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 JOHN KUBICZKI

I, John Kubiczki, under the pains and penalties of perjury, state that I am the John Kubiczki 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 22nd day of August, 2012.

John Kubiczki

Exhibit B-7

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
John Kubiczki
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 John Kubiczki, and my business address is ATC Group Services, Inc., 150 Zachary Road, Manchester, New Hampshire 03109.

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

A. I have been licensed as a Licensed Site Professional ("LSP") by the Board since 1994, License No. 4280.

Q. What documents, if any, have you reviewed in developing your testimony?

A. I have reviewed the Complaint filed with the Board by the Massachusetts Department of Environmental Protection (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. I have reviewed these documents several times while preparing my testimony.

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

A. Yes. I am sponsoring Exhibit B-8, my curriculum vitae, Exhibit B-9, "Guidance for Disposal Site Risk Characterization," Interim Final Policy #WSC/ORS-95-141, (MassDEP 1995), and Exhibit B-10, an excerpt from the 1993 version of the Massachusetts Contingency Plan ("MCP"), 310 CMR 40.0955(2) (1993).

Q. Please describe your educational and professional background.

A. I have a Bachelor of Science in both Geology and Chemistry from Bridgewater State College. While working full-time for an environmental engineering firm in Colorado, I completed my course work towards a Master of Science degree in Geochemistry at the Colorado School of Mines. I have worked for a number of consulting environmental engineering firms since 1979. Since 1987, I have worked as a Senior Project Manager, LSP of Record, and technical specialist on waste disposal sites in New England, including military facilities, manufacturing plants, landfills, manufactured gas plants (MGP), rail yards, and machine shops contaminated with a broad range of hazardous materials, including metals, petroleum hydrocarbons, and chlorinated volatile organic compounds ("CVOCs"), the class of compounds also known as chlorinated solvents that includes the tetrachloroethylene or "PCE" contamination at issue in this case. A majority of the sites on which I have worked involved the potential of vapor intrusion into indoor air of occupied site buildings, thus I have performed

hundreds of evaluations of soil and groundwater contamination for its potential to migrate into indoor air.

I have been an LSP since 1994 and have prepared and submitted LSP Opinions for every Phase of assessment and remediation under the MCP. I have also reviewed and commented on draft reports by other LSPs for technical accuracy and compliance with the MCP. I have also served as a technical specialist and expert witness on hazardous waste disposal sites. I have worked on more than 600 waste disposal sites including hazardous and solid waste management and remediation projects, and provided LSP services on hundreds of hazardous waste disposal sites.

In addition to being licensed by the Board, I am a licensed Professional Geologist (PG) in New Hampshire (2002), and I have been a full member of the Massachusetts Licensed Site Professional Association since 1995.

Additional details regarding my educational and professional background are provided in my resume, Exhibit B-8.

Q. What is your current position?

A. I am the Branch Manager of the Manchester, New Hampshire office of ATC Group Services, Inc., an engineering services company. I have held this position since April, 2007.

Q. What are your duties and responsibilities as Branch Manager?

A. My position requires me to spend more than 50 percent of my time on projects as Senior Project Manager, PG, and LSP, as described above. I also manage the staff and am responsible for the budget of the Manchester office.

Q. Have you had experience working with risk assessors on hazardous waste sites subject to c. 21E?

A. Yes, from 1987 to 2002, I worked with risk assessors frequently, because my employers Wehran Engineering (1987-1999) and Mactec Engineering (1999-2002) employed in-house risk assessors. For the last ten years, I have utilized outside professional risk assessors on selected site assessments.

Q. Mr. Cushing engaged a professional risk assessor to evaluate the site data. In your opinion, what is the role of an LSP and a professional risk assessor in relation to each other at a hazardous waste disposal site?

