

(2) Results and implications of field measurements or area-specific changes in sampling protocol due to field conditions;

(3) Significance of information generated in the library search of tentatively identified compounds/unknown compounds; and

(4) Recommendations for either additional remediation or no further remediation for each area of concern.

(c) The site investigation report shall also include the following data and information:

1. Results of all analyses, copies of all laboratory data sheets and the required laboratory data deliverables pursuant to N.J.A.C. 7:26E-2.1 (Quality Assurance Requirements). Laboratory data deliverables may be submitted as a separate attachment;

2. A summary table of analytical methods and quality assurance indicators pursuant to N.J.A.C. 7:26E-2.2(a)1v;

3. A table summarizing all sampling results, including sample location, media, sample depth, field and laboratory identification numbers, analytical results, and comparison to applicable remediation standards organized by area of concern:

i. All contaminant concentrations exceeding the applicable remediation standards shall be identified;

ii. Samples with method detection limits (MDLs) (or practical quantitation levels (PQLs) if available) exceeding the applicable remediation standard shall be identified and an explanation provided in the table key;

iii. Soils/solids sample results shall be reported in milligrams per kilogram on a dry weight basis, and aqueous sample results shall be reported in micrograms per liter;

iv. All ground water data for the same aquifer zone shall be located in the same section of the table; and

v. The data in the summary table shall be presented both as a hard copy and an electronic deliverable using the format outlined in detail in the Site Remediation Program's Electronic Data Interchange Manual in effect as of the date the report is submitted. The Electronic Data Interchange Manual may be obtained at <http://www.state.nj.us/dep/srp/hazsite/index.html> or by calling (609) 292-9418. Electronic deliverables are not required if the summary table is prepared as part of the remediation of a specific discharge event or for an area of concern that consists of a storage tank storing heating oil for on-site consumption in a one to four family residential building where there has been no groundwater impact.

(1) The following locational information shall be submitted:

(A) Horizontal data points shall be reported in New Jersey state plane coordinates using the North American Datum of 1983 (NAD 1983), in accordance with the Department's Mapping and Digital Data Standards at N.J.A.C. 7:1D Appendix A, using units of U.S. survey feet;

(B) Locational information collected in latitude and longitude shall be converted to New Jersey state plane coordinates. Conversion programs can be obtained at <http://www.state.nj.us/dep/srp/hazsite/index.html>.

(2) All vertical data points should be reported as depth below ground surface, and in mean sea level using the North American Vertical Datum of 1988 (NAVD 1988) in accordance with the Department's mapping and digital data guidance which can be referenced at <http://www.state.nj.us/dep/gis/>.

(3) All submissions of electronic data which contain locational information should be also include a metadata file. For guidance in creating a metadata file, see the version of the Department's mapping and digital data guidance most recent to the time of submission. This guidance document is located at <http://www.state.nj.us/dep/gis/>.

4. Stratigraphic logs, which include soil/rock physical characteristics and field instrument readings detected during drilling for each soil boring, test pit and monitoring well;

5. Stratigraphic cross sections of the site using information from monitoring wells, test pits and borings, if available;

6. All soil boring, piezometer, and monitoring well records, including the State permit numbers and as-built specifications, if applicable;

7. The following information shall be reported for each monitoring well sampled for each ground water sampling event. All measurements shall be to the nearest 0.01 feet:

i. Before purging:

(1) The date, time, and weather conditions;

(2) The well identification number and State well permit number;

(3) The photoionization detector (PID) and/or flame ionization detector (FID) reading taken from the well immediately after the cap is removed;

(4) The thickness of free product, if present, as determined pursuant to N.J.A.C. 7:26E-2.1(a)11;

(5) pH, dissolved oxygen, temperature, and specific conductance;

(6) The total depth of the well from the top of casing or surveyors mark if present;

(7) The depth from the top of the casing to the top of the screen;

(8) The depth from the top of the casing to the water; and

(9) The estimated water volume in the well.

