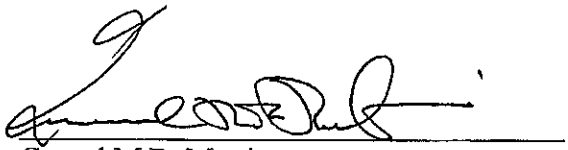
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
BOARD OF REGISTRATION OF
HAZARDOUS WASTE SITE CLEANUP PROFESSIONALS

In the Matter of:	
Richard J. Cushing, Respondent	Docket No.: LSP-12-AP-01

AFFIDAVIT OF GERARD M. R. MARTIN

I, Gerard M. R. Martin, under the pains and penalties of perjury, state that I am the Gerard M. R. Martin whose prepared direct testimony is attached to this affidavit. I further state that, if asked the questions contained in the text of such testimony, I would give the answers that are set forth in the text of such testimony. I adopt the aforesaid answers as my direct testimony in this proceeding.

Signed under the pains and penalties of perjury this 23rd day of August, 2012.



Gerard M.R. Martin

Exhibit B-1

COMMONWEALTH OF MASSACHUSETTS
BOARD OF REGISTRATION OF HAZARDOUS WASTE SITE CLEANUP PROFESSIONALS
before the
OFFICE OF APPEALS and DISPUTE RESOLUTION

In the Matter of Richard J. Cushing **Docket No. LSP 12 AP 01**

Prepared Direct Testimony of
Gerard M. R. Martin
Witness in support of the Initial Determination of the
Board of Registration of Hazardous Waste Site Cleanup Professionals

Q. Please state your name and business address.

A. My name is Gerard M. R. Martin, and my business address is Massachusetts Department of Environmental Protection (MassDEP), Southeast Regional Office, 20 Riverside Drive, Lakeville, MA 02347.

Q. What connection, if any, do you have with the Board of Registration of Hazardous Waste Site Cleanup Professionals ("Board")?

A. I served as a witness in one previous Board disciplinary case in July, 2004, in a hearing regarding whether an Licensed Site Professional's (LSP's) license should be suspended immediately.

Q. Please describe your educational and professional background.

A. I have an undergraduate degree in Earth Science and Geology from Bridgewater State College. After completing course work toward a Master of Science degree from Western Michigan University, I worked as a Project Manager and

hydrogeologist at a private engineering firm in Massachusetts and at MassDEP's Southeast Regional Office ("SERO") as a hydrogeologist. Since 1993, I have continuously managed hazardous waste site cleanup programs in MassDEP's Southeast Region, and been part of the hazardous waste site management team for MassDEP as a whole. I have managed or supervised hundreds of sites involving the assessment and remediation of hazardous waste under the Massachusetts Contingency Plan ("MCP").

From 1993 to 1995, I managed sites in the Southeast region where MassDEP was conducting the assessment and cleanup using public funds because the Responsible Parties were unable or unwilling to perform the cleanup required by the MCP. In this position, I applied the MCP to develop work plans for state contractors, interpret site test data, and review technical submittals and reports by environmental engineers and LSPs.

From 1995 to 2009 I was chief of the Site Management and Permitting Section , where my work included supervising staff who were reviewing Tier I Permit Applications (including reviews of associated Numerical Ranking System score sheets) and overseeing response actions at Tier I hazardous waste sites. I monitored sites where enforcement action was potentially needed, planned risk reduction measures such as monitoring contaminant concentrations in groundwater and soil gas for potential impacts to indoor air, and reviewed reports for technical accuracy and compliance with the MCP. The sites I have supervised where the contaminant at issue in this case, tetrachloroethylene or "PCE," or other chlorinated solvents were the contaminants of concern include the J. Braden Thompson Road Site in Sandwich, which was a private junkyard where wastes from the Massachusetts Military Reservation on Cape Cod were disposed of; the Davis Road site in Westport, where many private wells were

