

Site Remediation Program

Immediate Environmental Concern Guidance

Ed Putnam, Assistant Director
Ed.Putnam@dep.state.nj.us

11/2/09

Immediate Environmental Concern Guidance

- I. Purpose
- II. Overview
 - IEC Receptor Protection and Source Control
 - IEC Receptor Protection
 - IEC Source Control
- III. Definitions
 - Potable Water IEC
 - Vapor Intrusion IEC
 - Direct Contact IEC
- IV. IEC Guidance Procedures
 - A. Potable Water IEC Sites
 - B. Vapor Intrusion IEC Sites
 - C. Direct Contact IEC Sites
- V. Tables
- VI. Attachments
- VI. References

Immediate Environmental Concern Guidance

I. Purpose

- Overall, this IEC guidance is written to aid the person responsible for conducting the remediation, environmental consultants and Licensed Site Remediation Professionals when addressing the more common types of IEC conditions. The requirements for IEC cases apply to the person responsible for conducting the remediation.
- Every IEC case will be assigned to a Case Manager.

Immediate Environmental Concern Guidance

II. Overview

- The person responsible for conducting the remediation usually will identify IEC conditions at known contaminated sites when performing interim remedial measures and receptor evaluation requirements found in the Technical Regulations at 7:26E-1.12 through 7:26E-1.19.

Immediate Environmental Concern Guidance

II. Overview

- There are the two critical components to remediating an IEC condition: receptor control and source control that are contained in the Technical Regulations, 7:26E-1.14. Both measures have specific timeframes for notification, remedial action and reporting. Receptor control and source control must be completed to close an IEC case.

Immediate Environmental Concern Guidance

II. Overview

IEC Source Control

- The overall goal of source control is to eliminate the cause of the IEC condition so that protection of public health does not have to rely solely on receptor controls.

Immediate Environmental Concern Guidance

III. IEC Definitions

Potable Water

- A potable water IEC is a condition where there is contamination at levels at or above the Class II Ground Water Remediation Standards, N.J.A.C. 7:26D-2.2 in wells used for potable purposes where the contamination is associated with a discharge of a hazardous substance(s).

Immediate Environmental Concern Guidance

Appendix Table 1 - Specific Ground Water Quality Criteria

Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels

Constituent	CASRN	Ground Water Quality Criterion	Practical Quantitation Level (PQL) *	Higher of PQL and Ground Water Quality Criterion (ug/L)*
Acenaphthene	83-32-9	400	10	400
Acetone	67-64-1	6,000	10	6,000
Acetophenone	98-86-2	700	10	700
Acrolein	107-02-8	4	5	5

Immediate Environmental Concern Guidance

III. IEC Definitions

Vapor Intrusion

- A vapor intrusion IEC occurs when a discharge of a hazardous substance results in levels of contaminants in indoor air above Indoor Air Screening Levels in the Department's Vapor Intrusion Guidance.

Immediate Environmental Concern Guidance

Page 1 of 2

TABLE 1
NJDEP MASTER TABLE
GENERIC VAPOR INTRUSION SCREENING LEVELS

March 2007

Chemical	Ground Water Screening Levels	Soil Gas Screening Levels				Indoor Air Screening Levels			
		Residential		Nonresidential		Residential		Nonresidential	
	µg/L	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv
METHOD TO-15 PARAMETERS									
Acetone (2-propanone)	1,900,000	160,000	69,000	230,000	97,000	3,300	1,400	4,600	1,900
Benzene	15	16	5	26	8	2	0.5	2	0.5
Bromodichloromethane	5	34	5	34	5	3	0.5	3	0.5
Bromoethene (vinyl bromide)	0.1	22	5	22	5	2	0.5	2	0.5
Bromoform	370	80	8	180	18	5	0.5	5	0.5
Bromomethane (methyl bromide)	29	260	66	360	92	5	1	7	2
1,3-Butadiene (vinyl ethylene)	0.01	11	5	11	5	1	0.5	1	0.5
2-Butanone (methyl ethyl ketone)	2,700,000	260,000	87,000	360,000	120,000	5,100	1,700	7,200	2,400
Carbon disulfide	710	36,000	12,000	51,000	16,000	730	230	1,000	330
Carbon tetrachloride	1	31	5	31	5	3	0.5	3	0.5
Chlorobenzene	640	2,600	550	3,600	780	51	11	72	16
Chloroethane (ethyl chloride)	4	110	41	250	93	2	0.8	5	2
Chloroform	70	24	5	24	5	2	0.5	2	0.5
Chloromethane (methyl chloride)	240	4,700	2,300	6,600	3,200	95	46	130	64
3-Chloropropene (allyl chloride)	0.8	16	5	34	11	2	0.5	2	0.5
2-Chlorotoluene (o-chlorotoluene)	1,200	3,600	700	5,100	990	73	14	100	20
Cyclohexane	1,200	310,000	90,000	430,000	130,000	6,200	1,800	8,700	2,500
Dibromochloromethane	9	43	5	43	5	4	0.5	4	0.5
1,2-Dibromoethane (ethylene dibromide)	0.4	38	5	38	5	4	0.5	4	0.5
1,2-Dichlorobenzene (o)	5,900	7,300	1,200	10,000	1,700	150	24	200	34
1,3-Dichlorobenzene (m)	600	550	91	770	130	11	2	15	3
1,4-Dichlorobenzene (p)	75	30	5	32	5	3	0.5	3	0.5
Dichlorodifluoromethane (Freon 12)	1,000	9,100	1,800	13,000	2,600	180	37	260	52
1,1-Dichloroethane	3,600	26,000	6,300	36,000	8,800	510	130	720	180
1,2-Dichloroethane	2	20	5	20	5	2	0.5	2	0.5
1,1-Dichloroethene	250	11,000	2,800	15,000	3,900	220	55	310	77
** 1,2-Dichloroethene (cis)	350	1,800	460	2,600	640	36	9	51	13
1,2-Dichloroethene (trans)	300	3,600	920	5,100	1,300	73	18	100	26
1,2-Dichloroethene (total) [†]	190	1,600	410	2,300	580	33	8	46	12
1,2-Dichloropropane	1	23	5	23	5	2	0.5	2	0.5
1,3-Dichloropropene (total) [†]	1	31	7	72	16	2	0.5	2	0.5
Ethylbenzene	61,000	53,000	12,000	74,000	17,000	1,100	240	1,500	340
Hexachlorobutadiene	1	53	5	53	5	5	0.5	5	0.5

11/2/09

Immediate Environmental Concern Guidance

III. IEC Definitions

Direct Contact

- A direct contact IEC is a situation where contamination exists above the acute health effect levels in the upper two feet of the soil column and there is actual or a potential for human contact via dermal contact, ingestion or inhalation. Acute effect means that an adverse human health impact could result from an exposure of less than two weeks.

Immediate Environmental Concern Guidance

- “Approximately one hour following the site visit, a staff member noticed his shoes felt “uneven.” Upon inspection, it was observed that the bottom soles of both shoes had disintegrated.”



Immediate Environmental Concern Guidance Timeframes

- Call the DEP – Immediately
- Written Notification -5 days
- Initial Mitigation – 5 days
- Receptor control (Engineered system) -60 days
- Receptor report -120 days
- Initiate source control – 270 days
- Mandatory timeframe for initiating source control 1 year.