ii. After purging:

(1) The start and end time for purging;

(2) The purge method;

(3) The purge rate(s);

(4) The total volume purged;

(5) The depth from the top of the casing to the water after purging; and

(6) pH, dissolved oxygen, temperature, and specific conductance.

iii. Before sampling:

(1) The depth from the top of the casing to the water before sampling.

iv. After sampling:

(1) The start and end time for sampling;

(2) pH, dissolved oxygen, temperature, and specific conductance; and

(3) The sampling method.

v. Any comments concerning field observations during the ground water sampling event, such as slow recharge, turbidity, odor, sheen, PID and/or FID readings, model number and ionization potential of PID and/or FID used, shall also be reported; and

8. Any other data and information obtained pursuant to N.J.A.C. 7:26E-3.3 through 3.12.

(d) The site investigation report shall also include the following legible maps and diagrams:

1. Site and area of concern base maps pursuant to N.J.A.C. 7:26E-3.2(a)3i;

2. Sample location map(s), including:

i. All sample locations, sample depths and contaminant concentrations shall also be plotted on the map. Where an entire contaminant class is not detected or is less than the applicable remediation standard, contaminants need not be listed individually;

ii. Map scale (including bar scale) and orientation (including north arrow);

iii. Field identification numbers for all samples; and

iv. If more than one map is submitted, maps shall be presented as overlays, keyed to the base map in (d)1

above; sample locations may be superimposed on the site or area of concern map in (d)1 above. Alternatively, individual maps may be submitted which have a common coordinate system and common scale, provided each map details the features of the base map in (d)1, above;

3. If applicable, a map of the distribution of surface water, structure and airborne contaminants, including sample location numbers and contaminant concentrations;

4. Photos may be submitted to document the location of all soil and sediment sample locations; and

5. A groundwater elevation contour map and a Contour Map Reporting Form set forth in Appendix G, incorporated herein by reference, for each aquifer for which groundwater flow was determined. Each map shall indicate the direction of groundwater flow relative to site features, and include a north arrow and bar scale.

Recodified from 7:26E-3.10 and amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).

See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).

In (a), amended N.J.A.C. reference; in (b)4ii(4), substituted "remediation" for "action"; in (c)3, added "organized by area of concern"; added (c)3iv and v; inserted new (c)7; recodified former (c)7 as (c)8; and in (c)8, amended N.J.A.C. reference.

Amended by R.1999 d.241, effective August 2, 1999.

See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).

In (c)3v, inserted "or for an area of concern that consists of an underground storage tank storing heating oil for on-site consumption in a one to four family residential building where there has been no ground water impact" following "event" in the last sentence.

Amended by R.2003 d.29, effective February 3, 2003.

See: 34 N.J.R. 170(a), 35 N.J.R. 710(a).

Rewrote the section.

SUBCHAPTER 4. REMEDIAL INVESTIGATIONS

7:26E-4.1 Remedial investigation requirements

(a) A remedial investigation is necessary at each area of concern with contaminants which exceed the applicable unrestricted use soil remediation standards or the applicable groundwater or surface water remediation standard pursuant to N.J.A.C. 7:26E-1.13. The purposes of a remedial investigation are to:

1. Delineate the horizontal and vertical extent of contaminants in all media at the site pursuant to (b) below;

2. Determine the general surface and subsurface characteristics of the site, including, without limitation, the depth to ground water;

3. Identify the migration paths and actual or potential receptors of contaminants on or through air, soil, bedrock, sediment, ground water, surface water, and structures at a contaminated site;

4. Collect and evaluate all data necessary to evaluate remedial action alternatives. These data may be gathered

- ii. Another state regulatory agency that has a current reciprocity agreement with the Department for technology acceptance;
- iii. An independent verification organization which maintains a current agreement with the Department for technology acceptance; or
- iv. The Department; and