contaminated and an extensive soil gas survey was conducted to evaluate the possibility of vapor intrusion into area residences; the former Morse Cutting Tool Site in New Bedford, where vinyl chloride in the groundwater was potentially impacting the indoor air of several residences; the Oak Street site in Taunton, where chlorinated solvents in groundwater was investigated to determine potential impacts to an elementary school and several residences; Décor Manufacturing in Whitman, where chlorinated solvents released to the groundwater were migrating towards residential properties; a former dry cleaner on North Street, New Bedford where PCE from the drycleaner that impacted the groundwater in a residential neighborhood was never assessed and an inadequate Response Action Outcome (RAO) was submitted, and MassDEP conducted an assessment to determine the impact to indoor air to residences and a Boys and Girls Club; the former Krew Property in Attleboro where MassDEP oversaw response actions to evaluate the potential indoor air impacts to a daycare facility from a release of solvents to the groundwater; the former American Metal Craft Site in Attleboro where the potential impact to indoor air from a release of chlorinated solvents migrating through the groundwater into a densely populated residential neighborhood was conducted; the former Bourne Texaco site where the potential for vapor intrusion due to light non-aqueous-phased liquid (LNAPL) that migrated to within 30 feet of a residential structure on the adjacent property; the Brookfield Engineering, Ark Les and Qual Craft sites in Stoughton, where there was vapor intrusion into homes; and the Blackinton Commons site in North Attleboro, where wastes from a jewelry manufacturer contaminated the indoor air of several newly-constructed condominium buildings.

In 2000, the Stoughton Project Team won a Performance Recognition award from the Commissioner of MassDEP for its work.

Additional details regarding my educational and professional background are provided in my resume, Exhibit B-2.

Q. What is your current position?

A. I am Chief of the Compliance, Enforcement, and Brownfields Redevelopment Section of the Bureau of Waste Site Cleanup ("BWSC") in the Southeast Region of MassDEP.

Q. Please describe your duties and responsibilities as Chief of Compliance for BWSC in the Southeast Region.

A. I assist the Deputy Regional Director in supervising the hazardous waste site cleanup program for the region. I supervise the Compliance, Enforcement, and Brownfields Redevelopment Section, and I act as the Regional Enforcement Coordinator and Brownfields Coordinator. My role as Brownfields Coordinator involves giving technical assistance on contaminated Brownfields sites where redevelopment is planned, or taking enforcement measures if adequate cleanup is not performed. "Brownfields" refers to the redevelopment of contaminated properties to allow for productive and safe reuse. The contamination at such sites sometimes poses a risk of vapor intrusion into the proposed new construction, and I assist in planning appropriate cleanup or mitigation measures to prevent future vapor intrusion issues. For instance, I have recently been involved in planning strategies at the Dyl-Chem mill in New Bedford overlying

groundwater contaminated with chlorinated solvents, which was converted to housing for low-income, disabled veterans.

I am also the chair of the Indoor Air/Vapor Intrusion workgroup established by MassDEP in December 2008 to develop guidance for the assessment of vapor intrusion of contaminants into indoor air. The approximately 60 members of the work group include 15 MassDEP staff plus outside lawyers, laboratory technicians, risk assessors, and LSPs, who assisted in the development of the guidance. The guidance includes assessment methods for the vapor intrusion pathway and indoor air; regulatory framework and risk characterization requirements; screening criteria for evaluating soil gas and indoor air test results; methods and technologies for mitigating vapor intrusion; design of sub-slab depressurization systems; and other information. It was released by MassDEP in December 2011 as "Interim Final Vapor Intrusion Guidance (WSC#-11-435)." During the development of the Guidance document, and after it was completed, I made many presentations about the findings of the workgroup to the BWSC Superfund Advisory Committee, the LSP Association, the Environmental Business Council, the Boston Bar Association, and MassDEP Regional staff.

