

SUBJECT: MassDEP Auditing Statistics

Background

Initially, understand that MassDEP conducts (after-the-fact) audits of privatized cleanup activities, focusing mainly on the site closure endpoint, the Response Action Outcome (RAO). This auditing is conducted in a tiered, sequential fashion, codified in our regulations and program as "Level I, II, and III Audits", which are further described at <http://www.mass.gov/dep/bwsc/files/audits/audfact.pdf>

We try to screen most RAO submittals via our "Level I" auditing procedure, in an attempt to identify sites where the cleanup appears to be inadequate, or documentation is lacking. Based upon this initial sorting, in-depth "Level III" audits are done on a "targeted" basis, to further examine the site, and identify regulatory violations and needed follow-up. In addition to these Targeted audits, we also select sites "at random" for a comprehensive Level III audit, to provide another level of programmatic protection, and to provide insight into the quality of work for the larger universe of sites in our systems (i.e., one expects to find more problems/higher rates of noncompliance at sites that are selected for audit because of apparent concerns).

Level III Audit Outcomes

There are generally four possible outcomes of a Level III Audit:

1. Passing - the submittal (e.g., RAO) is considered adequate, and no further work is required.
2. No follow-up work is required - while the submittal is considered to be adequate, violations occurred during the conduct of actions at the site, usually with respect to assessment and cleanup deadlines and/or interim submittal requirements (e.g., late or non-existent progress reports). In the case of an RAO, these past deadline violations and interim submittals become moot, but are nonetheless cited, as a means to establish patterns of non-compliance by individual parties.
3. Follow-up is required - the most common citations in this regard concern the level of documentation provided to conclude, to a reasonable degree of certainty, that a site has been adequately cleaned up. In these cases, MassDEP requires additional investigatory and/or monitoring efforts (e.g., more soil or groundwater samples, modified risk assessments, etc.).
4. Submittal is invalidated by MassDEP or retracted by PRP - in these cases, the document is deemed to be so deficient that a significant amount of additional work

will be needed to either cleanup the site, and/or establish the documentation to prove that it does not pose a significant health risk.

Most parties that conduct follow-up work eventually obtain enough information and data to confirm the adequacy of site cleanup, while a smaller percent must undertake additional remediation and/or modify their RAO category. For information relevant to audit follow-up, please refer to a report prepared by the LSPA, available at: <http://www.lspa.org/Intern%20report-FINAL%20052504.pdf>. In this report, the LSPA followed up on the results of a number of sites where a DEP Level III audit had cited violations and required additional work.

Statistics

Number of Audits

See Table 1 for the number of audits performed annually at all sites

Results of Audits

See Tables 2, 3, 4, and 5. It is perhaps worth noting the significantly lowered rate of RAO retraction/invalidation for "Random" Level III audits (3-5%), compared to the "Targeted" Level III audits (10-15%).

Table 1 - Number of Audits conducted each Fiscal Year (FY)

Fiscal Year		Total	Percent of Fee Paying Sites
FY 1999	Sites Required to Pay Fees	4,381	-
	20% Audit Goal ¹	876	-
	Level I Audits [Toward 20%]	555 [512]	11.7%
	Level II Audits [Toward 20%]	0 [0]	0%
	Level III Audits [Toward 20%]	192 [186]	4.2%
	Total Audits Conducted in FY99	747	17.1%
	Total Count Towards 20% ²	698	15.9%
FY 2000	Sites Required to Pay Fees	4,857	-
	20% Audit Goal ¹	971	-
	Level I Audits [Toward 20%]	1,663 [1,612]	33.2%
	Level II Audits [Toward 20%]	0 [0]	0%
	Level III Audits [Toward 20%]	185 [134]	2.8%
	Total Audits Conducted in FY00	1,848	38%
	Total Count Towards 20% ²	1,746	36%
FY 2001	Sites Required to Pay Fees	4,804	-
	20% Audit Goal ¹	961	-
	Level I Audits [Toward 20%]	1,212 [733]	15%
	Level II Audits [Toward 20%]	72 [63]	1%
	Level III Audits [Toward 20%]	332 [276]	6%
	Total Audits Conducted in FY01	1,616	
	Total Count toward 20% ²	1,071	22%
FY 2002	Sites Required to Pay Fees	5,008	-
	20% Audit Needed ¹	1,002	-
	Level I Audits [Toward 20%]	912 [674]	13%
	Level II Audits [Toward 20%]	249 [203]	4%
	Level III Audits [Toward 20%]	208 [180]	4%
	Total Audits Conducted in FY02	1,369	
	Total Count toward 20% ²	1,057	21%
FY 2003	Sites Required to Pay Fees	5,143	-
	20% Needed ¹	1,029	-
	Level I Audits [Toward 20%]	1,700 [1,324]	26%
	Level II Audits [Toward 20%]	199 [190]	4%
	Level III Audits [Toward 20%]	196 [167]	3%
	Total Audits Conducted in FY03	2,095	
	Total Count toward 20% ²	1,681	33%
FY 2004	Sites Required to Pay Fees	6,723	-
	20% Needed ¹	1,345	-
	Level I Audits [Toward 20%]	1,936 [1,274]	
	Level II Audits [Toward 20%]	214 [210]	
	Level III Audits [Toward 20%]	131 [126]	
	Total Audits Conducted in FY04	2,281	
	Total Count toward 20% ²	1,610	24%

