



United States Postal Service (USPS) Vapor Intrusion Guidance

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1. Introduction

1.1 Objectives

This document is intended to assist the United States Postal Service (USPS) with a general understanding of vapor intrusion (VI) issues and its potential impacts. Guidance is also provided on responding to VI inquiries and the roles of essential USPS personnel. In addition, this guidance discusses reactive and preventative measures that can be undertaken to address and minimize VI impacts. Lastly, additional references and resources are provided to obtain more information on VI-related topics.

The focus of this guidance is that *it's critical to promptly and effectively handle VI concerns and maintain thorough and accurate records of VI inquiries, investigation and any mitigation.* VI matters can not be properly addressed without proper records retention as health and safety concerns can resurface many years from the initial inquiry. The critical staff assigned for records is detailed in Chapter 7, Roles and Responsibilities.

1.2 Today's Vapor Intrusion (VI) Concerns

'Vapor Intrusion' (VI) is when chemical vapors from contaminated soil or groundwater impact indoor air quality. As detailed in a concise definition from the Indiana Department of Environmental Management's 'Vapor Intrusion: FAQ's' web site page (<http://www.in.gov/idem/4337.htm>), "Whenever chemicals are spilled on the ground or leak from an underground storage tank, they can soak into the soil or dissolve into the groundwater and begin to spread. The contaminated soil or groundwater can emit vapors that spread to areas occupied by buildings. Vapor can enter the buildings through cracks in basements, foundations, sewer lines, and any other type of opening. Occasionally, the vapors can increase to concentrations that may be harmful to human health." VI is a health and safety and environmental liability issue that may affect an array of building stakeholders – from occupants to owners to investors.

Concerned health and environmental officials nationwide have been developing guidelines and regulations to address VI. This has resulted in agencies sponsoring more intrusive environmental investigations than what was done in the past. Local, state or federal environmental and health agencies contacting building owners and residents with sampling requests, particularly indoors, is becoming more commonplace and has increased public concern among homeowners and building occupants.

For purposes of this guidance, VI is caused by man-made chemicals and materials that threaten a site from their contamination of soil and/or groundwater. Naturally occurring compounds such as radon, an invisible gas that comes from the degradation of radium, have numerous other guidance resources and are not addressed herein. Further, radon sampling and mitigation has a well-established history of research and response that may not always be appropriate for VI remediation. There are also numerous other indoor air quality concerns that are not the focus of this guidance – e.g. – carbon monoxide, carbon dioxide, mold and vapors from sources inside the building such as from painting operations, cleaning products or fuel.

Certain solvents and petroleum products are common sources of health and safety concerns for vapor intrusion. Many current cases involve gas stations or auto repair shops, dry cleaners and manufacturing businesses.

Experts once thought that vapor concerns were more of an issue when contamination was shallow. Experts are now finding that there are many different subsurface conditions that can cause vapors to be a concern for building occupants. Actual building conditions, use and level of occupancy are also factors as one looks more carefully at potential concerns or hazards.

Stories of vapor intrusion are more prevalent in the media since the number of legal cases regarding health impacts from vapor intrusion are growing. These cases can include, and potentially impact, business and investment concerns. During the Summer of 2008, a major gas company was required to pay damages to a local New York developer since his newly purchased site, planned for residential use, was proven to be impacted by the gas company's contamination plume. The property's value for any type of development, especially residential, was greatly reduced once the contamination was discovered.

As an emerging issue, VI is proving to be complex among building owners, occupants, regulatory agencies, environmental and health and safety officials. Therefore, USPS must consider potential VI impacts on our employees, customers and business, and develop strategies in response.

1.3 USPS and VI

USPS is involved in many reactive and preventative measures to ensure that vapor intrusion matters are properly handled at our leased and owned facilities. These cases occur on a nationwide basis and are not unique to any one part of the country. Chapter 6, 'Vapor Intrusion Realities - USPS Case Studies,' offers some specific USPS examples.