Q. Have you had any other experience working with sites with potential vapor intrusion issues?

A. From 2008 to 2011, I coordinated the PCE Vapor Intrusion Initiative in MassDEP's Southeast Region. This initiative involved assessing the potential for a vapor intrusion pathway at 137 sites that filed a Class A or B RAO prior to April 3, 2006 (when the GW-2 standard for PCE was reduced from 3,000 micrograms per liter (ug/L) to 50

ug/L), to ensure that the vapor-intrusion exposure pathway was adequately evaluated in accordance with the regulations that applied at the time. Seventeen sites were further reviewed to determine whether potential Imminent Hazard conditions may exist based on their proximity to residences and schools.

In the late 1990s, I was a member of a work group convened by MassDEP that developed new MCP regulations for Critical Exposure Pathways, which include vapor-phase emissions of contaminants into the living or working space of a preschool, daycare, school or occupied residence. In 2003, I was the lead author of the MassDEP "Standard Operating Procedure for Conducting Response Actions at Homes, Schools, and Daycare Facilities," which focuses on identification and elimination of Imminent Hazards.

Q. Have you won any awards for your work, in addition to the Pride in Performance award?

A. In 2010, the LSP Association awarded me the "LSP Association Award for contributions to the Practice – LSPA Regulator Award 2010," for "effectively balancing the needs and objectives of government, the private sector and the environment," primarily due to my involvement in the Vapor Intrusion Workgroup. In June, 2012, I was one of the twelve-member team that received the Nicholas Humber Environmental Award for Outstanding Collaboration from the Environmental Business Council (EBC) of New England for managing the cleanup of NSTAR's former site on the harbor in New Bedford.

Q. What, if any, documents have you reviewed to develop your testimony?

A. I have reviewed the Complaint filed with the Board by MassDEP, Mr. Cushing's response dated October 2, 2008, the Board's Order to Show Cause and Proposed Order, the Respondent's Answer to Proposed Order, and the documents from MassDEP's files for the site that are the Exhibits in this adjudicatory hearing and related documentation.

Q. Are you sponsoring any exhibits in addition to your direct testimony?

A. Yes. I am sponsoring Exhibit B-2, which is my *curriculum vitae*; Exhibit B-3, "Indoor Air Sampling and Evaluation Guide," (MassDEP 2002); Exhibit B-4, Application to Renew LSP License for Richard J. Cushing dated 12/19/01, with attached Licensed Site Professional Continuing Education Course Summary Form and Continuing Education Attendance Certification Forms; Exhibit B-5, an excerpt of the MCP effective in 1999, 310 CMR 40.0321(2)(c); and Exhibit B-6, PowerPoint presentation by MassDEP, "1999 MCP Revisions and Case Studies," LSP Course Number 1158, November 15, 1999.

Q. Have you reviewed the laboratory test results for soil, groundwater, and soil gas samples from 211 West Main Street, Ayer, Massachusetts (the "site") in 2003?

A. Yes. I have reviewed the soil, groundwater, soil gas and indoor air analytical results collected for this site, including the laboratory reports and tables

included in the Phase I Initial Site Investigation Report and Tier Classification Submittal that was signed by Mr. Cushing in November 2003 and submitted to MassDEP in January, 2004 (Exhibit 6).

Q. In 2003, when he addressed the concentrations of PCE in soil gas, did Mr. Cushing comply with the MCP?

A. No, he did not. The MCP states that a release to the environment of oil and/or hazardous material which poses a significant risk to human health when present for even a short period of time must be deemed to be an Imminent Hazard. 310 CMR 40.0322(1) (a short period of time as defined at 310 CMR 40. 0953(1) shall be five years unless site circumstances indicate that a shorter time period is appropriate). As outlined in 310 CMR 40.0951, the decision to conduct a quantitative Imminent Hazard Evaluation shall "...consider the location and nature of the oil and/or hazardous material, the human or environmental receptors, and appropriate guidance published by the Department." Given that the concentration of PCE in the soil gas immediately adjacent to two corners of the building (at soil-gas points SG-1 and SG-5) ranged from 159,000 micrograms per cubic meter ($\mu g/m^3$) to 2,400,000 $\mu g/m^3$, and given that PCE is volatile and a known human carcinogen, an Imminent Hazard Evaluation should have been conducted.