2. A report that includes detailed description of the following:

- i. The technology, including, without limitation, a process flow diagram, and a detailed description of the operational and environmental data of the technology under a full range of conditions, including, without limitation, laboratory scale and pilot test scale operational results clearly demonstrating the effectiveness and efficiency of the technology under various conditions;
- ii. The sampling and analytical methods including the quality assurance/quality control protocols to generate the data to verify or certify that the technology will operate as claimed and achieve acceptable and reproducible results;
- iii. The resource requirements, natural resource impacts, discharges and by-products and co-products generated through implementation of the technology and description of the environmental controls to be utilized to address impacts; and
- iv. The demonstrated performance range of the technology, including, without limitation, the anticipated reduction of contaminant concentrations achieved for each constituent and for each media of concern;

(e) A person responsible for conducting the remediation who selects a limited restricted use or restricted use remedial action for soil contamination shall comply with the Department's requirements for the use of engineering and institutional controls at N.J.A.C. 7:26E-8.

(f) Nothing in this subchapter shall be construed to limit the requirements to conduct a feasibility study pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. §§ 9601 et seq.) or a corrective measures study pursuant to the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901 et seq.).

Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).

Rewrote (b)4; in (c), deleted a former 5, and rewrote former 6 as 5; inserted a new (d), recodified former (d) and (e) as (e) and (f); and rewrote the new (e).

Amended by R.2003 d.29, effective February 3, 2003.
See: 34 N.J.R. 170(a), 35 N.J.R. 710(a).

In (a), deleted the second sentence in the introductory paragraph; in (c), added 1v and 2iii; rewrote (e).

Amended by R.2008 d.262, effective September 2, 2008.
See: 39 N.J.R. 2687(a), 40 N.J.R. 5010(a).

In (c)4i, deleted "to the local government" following "provided" and updated the N.J.A.C. reference.

7:26E-5.2 Remedial action selection report

(a) The person responsible for conducting the remediation shall demonstrate to the Department that the proposed remedial action is appropriate by submitting a remedial action selection report to the Department for approval, prior to implementation of the remedial action, when:

- 1. The selected remedial action is a restricted use remedial action, except for interim response actions immediately necessary to contain or stabilize a discharge in order to prevent damage to public health, safety or the environment.
- 2. The selected remedial action utilizes an innovative remedial action technology;
- 3. The selected remedial action will take longer than five years to complete from the time the remedial action is implemented, or the remedial action workplan is approved by the Department; or
- 4. The selected remedial action is being implemented to address ground water, surface water or sediment contamination or ecological impact.

(b) A remedial action selection report is not required if the site being remediated is subject to the requirements for preparing a feasibility study pursuant to CERCLA or a corrective measures study pursuant to RCRA.

(c) The remedial action selection report shall be presented in a format that corresponds to the outline of this section, except that for innovative remedial action technologies the format shall include the information required at N.J.A.C. 7:26E-5.1(d), and shall include:

- 1. A detailed description of the selected remedial action including, without limitation, specifications for engineering and institutional controls and a plan for monitoring of such controls pursuant to N.J.A.C. 7:26E-8;
- 2. A list of the remediation standards that the proposed remedial action will comply with for each media of concern at each area(s) of concern;
- 3. A discussion of how the proposed remedial action satisfies all of the criteria pursuant to N.J.A.C. 7:26E-5.1(c), (d), if applicable, and (e); and
- 4. The Department may require the submittal of any additional information regarding remedial action selection which is necessary for the Department to determine if the remedy is appropriate.

(d) Where Department pre-approval of a remedial action workplan is required pursuant to N.J.A.C. 7:26E-6.1(b), or sought, the remedial action selection report should be submitted in conjunction with the final remedial investigation report, N.J.A.C. 7:26E-4.8. If the remedial action selection report is not submitted with the final remedial investigation

report, the remedial action selection report shall be submitted with the remedial action workplan, N.J.A.C. 7:26E-6.2.