¹ Per MGL c. 21E, Section 3B, MassDEP must audit 20% of sites that pay an annual compliance fee

² MassDEP audits some sites that do not pay an annual compliance fee, and therefore do not count toward the 20% statutory mandate

**Table 2
Results of Random Level III Audits**

A **Random Audit** is an audit where the subject of the audit was selected using a methodology in which each member of a class has an equal probability of being selected for audit

<i>RANDOM LIII AUDITS</i>	FY94-00		FY01		FY02		FY03		FY04		FY05	
TOTAL	361		65		72		46		36		27	
RAO, DPS, WCS	300	83%	64	98%	55	76%	33	72%	27	75%	18	67%
Other (e.g., IRA, RAM)	n/a	n/a	1	2%	17	24%	13	28%	9	25%	9	33%
Passing	110	30%	19	29%	17	24%	13	28%	13	36%	9	33%
No Follow-up Required	133	37%	26	40%	23	32%	10	22%	7	19%	1	4%
Follow-up Required	118	33%	20	31%	32	44%	23	50%	16	44%	17	63%
Invalidate/Retract	10	3%	3	5%	4	6%	1	2%	4	11%	1	4%

**Table 3
Targeted Level III Audits**

A **Targeted Audit** is an audit where the method used to identify the subject of the audit is any method other than that employed for a random audit and based upon specific criteria established by MassDEP. Most Targeted Level III Audits are sites that were first screened via a Level I Audit, which identified possible or likely violations and/or deficient work.

TARGETED LIII AUDITS	FY94-00		FY01		FY02		FY03		FY04		FY05	
TOTAL	962		267		136		150		95		99	
RAO, DPS, WCS	627	65%	246	92%	111	82%	114	76%	84	88%	92	93%
Other (e.g., IRA, RAM)	n/a	n/a	n/a	n/a	19	14%	36	24%	11	12%	7	7%
Passing	272	28%	42	16%	12	9%	13	9%	12	13%	23	23%
No Follow-up Required	243	25%	78	29%	21	15%	20	13%	7	7%	4	4%
Follow-up Required	447	46%	147	55%	103	76%	117	78%	76	80%	72	73%
Invalidate/Retract	55	6%	18	7%	21	15%	29	19%	24	25%	10	10%

Table 4
OVERALL LIII AUDITS (combined Random and Targeted Audits)

LIII AUDITS	FY94-00		FY01		FY02		FY03		FY04		FY05	
TOTAL	1324		332		208		196		131		126	
# Targeted	963	73%	267	80%	136	65%	150	77%	95	73%	99	79%
# Random	361	27%	65	20%	72	35%	46	23%	36	27%	27	21%
RAO, DPS, WCS	932	70%	312	94%	166	80%	147	75%	111	85%	110	87%
Other (e.g., IRA, RAM)	n/a	n/a	n/a	n/a	42	20%	49	25%	20	15%	16	13%
Passing	383	29%	61	18%	29	14%	26	13%	25	19%	32	25%
No Follow-up Required	376	28%	104	31%	44	21%	30	15%	14	11%	5	4%
Follow-up Required	565	43%	167	50%	135	65%	140	71%	92	70%	89	71%
Invalidate/Retract	65	5%	21	6%	25	12%	30	15%	28	21%	11	9%

Table 5

The 10 MCP regulation citations most frequently cited in Level III Audits during FY 2005 were:

No.	MCP Citation	Citation Description
1	40.0904(2)(a) I	Failure to define the horizontal and vertical extent and concentrations of oil and/or hazardous materials in all evaluated media.
2	40.0926(3)	Failure to determine or estimate an EPC which provides a conservative estimate of the concentrations contacted by a receptor at the Exposure Point over the period of exposure.
3	40.1004	Failure to meet the Performance Standard for an RAO.
4	40.0926(1)	Failure to identify and document an exposure point concentration for each oil and hazardous material in each medium at each exposure point.)
5	40.1003(4)	Failure to identify the location of a site for which a Response Action Outcome applies shall be clearly and accurately identified in the Response Action Outcome Statement. The boundaries of a disposal site or portion of a disposal site for which a Response Action Outcome applies shall be clearly and accurately delineated and provided in documentation submitted with the Response Action Outcome Statement.
6	40.0183(2)	Filing of Downgradient Property Status submittal by parties who have contributed to, or exacerbated the release, or by parties involved in direct or indirect contractual, corporate, or financial relationships excluded in the MCP.
7	40.0835(4)(f)	Failure to provide the information and assessment findings outlined in 310 CMR 40.0835(4) in the Phase II Report including: Nature and Extent of Contamination, including a characterization of the source(s), nature, and vertical and horizontal extent of contamination at the disposal site, presence and distribution of any non-aqueous phase liquids, tabulation of analytical testing results, and, where appropriate, a characterization of background concentrations of oil and/or hazardous material at the disposal site;
8	40.0904	Failure to provide a Site Characterization where the Scope and level of effort of the Site Characterization commensurate with the complexity of the disposal site or sufficient to conduct the Risk Characterization (See also 310 CMR 40.0191).
9	40.0904(2)(c)	Failure to define all existing or potential migration pathways, including, but not limited to, soil, groundwater, surface water, air, sediment and food chain pathways.
10	40.0926(2)	Failure to identify an Exposure Point Concentrations that is determined or estimated in a manner consistent with the type and method of Risk Characterization that is being performed.