In addition, in 2001 and 2002, MassDEP published guidance and offered training in risk assessment for vapor intrusion, including the potential for vapor intrusion to create an Imminent Hazard. In 2002, MassDEP issued the "Indoor Air Sampling and Evaluation Guide," Exhibit B-3, and in the Introduction, Table 1 shows Risk Characterization Benchmarks, the first of which shows that an Imminent Hazard exists

"if: ELCR > 1 x 10^{-5}..." MassDEP offered training in conjunction with this Guide, which Mr. Cushing attended. See Exhibit B-4, Application to Renew LSP License for Richard J. Cushing dated 12/19/01, with attached Course Attendance Sheet for Course Number 1193, "Addressing Indoor Air Contamination" offered by MassDEP and the LSP Association. Therefore, in 2003 Mr. Cushing should have recognized that indoor air contamination with a cancer risk value higher than the referenced standard of 1 x 10^{-5}, i.e. 1E-05, posed an Imminent Hazard.

The concentration of PCE detected in the soil gas at this site was extraordinarily high (millions of times higher than the ELCR in the table); I have never been involved in a site with a soil gas concentrations in the millions – generally, MassDEP considers even a concentration in the tens of thousands to potentially create an Imminent Hazard. Therefore, if Mr. Cushing considered the location (immediately adjacent to the building) and nature of the oil and/or hazardous material (extremely high concentrations, volatility and high toxicity), and the human receptors, he should have recognized the potential Imminent Hazard to occupants of the building. He did not conduct an Imminent Hazard Evaluation, thus he did not comply with the MCP.

All of my citations to the MCP in my testimony refer to the version in effect in 2003-2004, when Mr. Cushing's work on this site was performed, unless otherwise noted.

Q. What is an Imminent Hazard?

A. An Imminent Hazard is a hazard that would pose a significant risk of harm to health, safety, public welfare or the environment if it were present for even a short period of time. 310 CMR 40.0006.

Q. What does the MCP require as a response to an Imminent Hazard?

A. The MCP requires that all releases that are Imminent Hazards or could pose an Imminent Hazard must be reported to MassDEP within two hours, and requires Immediate Response Actions for Imminent Hazards. 310 CMR 40.0311(7), 40.0412(1). A release could pose an Imminent Hazard if the estimated long-term risk levels from current exposures are more than ten times the standard for No Significant Risk (NSR). 310 CMR 40.0321(2)(c). The NSR standard is one-in-100,000 (also expressed as **$1x10^{-5}$** or **1E-05**) over a 30-year period. 310 CMR at 40.0993(6). Ten times that standard is one-in-10,000 or 1E-04. Therefore, an Imminent Hazard could exist if long-term risk is greater than 1E-04. An Imminent Hazard Evaluation must be started within 14 days for reportable conditions that could be an Imminent Hazard. 310 CMR 40.0426(1), (3).

Q. What is an Imminent Hazard Evaluation?

A. An Imminent Hazard Evaluation is a form of risk characterization. An Imminent Hazard Evaluation must use a Method 3 Risk Characterization, in which detailed information about the site, the release (including concentration and toxicity of the contaminants), and human and other receptors is evaluated against applicable health standards, to identify risks to human health, safety, and the environment from exposure to site contaminants. 310 CMR 40.0955. An Imminent Hazard Evaluation calculates quantitative cancer and non-cancer risks of harm from exposure to all site contaminants, over a short period of five years, or shorter if warranted by site conditions. 310 CMR 40.0953(1), 40.0955(2), 40.0993(5). For carcinogens like PCE, an Imminent Hazard

exists if exposure for five years or less would add a one-in-100,000 chance of developing cancer, that is, an Excess Lifetime Cancer Risk ("ELCR") of one-in-100,000 or 1E-05. 310 CMR 40.0955(2)(b).