1.3.1 Reactive measures

Reactive measures (see Chapter 3) are frequently necessary when USPS is notified by public or private sector parties that VI may be a concern in the area. This can include a request to access Postal property or facilities. Access requests can be verbal or written and typically involve information on investigating or sampling (i.e. – air, soil, water) on Postal premises. Such requests can also include installation of a VI mitigation system. Parties requesting access include environmental and health agencies, potentially responsible parties, tenants, surrounding residents or businesses, Postal employees and their unions, customers, public interest groups, local media and elected officials. As such, early notice and involvement of essential USPS personnel includes Environmental, Safety, Facilities, Law and Communications staff.

Unless an imminent health or safety issue exists, or a credentialed agency official performs a site inspection (e.g. – OSHA, EPA), Installation Heads or other facility staff should defer any site access until proper notifications to key USPS personnel (see Attachment 1) are performed and additional guidance is received. USPS must give due consideration to prior notification and discussion of the situation with employees, and

also address any health and safety and legal issues with contractors performing work on Postal premises. USPS may also decide to retain consultant services to perform oversight during third party-requested site assessments, sampling or mitigation activities.

Access requests to sample can seem simple and non-invasive at first – e.g. – a few exterior soil samples – but then the request can expand into a detailed building interior sampling effort with plans to install a VI mitigation system. If this is not organized properly with USPS, including special legal terms and provisions, USPS can be left with an environmental and safety disaster and possible impacts to the facility's operation.

1.3.2 Preventative measures

Preventative measures (see Chapters 4 and 5) include making well-informed Real Estate and Design and Construction (D&C) decisions to avoid and prevent VI impacts. Please note that for purposes of this guidance, while Facilities Service Offices (FSOs) have re-organized with different sections of staff, the terms 'Real Estate' and 'Design and Construction' will continue to apply to the staff that handles that professional area. The terms 'Real Estate Specialist' and 'D&C Project Manager' will also broadly apply to those areas despite some changes and combinations of titles.

Real Estate and D&C projects must include consideration of VI and its potential impacts on our business decisions early in the planning phase. The presence of VI may impact site selection and agreement terms with prospective landlords or sellers. As detailed in section 4.2.1, taking title to a known contaminated site requires USPS policy review and Law Department input. *For new sites where there are selection options, USPS might opt to completely avoid a site with potential VI concern at the very early planning stages.*

The Facilities Environmental Specialist (FES), in consultation with key stakeholders, will determine when a VI investigation is warranted and the investigation scope of work. Experienced consultants (e.g. – industrial hygienists, risk assessors) may also be involved as determined by the FES. These services are often available through USPS 'general environmental' architect/engineering indefinite quality contracts (IQCs).

A real estate transaction or D&C project may require an 'engineering control' such as installation of a venting system, vapor barrier or removal of contaminated soil or impacted groundwater. In other cases, 'institutional controls' such as restrictive covenants, land use restrictions, excavation prohibitions and groundwater advisories may be applied. These situations can impact site selection decisions, negotiations, and business operating costs. Therefore, they require thorough evaluation early in a project or transaction.

1.4 Regulatory and USPS Policy Overview

1.4.1 Current USPS Policy

USPS has issued the following policy to date: 1 March, 2007 Postal Bulletin article (Attachment 1) that explains how to handle VI-based site access requests; and September, 2008 memorandum (Attachment 2) on USPS use of the ASTM VI practice (also see

Section 4.1). Currently, there are no federal laws that *specifically* regulate VI in the workplace. This is especially evident in reviewing the regulatory role of OSHA versus EPA as explained below.

1.4.2 Occupational Safety and Health Administration (OSHA)

USPS is subject to federal OSHA rules and regulations. While state-level OSHA requirements do not apply to USPS, they may apply to contractors working at USPS sites.

The Postal Service is obligated to ensure that its employees are not exposed to harmful levels of hazardous substances including chemical constituents from VI. OSHA has not promulgated VI-specific regulations, but does govern worker exposure to hazardous substances that originate in the workplace and sets permissible exposure limits (PELs). Also, OSHA's 'General Duty Clause' recognizes that in some instances, there are hazards for which OSHA has no specific rule or standard. Under the General Duty Clause, an employer has an obligation to protect workers from recognized workplace hazards, even where there is no standard. Employers must undertake necessary abatement actions where feasible to eliminate these hazards, including VI-related conditions.