A. The role of the LSP is to direct the assessment, characterization and to the extent necessary, the cleanup process, to ensure they comply with the requirements of the MCP and other relevant regulations and laws. Since the entire MCP is based on the concept of risk-based cleanup and closure, it is essential for the LSP to think of every step and decision point in the site cleanup and closure process as being related to its implications for risk. The LSP is responsible for preparing all written MCP submittals including scopes of work and reports with input from the risk assessor to define the required submittals and work activities. Good communication throughout the project is essential. As data becomes available from the investigation, modifications or revisions to

the project and scope of work may be required (e.g., additional data collection, notifications to MassDEP, or Imminent Hazard evaluation). For these reasons, a verbal scope of work like the one Mr. Cushing had with the risk assessor in this case is not good LSP practice. A written scope of work helps to eliminate miscommunication, confusion and better defines the required submittals.

As part of the risk assessment, the exposure routes and assumptions of likely scenarios should be discussed with the risk assessor, but the LSP must select the exposure scenarios to ensure they comply with the MCP's requirement to conduct risk characterization in a manner to result in conservative estimate of risk, 310 CMR 40.0953(7). The risk assessor performs the risk characterization calculations using those scenarios and site data, and issues his or her report. The LSP must review the report to check whether the exposure scenarios used were applicable under the MCP, and should spot-check whether site data (e.g., laboratory test results of site soil, groundwater, and other media) were accurately entered into the risk assessor's worksheets. The LSP must then compare the risk assessor's calculated numerical risk levels, to the MCP standards. The LSP is responsible for ensuring that the correct MCP standards are applied to assess whether significant risk and/or Imminent Hazard exist at the site.

In my opinion, this is how LSPs and risk assessors have worked together since the LSP program began. For instance, in 1995, MassDEP issued Guidance for Disposal Site Risk Characterization, which states, "LSPs oversee and manage response actions and render opinions that response actions, *including the risk characterization portion of the response action,* meet the MCP's requirements." Exhibit B-9, "Guidance for Disposal Site Risk Characterization," Interim Final Policy #WSC/ORS-95-141,

http://www.mass.gov/dep/cleanup/laws/rc1.pdf, (1995), p. x (emphasis in original). 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. Have you reviewed the 2003 laboratory test results for soil, groundwater, and soil gas samples from 211 West Main Street, Ayer, Massachusetts (the "site")?

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

Q. What action, if any, should Mr. Cushing have taken in 2003 to comply with the MCP and the standard of care for LSPs at that time in addressing the soil gas test results?

A. Upon receipt of the soil-gas analytical results, Mr. Cushing should have had a risk characterization or Imminent Hazard Evaluation performed. He did send the soil-gas results to a risk assessor, who identified that the soil-gas analytical results posed a risk to human health (i.e., the calculated Excess Lifetime Cancer Risk ("ELCR") exceeded the MCP No Significant Risk standard). A risk greater than ten times the No Significant Risk Standard could be an Imminent Hazard, see 310 CMR 40.0321(2)(c). Upon receipt of knowledge that a release could pose an Imminent Hazard to human health, Mr. Cushing should have notified the client that an Imminent Hazard could exist and that this condition triggered the 2-hour release notification requirements of the MCP

(310 CMR 40.0311(7)). However, as discussed below, he did not ask for the ELCR, which he needed in order to know whether an Imminent Hazard could exist. He should have initiated an Imminent Hazard Evaluation within 14 days and obtained authorization from MassDEP to perform Immediate Response Actions (IRA) at the site. 310 CMR 40.0426(1)-(2). In my view, the initial IRA activities should have included the collection and analysis of indoor air quality samples.

The reasons Mr. Cushing should have had an Imminent Hazard Evaluation performed include the following: 1) a risk to human health was identified; 2) the building was occupied by a video store business where workers were present; 3) elevated PCE concentrations had been detected in groundwater at the site since at least August 2001 in monitoring well MW-304, as shown by Exhibit 4, the Notice of Responsibility; 4) the detected PCE concentrations in groundwater exceeded groundwater cleanup standards GW-1 (for drinking water) and/or GW-3 (applicable to all groundwater in the Commonwealth); 5) the highest measured depth to groundwater (15.7 feet below grade) was only slightly more than the MCP's 15-foot depth standard for GW-2 (within 30 feet of an occupied building) at which contamination may migrate to indoor air; and 6) elevated PCE concentrations were measured in the soil-gas samples collected from SG-1 and SG-5, which were located immediately adjacent to the building. Thus there were strong indications that PCE vapors might be migrating into indoor air and that the concentrations could pose a risk to human health.