Q. What should Mr. Cushing have done in 2003 to comply with the MCP in addressing the concentrations of PCE in soil gas?

A. When Mr. Cushing received the soil gas sampling results, he should have recognized that given the significantly elevated soil-gas analytical results, the indoor air was likely to be impacted at or above Imminent Hazard concentrations and therefore he should have advised his client that an Imminent Hazard Evaluation should be done, see 310 CMR 40.0426(1).

Q. Mr. Cushing acknowledges that the risk assessor told him verbally in October 2003 that the risks she calculated from the soil gas data exceeded MassDEP risk limits for No Significant Risk, and that he did not ask her for the numerical risk values she calculated. In your opinion, did these actions by Mr. Cushing in October 2003 comply with the MCP?

A. No. Although Mr. Cushing faxed the soil gas results to a risk assessor, Debra Listernick of O'Reilly, Talbot and Okun (the "risk assessor"), see Exhibit 5, the fax does not include a request for an Imminent Hazard Evaluation. The risk assessor told Mr. Cushing that the risk was greater than No Significant Risk ("NSR"), but there was no written report, and Mr. Cushing did not ask the risk assessor for her calculated numerical risk values or compare them to the NSR standard. If the calculated numerical risk level

was more than ten times the NSR standard of one-in-100,000 or 1E-05, that is, if it was more than one-in-10,000 or 1E-04, an Imminent Hazard could exist. 310 CMR 40.0321(2)(c). This rule has been in the MCP since the 1999 amendments to the MCP, see Exhibit B-5, 310 CMR 40.0321(2)(c) (1999). Also, MassDEP offered training to the LSP community about these MCP amendments, to call them to the attention of LSPs so that the amendments would be considered when evaluating risk at a site. Mr. Cushing attended this training for continuing education credit. See Exhibit B-4, Application to Renew LSP License for Richard J. Cushing dated 12/19/01, with attached Licensed Site Professional Continuing Education Course Summary Form and Continuing Education Attendance Certification Forms, including "1999 Massachusetts Contingency Plan Revisions and Case Studies" dated 11/15/99. The training specifically addressed this definition for when an Imminent Hazard could exist. See Exhibit B-6, PowerPoint presentation by MassDEP, "1999 MCP Revisions and Case Studies," slides 61, 63, 68-70. Thus Mr. Cushing should have asked the risk assessor for her calculated numerical risk values and compared them to the No Significant Risk standard, which would give more information about whether an Imminent Hazard could exist. Ultimately, it is the LSP's job to ensure that the work conducted complies with the MCP, because the LSP is the person who signs a certification on every submittal to MassDEP that the work complies with the MCP.

Mr. Cushing did not inform his client that they must report the potential Imminent Hazard within two hours. 310 CMR 40.0311(7).

Also, the LSP Board's Rules of Professional Conduct state that an LSP must notify his client of the duty to notify MassDEP of an Imminent Hazard, and if the LSP

knows that the client has not notified MassDEP, the LSP has an independent duty to notify MassDEP of the Imminent Hazard. 309 CMR 4.03(4)(b). This direct duty of the LSP is another reason that most LSPs faced with the high PCE concentrations and the advice that significant risk existed, would have been alerted to check the ELCR against the MCP standards for Imminent Hazard.

Additionally, for the reasons stated above, Mr. Cushing should have initiated an Immediate Response Action and tested indoor air directly, and he should have ensured that a Imminent Hazard Evaluation was conducted using measured exposure point concentrations (i.e., direct measurements of contamination, including in indoor air) within 14 days of learning that the risk assessor's calculated risk was more than ten times No Significant Risk. 310 CMR 40.0426(1), (3).

Q. The risk assessor's worksheet dated 10/3/03 (Exhibit 24) shows she calculated an Excess Lifetime Cancer Risk (ELCR) of 3.6E-04. Does this influence your opinion?