USPS is also obligated to communicate the presence of any hazards, including VI-related chemicals and any resulting air monitoring data, to employees. Some elements of the OSHA Hazard Communication (HAZCOM) Standard (29 CFR 1910.1200) may apply depending on the VI chemical, origin and other workplace-related factors. *It is critical that facility and local management involved with these matters consult with their local Safety office on HAZCOM requirements.*

1.4.3 Environmental Protection Agency (EPA)

The EPA has historically taken the position that its jurisdiction is limited to areas *outside* of buildings and it lacks statutory authority to regulate indoor air quality. The Toxic Substances Control Act (TSCA) and Resource Conservation and Recovery Act (RCRA) contain statutory language indicating that OSHA has the lead in regulating and enforcing workplace conditions. Similarly, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) does not authorize EPA to regulate employee health or safety.

In 1990, EPA and OSHA entered into a Memorandum of Understanding (MOU) that delineates the responsibilities of each agency and their respective jurisdictions. The MOU provides that the Occupational Safety and Health Act confer upon OSHA the "authority to promulgate mandatory safety and health standards for private sector workplaces." By contrast, the MOU provides that EPA is assigned for the "protection of public health and the environment."

As detailed under EPA VI resources in section 2.3.1, EPA's November, 2002 'Office of Solid Waste and Emergency Response (OSWER) Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathways from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)' addresses investigation, risk assessment and mitigation measures for VI specifically at RCRA Corrective Action, CERCLA and Brownfields sites. It does not

address vapor intrusion at other sites, including those solely with underground storage tank-related issues. While the EPA draft guidance is mainly designed to “ensure protection of the public in residential settings but may be adjusted for other land uses (e.g., commercial/industrial, recreational), so that human exposures in non-residential settings may also be considered under the guidance,” it clearly defers to OSHA’s authority to regulate worker exposure as it specifically states, “OSHA and EPA have agreed that OSHA generally will take the lead role in addressing occupational exposures.” In addition, the EPA draft guidance states that “EPA does not expect this guidance to be used for settings that are primarily occupational.”

1.4.4 State and Local Agencies

While EPA does not have a direct VI regulatory role for USPS sites and strongly directs VI inquiries to the Interstate Technology and Resource Council (ITRC) [see section 2.3.2], state-level *remediation* regulations currently often have the most specific terms that would govern VI matters. However, most remediation regulations need revision to specifically address VI. For example, Connecticut is seeking to better regulate VI under proposed revisions to its March, 2003 ‘Remediation Standard Regulations for Volatization Criteria’ (still under review as of this publication).

Some states are now passing legislation specific to VI-related disclosure to current or future building tenants and occupants. During September, 2008, New York State’s Governor Patterson signed legislation requiring property owners to disclose test results to building tenants and occupants when those results exceed New York State Department of Health or OSHA indoor air quality guidelines. This has to be accompanied by a fact sheet and must be relayed within fifteen days of property owner receipt of the test results. The law defines ‘test results’ as indoor air, sub-slab air, ambient air, sub-slab groundwater and/or sub-slab soil samples. Note that while this law does not apply to USPS as a site owner, it applies to our New York state landlords.

In addition to state-level environmental agencies, state-level health departments are also developing VI guidance. New York State Department of Health has been a leader in this area. Further, while local agencies might not have formal VI guidance, their representatives may be involved in VI-related access requests and investigations discussed earlier.

While state-level health guidance is useful to USPS and cooperation with state-level health officials is critical to resolution of VI cases, state-level labor-related health and safety regulations do not legally apply to USPS. Federal OSHA requirements govern USPS labor-related health and safety practices.