Q. Mr. Cushing sent the soil gas data to a professional risk assessor (Exhibit 5), and he acknowledges that she gave verbal information in October 2003

that the exposure risks calculated from that data exceeded MassDEP risk limits for No Significant Risk (Answer to Proposed Order, ¶27). In your opinion, what should Mr. Cushing have done after receiving that information, to comply with the LSP standard of care?

A. First, it is difficult to determine what type of evaluation Mr. Cushing requested from the risk assessor, Ms. Listernick of O'Reilly, Talbot and Okun (OTO), and when he requested it, because there is no documentation of his request other than the fax of the soil gas data to OTO, Exhibit 5, which does not state a request. If OTO provided the results of their risk characterization verbally, Mr. Cushing should have requested a written report documenting the results of any risk characterization or Imminent Hazard Evaluation. This is especially true because OTO stated that the risks calculated from the soil-gas data exceeded the MassDEP risk limits for No Significant Risk. With receipt of a written report, he could have reviewed the risk assessor's assumptions and results to make sure that the evaluation was performed in accordance with 310 CMR 40.0953 and the risk levels did not exceed MCP Imminent Hazard standards. Section 310 CMR 40.0953 requires exposures to be calculated conservatively under current site conditions. After receiving the risk assessor's verbal report that risks from soil gas exceeded the MCP No Significant Risk standard, Mr. Cushing should have done the following in October 2003:

- Obtained a written report from the risk assessor, because in my review of the Exhibits, I did not see any calculations or spreadsheets or other written evaluation of the soil-gas analytical results that were provided to Mr. Cushing in the Fall of 2003;
- Compared the risk assessor's calculated risk levels to the MCP standards for conditions that posed or could pose an Imminent Hazard;
- Notified the client that an Imminent Hazard could exist and that this condition triggered the 2-hour notification requirement of the MCP; and

- Provided verbal notification and obtained authorization from the DEP to perform IRA activities at the site, including the collection and analysis of indoor air quality samples.

Q. Mr. Cushing acknowledges that he did not ask the risk assessor for the numerical result of her evaluation of the soil gas data, that is, the Excess Lifetime Cancer Risk (ELCR) value that she calculated from the soil gas data (Answer to Proposed Order, ¶28). In your opinion, should he have asked her for the ELCR?

A. Yes. Mr. Cushing should have asked the risk assessor for the ELCR value calculated from the soil gas data in October 2003. With receipt of the numerical cancer risk value, he could have compared it to the MCP risk limits for conditions that pose or could pose an Imminent Hazard. The MCP cancer risk standard of one-in-100,000 (Also expressed as 1E-05 or $1x10^{-5}$) for an Imminent Hazard has been in the MCP since 1993, see Exhibit B-10, 310 CMR 40.0955(2) (1993). Also, since 1999 the MCP has included the rule that a long-term risk greater than ten times the No Significant Risk Standard could be an Imminent Hazard and must be reported to MassDEP, and an Imminent Hazard Evaluation must be started within 14 days (see Exhibit B-5 to Direct Testimony of Gerard Martin, 310 CMR 40.0321(2)(c) (1999)) . As such, in 2003-2004, LSPs exercising reasonable care and diligence would ordinarily check the numerical ELCR values calculated by a risk assessor and compare them to the MCP Imminent Hazard standards. Mr. Cushing did not adhere to that standard of care because he did not ask the risk assessor for the ELCR she had calculated from the soil gas results, and he did not compare it to the MCP standards to see if an Imminent Hazard to human health existed.

Q. Mr. Cushing claims that in October 2003, the risk assessor agreed that indoor air testing could be conducted in Phase II (Answer to Proposed Order ¶27). In your view, did Mr. Cushing reasonably rely on the risk assessor, in accordance with the Board's regulations, to justify his decision not to test indoor air until Phase II?