A. Yes. It is my understanding that Mr. Cushing received only an oral report from the risk assessor in October, 2003 that the risks she calculated from the soil gas results exceeded MassDEP risk limits for No Significant Risk. Exhibit 24, the risk assessor's worksheet, corroborates my opinion that he should have asked for the numerical risk values that the risk assessor calculated, which was 3.6E-04 or 3.6-in-10,000 and was 36 times the No Significant Risk standard of 1E-05. Thus the cancer risk value was more than ten times the No Significant Risk threshold of 1E-05, and could pose an Imminent Hazard per 310 CMR 40.0321(2)(c). This could have been discovered

if Mr. Cushing had asked the risk assessor for the numerical risk values she had calculated.

Q. Have you reviewed the Phase I Initial Site Investigation Report and Tier Classification Submittal that was signed by Mr. Cushing and submitted to MassDEP in January, 2004 (Exhibit 6)?

A. Yes.

Q. Did the Phase I comply with the MCP?

A. No. Despite the very high concentrations of PCE that were reported in the soil gas in the Phase I, there was no reference to a potential Imminent Hazard nor an Imminent Hazard Evaluation, which, as discussed above, should have been performed or an explanation should have been given why such evaluation was not necessary. In fact, the Phase I report was misleading, because it stated that there was a potential indoor air impact, but it also stated that "Vapors attributable to the release have not been identified within the site building," see section 8.1.1. This implies that the potential for vapors in the indoor air existed and was investigated and not found, but this was not what happened. Indoor air had not been tested.

In addition, the Phase I was deficient because there was no discussion of the source of the PCE contamination, or how the source had been assessed. The MCP requires that for each relevant release, the information provided relative to the disposal site history must include a description of all known releases, including the source and location of each release, among other things. 310 CMR 40.0483(c)(2)(a). The Phase I

report appeared to assume that the soil was the source of the release, but it did not discuss any effort to identify the location of the highest soil concentrations of PCE that would constitute such a source.

The Phase I was also deficient because the conceptual Phase II scope of work stated that indoor air samples will be collected "as appropriate," but it did not state a sampling schedule or other program to characterize the extent of contamination and migration pathways. Although a conceptual scope of work can be submitted with a Tier Classification, 310 CMR 40.0510(2)(f), it must include a projected schedule with interim milestones, and the Conceptual Scope of Work in the Phase I submittal did not include these.

Q. Did the statements in the Phase I report that the site conditions did not require an Immediate Response Action ("IRA") or a two-hour notification, comply with the MCP?

A. No. It was wrong to conclude there was no IRA condition, because the extraordinarily high concentrations of PCE in the soil gas immediately adjacent to the building and the risk levels calculated by the risk assessor in October 2003 indicated that vapors could be infiltrating the site building at concentrations that could pose an Imminent Hazard. As indicated previously, releases that pose or could pose an Imminent Hazard require Immediate Response Actions. 310 CMR 40.0412(1), 40.0311(7), 40.0321.

Q. Did Mr. Cushing's decision not to test indoor air in Phase I comply with the MCP?

A. No. Mr. Cushing had identified a likely vapor intrusion pathway, but he failed to recognize that, given the PCE concentration in the soil gas, the concentrations in the indoor air could pose an Imminent Hazard and should have been reported to MassDEP. If I had I received a report of such a condition myself at MassDEP in October 2003, I would have required that indoor air be tested immediately as an IRA to evaluate the potential Imminent Hazard. Mr. Cushing's failure to recognize that the risk at the site could pose an Imminent Hazard and failure to conduct an Immediate Response Action and an Imminent Hazard Evaluation violated the MCP and caused his decision not to test indoor air.

Q. Mr. Cushing claims that in October 2003, the risk assessor gave verbal information that indoor air testing could be conducted in Phase II. Respondent's Answer to Proposed Order ¶31. **Does this influence your opinion in any way?**

A. No. The MCP requires that a Phase I report include an evaluation of potential migration pathways and of the need to conduct an IRA. 310 CMR 40.0483(1)(f), (g). At this site, there could have been significant impacts to indoor air, and it is the LSP's responsibility to recognize that. Mr. Cushing should have conducted indoor air sampling as an Immediate Response Action to collect the information necessary to complete the Phase I.