1.5 Postal VI Plan

USPS will consider OSHA PELs and regulations in development of VI investigation and remediation. It will also consider EPA, ITRC, ASTM and respective state guidance in such development (see section 2.3). The involvement of a qualified health and safety consultant, with specific VI experience in the site’s general location, will be critical to a successful investigation or remediation.

2. Addressing Vapor Intrusion

2.1 Common VI Sources

One of the most abundant VI constituents is a group of chemicals called ‘volatile organic compounds’ (VOCs). They are found in gasoline and other fuels and include compounds such as benzene, toluene, ethylbenzene and xylene. A common source of these chemicals in the soil and/or groundwater is from leaking underground storage tanks (USTs), piping or surface spills.

Other frequently found VI-related chemicals are ‘chlorinated’ VOCs, meaning they are VOC compounds bound to chlorine molecules. These compounds are commonly used in the dry cleaning industry – e.g., tetrachloroethylene (PCE – the ‘P’ is for ‘per’ and has to do with the compound’s structure) and trichloroethylene (TCE).

While there are many other potential VI sources, including solvent use from various industrial operations, VOCs and chlorinated compounds are abundant because of the number of gas and auto repair stations, fuel tanks and dry cleaning businesses concentrated in commercial and industrial areas. These are often the busy areas that USPS occupies.

2.2 Human Health Concerns from VI

Humans can be exposed to contaminated vapors when the vapor is drawn into the building indoor air environment due to pressure differences. Inhalation is the primary route of exposure once the vapors are present in the indoor air environment.

Both active and potential exposures are considered when evaluating VI. Active exposures exist when the VI is documented in the occupied building. Potential exposures exist when VOCs or other hazardous compounds are present in the vapor phase beneath a building, but they have not yet impacted indoor air quality due to site conditions. Potential exposures also exist when:

- contaminated vapors move beneath other buildings not currently assessed;
- indoor air is impacted, but the building is currently unoccupied; or
- new buildings are unknowingly built over subsurface vapor contamination.

Exposure to a volatile chemical due to VI does not necessarily cause health effects. Whether or not a building occupant experiences health effects depends on several factors, including the length of exposure (short-term or acute versus long-term or chronic), the amount of exposure or ‘dose’, the frequency of exposure, the toxicity of the volatile chemical and the individual’s sensitivity to the chemical.

Therefore, the mere presence of VI does not necessarily mean a health effect has or will occur. It depends on many factors that can be complex and must be considered on a case-by-case basis. Another important issue that can cause varied effects is that VI

situations are not static – structural building changes, geologic changes, pressure changes and other factors can all alter potential VI exposure pathways.

2.3 VI Investigation Basics

The ‘Interstate Technology and Regulatory Council’ (detailed in section 2.4.2), defines three main components to any VI investigation:

1. Definition of the vapor source;
2. Building assessment; and
3. Determination of the migration route connecting the vapor source to the structure.

In addition, a human health risk assessment might be warranted depending on preliminary information.

VI investigations can differ in magnitude and degree. A preliminary screening can give a basic understanding of all the interior and exterior factors impacting VI (see section 2.3.1). Indoor air screening, if deemed necessary, is typically performed using hand-held devices that display quick on-site readings such as a photo-ionization detector (PID) or combustible gas indicator (CGI). In some instances, placement of fixed sampling devices such as ‘summa canisters’ might be warranted. These are portable, sealed containers that can be placed at select building locations. They are then collected after a set time for laboratory analysis. Upon review of preliminary screening phase findings, additional investigation and sampling might be recommended. For example, indoor air sampling might be coupled with sub-slab soil gas sampling. Exterior testing might include soil and/or groundwater analysis. At this stage, OSHA and some state sampling parameters are likely to be incorporated for indoor assessment and EPA and state parameters are then applied for exterior assessment.

For all VI investigations, especially the preliminary stage, state regulatory agencies might have extensive information on a site that has reported soil and/or groundwater contamination. However, an agency file review for any existing sampling and related documentation is unlikely to give an adequate representation of site conditions. Further study must be considered by the essential USPS personnel.