(e) Where Department pre-approval of a remedial action workplan is not required or sought, the remedial action selection report shall be submitted with the remedial action report, N.J.A.C. 7:26E-6.7.

Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).

Rewrote (a) and (c).

Amended by R.2003 d.29, effective February 3, 2003.
See: 34 N.J.R. 170(a), 35 N.J.R. 710(a).

In (c)1 and (e), amended the N.J.A.C. references.

APPENDIX

(RESERVED)

Repealed by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).

SUBCHAPTER 6. REMEDIAL ACTION

7:26E-6.1 Remedial action requirements

(a) The person responsible for conducting the remedial action shall notify the Department and the local governing body pursuant to N.J.A.C. 7:26E-1.4.

(b) Each remedial action implemented at a contaminated site shall:

1. Be approved by the Department prior to implementation, if a remedial action selection report is also required pursuant to N.J.A.C. 7:26E-5.2(a);

2. Comply with all applicable remediation standards in effect at the time the remedial action workplan is approved by the Department, provided, however, that if the applicable numeric remediation standards decrease by an order of magnitude or more prior to the issuance of a No Further Action Letter for the area of concern or the site, the person responsible for conducting the remediation shall be responsible for any additional necessary remediation to achieve the new remediation standards;

3. Comply with all applicable Federal, State, and local laws, regulations, and requirements; and

4. Not in itself cause an uncontrolled or unpermitted discharge or transfer of contaminants from one media to another.

(c) Single phase remediations, where the remedial action is conducted concurrently with sampling to delineate the contamination and to confirm contaminant removal, are acceptable.

(d) Free and/or residual product determined to be present pursuant to N.J.A.C. 7:26E-2.1(a)11 shall be treated or removed when practicable, or contained when treatment or removal are not practicable. Likewise, natural ground water remediation for dissolved phase contamination may be implemented if it is determined by the Department that active ground water remediation for the dissolved phase is impracticable or not cost-effective. Decisions regarding the practicability of a remedial decision shall be made by the Department on a case by case basis. Natural remediation of free and/or residual product will not be allowed.

(e) Institutional controls shall be required whenever a restricted use remedy or a limited restricted use remedy is used to remediate a site.

(f) The person responsible for conducting the remediation of historic fill material shall do so pursuant to N.J.A.C. 7:26E-6.2(c). Remedies for any other fill material, not meeting the definition of historic fill material, shall be selected pursuant to N.J.A.C. 7:26E-5.1.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).

See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).

In (a), inserted reference to notifying local governing body; in (b)1, substituted "if a remedial action selection report is also required pursuant to criteria in N.J.A.C. 7:26E-5.2(a)" for "unless the remedial action is a permanent remedy pursuant to N.J.A.C. 7:26E-5.1(c)"; in (b)2, added "in effect at the time ... new remediation standards"; rewrote (b)5; and added (d) through (g).

Amended by R.1997 d.499, effective November 17, 1997.

See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).

Added (b)5i and (b)5ii.

Amended by R.1999 d.241, effective August 2, 1999.

See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).

In (b), rewrote 5; and in (e), substituted "restricted use remedy or a limited restricted use" for "non-permanent" preceding "remedy".

Amended by R.2003 d.29, effective February 3, 2003.

See: 34 N.J.R. 170(a), 35 N.J.R. 710(a).

In (b), deleted 5; deleted (g).

7:26E-6.2 Remedial action workplan

(a) If a remedial action workplan is required by the Department in an oversight document or pursuant to the ISRA or UST programs, or if the person responsible for conducting the remediation elects to obtain Department pre-approval for the workplan, the workplan shall be submitted in accordance with the schedule contained in that document, if applicable, and shall be presented in a format that corresponds directly to the outline of this section. The workplan shall include:

1. The remedial investigation report, pursuant to N.J.A.C. 7:26E-4.8, shall be presented as the first section of the remedial action workplan. If the remedial investigation report was previously submitted to the Department, either a summary of the report or a copy of the findings/recommendation section of the report may be submitted;