A. No. Mr. Cushing had already received verbal information from the risk assessor that risks calculated from the soil-gas data exceeded MassDEP risk limits for No Significant Risk. As discussed above, based on this information, he should have done an Imminent Hazard Evaluation and performed IRA activities at the site, including direct testing of indoor air. He was the LSP of Record for the site and was responsible to decide how to assess the site and characterize it accurately. I do not believe that Ms. Listernick was an LSP, and she was most likely unfamiliar with the specifics of the MCP process and standards (i.e., when to perform an Imminent Hazard Evaluation). Having already received the risk assessor's verbal information that a significant risk existed, it was not appropriate for Mr. Cushing to waiting until the Phase II Comprehensive Site Assessment to collect indoor air samples. Mr. Cushing could have also contacted the MassDEP to discuss his findings and get additional input to assess whether indoor air sampling should be performed.

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

A. Yes.

Q. Were there any ways that the Phase I report did not comply with the standard of care for LSPs in 2004?

A. Yes, the Phase I report did not address the potential contamination of indoor air, which should have been the biggest concern at the site. I noted the following areas of concern during my review:

- In Section 8.1, the report indicates that "the potential for migration of OHM [oil or hazardous materials] does currently exist at the site as PCE has been detected in groundwater within 30 feet of the site building and PCE has been detected in soil gas samples collected in the vicinity of the site building. Vapors attributable to the release have not been identified within the site building." This statement leads one to believe that indoor air samples were collected from inside the building and that any detected contaminant concentrations were evaluated. However, indoor air samples were not collected until February 2004, after the Phase I report was submitted. Therefore, this statement is incorrect.

- The statements in Section 10 that site conditions did not require Immediate Response Action ("IRA") or a 2-hour or 72-hour release notification did not comply with the MCP, because no Imminent Hazard Evaluation was performed to determine whether an IRA would be required at the site. Before submitting the Phase I report, Mr. Cushing did not ask the risk assessor for the information that would be required to know if an IRA or 2-hour or 72-hour notice was required. As stated previously, he already had information that indicated that the soil-gas concentrations exceeded the MassDEP risk limits for No Significant Risk. This should have prompted

him to perform an Imminent Hazard Evaluation. As specified in 310 CMR 40.0322, an IRA shall be taken to prevent, eliminate or abate all Imminent Hazards.

- The Numerical Ranking System (NRS) Scoresheet ranked the site too low for the air exposure pathway. Based on the data and information collected, the air exposure pathway should have been ranked as a Likely or Confirmed Exposure Pathway (200 points) instead of Potential Exposure Pathway (100 points) reported the Phase I, because a reasonable likelihood existed that OHM likely attributable to the disposal site was affecting air quality in an occupied building (i.e., elevated PCE concentrations in the soil-gas samples collected near the building and a risk was identified). This violated the standard of reasonable care and diligence that would have been exercised by most LSPs at that time, i.e., in January, 2004.

Q. In your view, did the statement in the Phase II Scope of Work in the Phase I report that indoor air would be tested "as appropriate" comply with the standard of care for LSPs at that time?

A. No. Based on the information collected, the presence of elevated PCE concentrations in soil gas and the risk assessor's statement that the risks calculated from the soil-gas data exceeded the MassDEP risk limits for No Significant Risk, there was a strong indication that there was a potential for the indoor air to be impacted. Indoor air samples should have been collected and analyzed on a priority basis as part of an IRA, as I explained above. Stating that indoor air would be tested "as appropriate" does not comply with the standard of reasonable care and diligence required by the Board's regulations, 309 CMR 4.02(1).

Q. Have you reviewed the letter signed by Mr. Cushing dated February 24, 2004 and submitted to MassDEP, and its attachments (Exhibit 10)?