Building factors (see section 2.3.1) such as design and construction also need to be considered when devising a VI investigation. There can be spatial influences on vapor concentrations governed by room size and construction. Vapor exposure in a large work room can be very different from that of a small office.

Also, it is extremely important to remove all ‘background’ vapor sources that can skew sampling results. For example, while it happens more often with residential VI investigation, dry cleaned clothes can emit vapors that show up in site readings. Other background vapor sources include cleaning supplies, paints, varnishes, inks and lubricants. The industrial hygiene firm conducting the VI investigation will assess the site and determine what has to be physically removed before sampling.

Upon completion of the VI investigation phase, a human health risk assessment may be recommended along with discussion of VI mitigation measures. The risk assessment is done by experienced consultants who assess human health risk from hazardous substances.

The VI investigation should also have a thorough conclusions and recommendations section, including details on any required mitigation. While mitigation is fully discussed in section 5.2, Making Well-informed Design and Construction Decisions, it is important to note that even at the VI investigation stage, the consultant should be giving direction on: the type of remediation system; level of maintenance; reliability; maintenance schedule; and what level and frequency of follow up indoor air quality sampling should be done, if any, in order to ensure that remediation is effective.

2.3.1 VI Investigation Factors

There are many complex factors and interactions to consider when performing VI investigations, including:

- determination of potential exposure pathways and building conditions;
- types of transport mechanisms; and
- human exposure risks.

Exposure pathways are those venues for chemical constituents to enter the subject interior space and potentially impact building occupants. Exposure pathway factors can include the contamination source, depth, plume size (i.e. - its estimated dimensions), water table level, site hydrology, groundwater versus soil contamination, site topography and geology. Building condition factors may include: the type of building construction and design; building air exchange rate (including infiltration from non-tight structures such as crawl spaces, doors and windows); natural ventilation from doors and windows; building envelope condition (especially the slab/foundation/flooring); mechanical ventilation; and general building and grounds features (such as the amount of permeable versus impermeable surface and clean fill).

Outdoor sampling can be just as critical as indoor sampling since the determination of background air concentrations and outdoor air quality gives a critical baseline of conditions. Definition of sampling parameters is also imperative as in some cases, the 'biodegradation' or breakdown of chemical compounds can create sister compounds that can increase health threats more than the parent compounds.

VI investigation generally considers two possible vapor 'transport mechanisms' or how vapors make their way into an interior space from the subsurface. 'Diffusion' is the method by which vapors move due to a difference in concentration gradients. Vapors can collect and increase in intensity as they move along a given gradient. 'Advection' is the movement of vapors due to difference in pressure. Such changes can be due to atmospheric, temperature or forced pressure changes due to ventilation systems. Advection transport movement is most common in basements, crawl spaces or along a building foundation. Once soil gases enter the 'building zone of influence' (a compact

area a few feet deep below the surface), the vapors can enter the building through cracks in the foundation due to fluctuations of indoor and outdoor building pressure.

Whether by diffusion or advection, vapor pathways can also follow sumps, drainage pits, subsurface utility conduits, drains, or natural pathways such as fractured bedrock.

Of special concern and complexity are cases where vacant land is being considered for future development and there may be VI concerns. Guidance on decision-making in this area is detailed in Chapters 4 and 5.

While the VI investigation factors can be complex and compound, resulting in a very case-specific investigation, Appendix C, 'Statements of Work,' offers a basic outline to help a consultant address USPS VI investigation needs.

2.4 Resources to Guide VI Health and Safety Response

The following sections discuss some of the main groups who have developed VI guidance and resources. While no VI-specific regulations apply to USPS, the sections below focus on agency *guidance* that can help USPS best resolve VI concerns.

In addition to federal guidance, current state and local VI guidance and resources should always be researched for a VI case.

2.4.1 Environmental Protection Agency (EPA)

EPA issued the 'OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathways from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)' in November, 2002. This guidance can be located on EPA's website at <http://www.epa.gov/osw/hazard/correctiveaction/eis/vapor/complete.pdf>. As VI remains an emerging issue, EPA has maintained this guidance in draft form and continues to study the ongoing research. Since the 2002 issuance of EPA's draft VI guidance, the International Technology and Regulatory Council (ITRC) has assumed the important role, with EPA's support, of providing more current VI findings and guidance (see section 2.4.2).