This LSP's lack of attention and understanding of the applicable standards is also indicated by the statement in his Phase I submittal that a Method 1 Risk Characterization would be conducted. Exhibit 6, p. 11. However, as stated at 310 CMR 40.0942(1)(b), if oil and/or hazardous material at a disposal site is present, or likely to migrate at potentially significant concentrations to an environmental medium in addition to groundwater and soil (such as indoor air), then a Method 1 Risk Characterization alone shall not be used to characterize the risk at the disposal site. Mr. Cushing recognized that the indoor air was potentially impacted, yet without investigating it further concluded that a Method 1 Risk Characterization was appropriate.

Q. Did the score of 100 on the Numerical Ranking System (NRS) score sheet for indoor air as a potential migration pathway comply with the MCP?

A. No. Indoor air at this site should have been scored 200 points as a likely migration pathway, because Mr. Cushing already knew there was a reasonable likelihood that PCE contamination "*is* affecting air quality in an occupied building," which is the criterion for scoring indoor air with 200 points. The italics are in the MCP, 310 CMR 40.1512(4). The criterion for scoring air with just 100 points is that "indoor air quality of an occupied building *will be* impacted," *Id.*, but the risk assessor had already told Mr. Cushing that indoor air exposure was already at levels that posed significant risk in October 2003, before the score sheet was submitted in January 2004.

Q. Have you reviewed the letter dated February 24, 2004, from Mr. Cushing and Philip Wheeler to MassDEP (Exhibit 10), and its attachments, which

are the indoor air test results and the "Indoor Air Evaluation" report dated February 23, 2004 (Exhibit 9)?

A. Yes.

Q. Did Mr. Cushing comply with the MCP by submitting his letter dated February 24, 2004, and the risk assessor's Indoor Air Evaluation report as evidence that no Imminent Hazard existed?

A. No, Mr. Cushing's February 24, 2004 submittal failed to comply with the MCP. The letter signed by Mr. Cushing (Exhibit 10) stated that the attached report said there was no Imminent Hazard, but in fact the report states "there is a potential for significant carcinogenic risks to the full-time worker under the assumptions of this evaluation." Those assumptions included a short-term, 5-year exposure period, and as noted above, a significant risk that is present for a short period of time is deemed an Imminent Hazard. 310 CMR 40.0321(1)(d). Thus the Indoor Air Evaluation report stated that the elements of an Imminent Hazard were present, and Mr. Cushing's representation that no Imminent Hazard existed was wrong.

Also, Table 3A and the text on page 2 of the Indoor Air Evaluation report, reported an ELCR of 6E-05 (six-in-100,000) for the full-time worker. Although the risk assessor erroneously stated in her report that "...the MA DEP risk limit [is] 1E-04 (one-in-10,000) for reporting an Imminent Hazard," and that the cancer risk for the full-time worker was less than that limit, Mr. Cushing should not have relied entirely on those statements. Instead, as the LSP-of-Record, he should have confirmed that the risk assessor's conclusions were correct, by comparing the numerical ELCR cancer risk value

to the MCP standard of 1E-05, from memory if he knew the standard, but also by looking up the Imminent Hazard standard in the MCP. If he had done this, he would have recognized that the ELCR was greater than the MCP cancer risk limit of 1E-05 or one-in-100,000, thus an Imminent Hazard existed. 310 CMR 40.0955(2)(b).

In addition, the statement in the report that the part-time worker scenario was reasonable and more likely than a full-time worker did not comply with the MCP, because an Imminent Hazard Evaluation must result in conservative estimates of potential exposures. 310 CMR 40.0953(7). The Phase I report submitted in January 2004 stated that there were both full-time and part-time workers on site (Exhibit 6, p. 3). Thus Mr. Cushing should have recognized that the part-time worker scenario was not conservative.

Q. Does this conclude your testimony?

A. Yes.