A. Yes.

Q. Did the February 24, 2004 letter signed by Mr. Cushing comply with the standard of care for LSPs at that time?

A. No. There is no indication that Mr. Cushing read the risk assessor's report with any care. For instance, Mr. Cushing's letter states that the indoor air was sampled on February 20, 2004, but the laboratory reports attached to OTO's report state that the sampling date was earlier, on February 10, 2004. An LSP must review all submittals and their attachments for accuracy, thus citing the wrong sampling date indicates that Mr. Cushing did not review the attachments. Also, the OTO report stated that the DEP cancer risk limit for reporting an Imminent Hazard was 1E-04, i.e., one-in-10,000, but the correct value or limit is 1E-05, i.e., one-in-100,000. Therefore, Mr. Cushing failed to recognize that the ELCR was being compared to the wrong cancer risk limit in the MCP. In addition, the risk assessor calculated a cancer risk of 6E-05 for full-time employees, which exceeded the cancer risk limit for an Imminent Hazard, thus an Imminent Hazard existed at the site. Mr. Cushing failed to compare the calculated ELCR of 6E-05 to the MCP risk limit of 1E-05 for an Imminent Hazard. These were all very basic errors that breached the standard of care and diligence that was commonly followed by LSPs at that time. It appears to me that Mr. Cushing just wrote his letter as a cover letter, without reading OTO's report carefully.

Q. In your view, what was Mr. Cushing's obligation as LSP of Record in regard to the assumptions used by the risk assessor in the Indoor Air Evaluation report?

A. As the LSP of Record, Mr. Cushing needed to do a more thorough review of the assumptions used by the risk assessor. The risk assessor's report stated that the part-time worker was the reasonable, more-likely scenario. However, the Phase I report (Exhibit 6) stated that there were full-time employees working in the video store on the site. An Imminent Hazard Evaluation must be conducted in a way that gives a conservative estimate of site risks, therefore there was no support for saying that part-time workers are more likely, given that full time workers were known to be working in the video store in the site building.

Q. Did Mr. Cushing reasonably rely in part on the risk assessor, in accordance with the Board's regulation 309 CMR 4.02(3), by submitting the risk assessor's written report to MassDEP?

A. No. Mr. Cushing relied too heavily on the risk assessor's report without thoroughly reviewing it. As LSP of Record, he was required to perform a more thorough review of the report's assumptions, results, and conclusions. He did not need to be an expert in performing the calculations involved in risk characterizations, but he needed to make sure that the assumptions that were put into the calculations represented site conditions in a manner that would result in a conservative estimate of site exposures. He also needed to make sure that the risk levels calculated were being compared to the applicable MCP risk limits for an Imminent Hazard. As discussed above, the OTO report

stated that the DEP cancer risk limit for reporting an Imminent Hazard was 1E-04, but the correct limit was 1E-05, and the risk assessor's calculated cancer risk of 6E-05 for full-time employees exceeded the Imminent Hazard cancer risk limit of 1E-05, therefore an Imminent Hazard existed at the site, which Mr. Cushing failed to recognize. These were gross errors by Mr. Cushing that did not meet the standard of reasonable care and diligence for LSPs at that time, in February, 2004. As noted above, the applicable MCP standards for Imminent Hazard had been in place for many years, and in April 2002, MassDEP issued the "Indoor Air Sampling and Evaluation Guide (WSC Policy #02-430)," Exhibit B-3 to Direct Testimony of Gerard Martin. The Introduction to this Guide stated that an Imminent Hazard exists if Excess Lifetime Cancer Risk is more than 1E-05. Thus DEP had publicized the Imminent Hazard cancer standard as applicable to indoor air more than a year before Mr. Cushing received the risk assessor's verbal information in October 2003 that the risks calculated from the soil-gas data exceeded the MassDEP limits for No Significant Risk. Even earlier, in the late 1990s and early 2000s, industry groups and regulators were publicizing the need to assess sites for vapor intrusion by volatile contaminants. See the articles listed in the List of references in Exhibit B-3, "Indoor Air Sampling and Evaluation Guide" supra. This publicity shows an increasing concern and awareness regarding the issue of vapor intrusion and the potential to impact or contaminate indoor air quality before Mr. Cushing performed his work on the site. Therefore, Mr. Cushing should have recognized the importance of checking the risk assessor's calculated risk levels for an Imminent Hazard.

Q. Does this conclude your testimony?

A. Yes.