Nevertheless, the EPA 2002 draft guidance can be a valuable resource as it aims to determine whether or not VI poses an unacceptable risk to human health. It follows a three-tiered approach:

- Tier 1 – primary screening (general site and area assessment);
- Tier II – secondary screening (adds limited site-specific contamination details);
- Tier III – pathway assessment (site-specific data to assess exposure pathway[s]).

EPA guidance recognizes that exposure pathways are not static and includes consideration of future building expansion, reconstruction or renovation since, while current pathways might not result in significant vapor exposure, future modifications could pose unacceptable risk.

The specific areas that the EPA guidance covers are sites that fall under RCRA corrective action measures, CERCLA sites and Brownfields sites. As mentioned in section 1.4, since EPA defers to OSHA for specific VI guidance on worker protection, their 2002 document focuses on protecting occupants in residential and non-industrial settings such as schools, hospitals, hotels and stores.

2.4.2 Interstate Technology and Regulatory Council (ITRC)

The ITRC has established a Vapor Intrusion Team comprised of representatives from many state environmental agencies, environmental companies and federal agencies, including EPA. Their website has a link - http://www.itrcweb.org/teampublic_Vapor.asp - that provides useful VI guidance as well as internet-based training.

Key documents offered on the ITRC website are ‘Vapor Intrusion Pathway: A Practical Guide’ (ITRC, 01/2007) and a companion document, ‘Vapor Intrusion Pathway: Investigative Approaches for Typical Scenarios’ (ITRC, 01/2007). These publications aim to provide concise, timely direction on VI-related sampling, characterization and remediation technologies.

2.4.3 OSHA

To date, OSHA has not developed any VI-specific *guidance*, but does govern worker exposure to hazardous substances that originate in the workplace which include permissible exposure limits (PELs), including those resulting from VI.

2.4.4 American Society for Testing and Materials (ASTM)

The ASTM VI standard is fully discussed in Chapters 4 and 5. As detailed in those chapters, while USPS does not formally require adherence to the ASTM VI standard, a totally voluntary instruction, USPS uses ASTM VI standard components frequently in VI investigations and mitigation.

2.4.5 Other Resources

Not all states offer VI guidance, but many of those that do offer direction rely on requiring indoor VI evaluation when the presumed vapor source is within 100 horizontal or vertical feet of the building. This scenario does not always help USPS best handle VI concerns. The Massachusetts Department of Environmental Protection (MADEP) offers a different approach for a different audience in its August, 2007 Bureau of Waste Site Clean-up ‘Standard Operating Procedure (SOP) for Indoor Air Contamination.’ MADEP confirmed in mid-2008 that the SOP, written for use by the Bureau of Waste Site Clean-up employees, was not a policy and therefore not an enforceable MADEP requirement. However, it is a good resource from the regulator’s perspective and is available at <http://www.mass.gov/dep/cleanup/laws/policies.htm#tech.iaqsop0.pdf>. MADEP also offers the Office of Research and Standards ‘Indoor Air Sampling and Evaluation Guide’ (WSC Policy #02-430) under the same policy link.

Many states now also have web sites or links specific to VI guidance. One easy to navigate resource is the aforementioned Indiana Department of Environmental Management’s VI link at <http://www.in.gov/idem/4337.htm>.

During April, 2009, the California Department of Toxic Substances Control released VI guidance ('Vapor Intrusion Mitigation Advisory') that helps to determine if mitigation is appropriate for a given site and what types of mitigation methods work best given the project plans. The guidance also provides help with public participation-related activities. This document can be found at http://www.dtsc.ca.gov/SiteCleanup/upload/VI_Mitigation_Advisory_Apr09.pdf.

Appendix A also offers a 'Select List of Agencies with VI Guidance.'

