.14(b), if contamination above any Class II ground water remediation standard is found in a potable well, it is an IEC condition and the investigator shall comply with the Department's IEC requirements at N.J.A.C. 7:26E-1.11 and the Department's Immediate Environmental Concern (IEC) Technical Guidance provided at NJDEP| Contaminated Site Remediation & Redevelopment Program | Guidance. Pursuant to N.J.A.C. 7:26E-1.11(a)6i(2), the PRCR must continue to identify and sample additional potable wells until all impacted wells have been identified.

Samples from potable and irrigation wells shall be analyzed in accordance with N.J.A.C. 7:26E-2.1(a)9. If people within 500 feet of the ground water contamination are using ground water for drinking or irrigation, such as when no waterlines are available in the area, then the investigator should proceed with sampling promptly, rather than waiting for well search records.

Vapor Intrusion

21. When is a receptor evaluation of the vapor intrusion (VI) exposure pathway required?

Pursuant to N.J.A.C. 7:26E-1.15(a), and in accordance with the Vapor Intrusion Technical Guidance document located at NJDEP| Contaminated Site Remediation & Redevelopment Program | Guidance, the following conditions trigger a receptor evaluation of the VI exposure pathway and a VI investigation:

- Ground water contamination that is petroleum hydrocarbon based that is greater than the Department's Ground Water Screening Levels (GWSL) and is within 30 feet of a building.
- Ground water contamination that is not petroleum hydrocarbon based that is greater than the Department's Ground Water Screening Levels (GWSL) and is within 100 feet of a building.
- Free and residual product that is petroleum hydrocarbon based that is identified within 30 feet of a building.
- Free and residual product that is not petroleum hydrocarbon based that is identified within 100 feet of a building.
- Soil gas contamination detected at concentrations that exceed the Department's Soil Gas Screening Levels (SGSL).
- Indoor air (IA) contamination detected at concentrations that exceed the indoor air remediation standards (IARS) for the VI exposure pathway.
- Wet basement or sump in a building that contains free product or ground water containing any volatile contaminant.
- Methane generating conditions are present, which may cause an oxygen-deficient environment or explosion.
- Any other information that indicates that human health and safety may be impacted via the VI exposure pathway.

22. If one of the conditions in N.J.A.C. 7:26E-1.15(a) exists (see Question 21), how does the investigator complete the evaluation of the vapor intrusion (VI) exposure pathway?

Refer to the Vapor Intrusion Technical Guidance for information on completing the investigation of the VI exposure pathway. The guidance can be found at NJDEP| Contaminated Site Remediation & Redevelopment Program | Guidance.

Ecological Evaluation

23. When submitting an updated receptor evaluation with the remedial investigation, remedial action, or IEC source control report, does the ecological evaluation (EE) have to be resubmitted?

Yes. When the ecological evaluation is initially conducted at the end of the site investigation, there is limited information. Therefore, it is important that the investigator re-evaluate potential ecological receptors as more information is collected during the later phases of remediation. The updated receptor evaluation form should reflect this continuing evaluation. Please refer to the Ecological Evaluation Technical Guidance document located at NJDEP| Contaminated Site Remediation & Redevelopment Program | Guidance.

Historic Fill

24. Is a receptor evaluation required when historic fill material is the only area of concern at the site?

Yes, the receptor evaluation is required for historic fill material. Information for historic fill material can be found in the Historic Fill Guidance document located at NJDEP| Contaminated Site Remediation & Redevelopment Program | Guidance.

A well search must be completed for the footprint of the site unless ground water is sampled and the results are below the ground water remediation standards. If a potable well is found on site, then it must be investigated. A door-to-door survey is not required if historic fill material is the only area of concern at the site.

An ecological evaluation is required of historic fill material. Information for the ecological evaluation for historic fill is addressed in section 6.4.9 of the Ecological Evaluation Technical Guidance document located at NJDEP| Contaminated Site Remediation & Redevelopment Program | Guidance.