While state and local VI guidance and requirements may not always be applicable to USPS (with USPS Law Department consultation), state and local environmental and health agencies will often be the first entities to contact a USPS facility with a VI inquiry. They can become valuable stakeholders in the process, particularly when VI is a larger community concern beyond the boundaries of the Postal facility.

3. Responding to Vapor Intrusion and Site Access Requests

Whether VI concerns are brought up formally or informally within USPS, by an outside, private party or by a public entity such as a regulator, the matter requires immediate attention and the swiftest resolution possible.

Chapter 4 focuses on new real estate actions, but VI concerns at an already occupied facility present its own challenges. USPS stakeholders (see Chapter 7, Roles and Responsibilities) need prompt notice of concerns in order to coordinate, assess and determine the nature of the problem and provide an appropriate response. This, in turn, must be communicated to the work site and building occupants. As mentioned in section 2.4.5, state and local environmental and health agency officials may be helpful partners to USPS when addressing VI concerns as the inquiry is often a result of a larger state or local investigation.

Collecting and maintaining accurate and complete records are vital to VI response (see Chapter 7).

3.1 Employee Inquiries (Formal or Informal)

When an employee voices a concern, whether formally or informally, to local management, it is important to duly address the inquiry. All VI-related concerns merit prompt attention. Managers or supervisors receiving a formal or informal VI inquiry must promptly contact environmental and safety personnel and local management who will assist in addressing the issue.

Employee concerns can be based on local news, neighborhood information or observation of employee illness rate. Prompt response to a VI complaint is critical to employee health and safety and vital to maintaining the most efficient operations at the facility. Informal complaints should not be ignored by facility management until they are formalized.

Formal complaints are filed in several ways. An employee may file a PS Form 1767, *Report of Hazard, Unsafe Condition or Practice*, with their manager or supervisor when they perceive that their work environment is unsafe or unhealthful (as detailed in the USPS Employee Labor Manual [ELM] section 824.6). Employees may also directly contact OSHA with a formal VI complaint. OSHA may elect to refer, by letter, the complaint to Postal management. Upon receipt of the OSHA complaint, the assigned manager, who is usually the Installation Head, must then promptly contact environmental and safety personnel and local management.

OSHA may decide to investigate the employee complaint by performing an announced or unannounced site inspection (as detailed in ELM section 825). While ELM Chapter 8 outlines that OSHA officials are allowed quick access to a Postal facility, it also requires that the OSHA officials hold an opening conference with USPS management to discuss

their concerns. If VI is the reason for the complaint, the local Safety Specialist, Environmental Compliance and Risk Mitigation Specialist ('assigned Environmental Specialist') and, if possible, a contracted industrial hygienist should accompany the inspection. Note that while the Postal Service does not have many in-house industrial hygienists, these resources could also be used in lieu of a contracted service. USPS has the right to conduct duplicate or side-by-side sampling. In the case of an unannounced inspection, appropriate USPS staff might not be able to attend. However, at a minimum, the Installation Head and facility Safety representative should be in attendance since they will need to promptly brief the other safety and environmental staff on the inspection findings. The Installation Head should not wait for OSHA's final documentation of the unannounced inspection, especially if it reveals an urgent health and safety matter

Another method of formal VI complaints is whereby an employee files a 'Health Hazard Evaluation' (HHE) request from the National Institute of Occupational Safety and Health (NIOSH). As with OSHA, NIOSH may then refer the request to Postal management or they may conduct a formal HHE. As with VI-related OSHA complaints, the manager, which is usually the Installation Head, must then promptly contact their local environmental and safety personnel and local management.

3.2 Third Party Inquires

A 'third party' is generally a public or private sector entity outside the realm of USPS. Third parties can include government agencies, potentially responsible parties (i.e. – in the case of VI, those who might have caused the problem), USPS tenants, surrounding residences and businesses, environmental interest groups, local media, Postal customers and elected officials.

Third party VI inquiries can overlap with other parties' interests such as that of our employees and quickly become everyone's concern. Therefore, a third party inquiry demands prompt attention, with the involvement of essential USPS staff including environmental and safety experts and local management.

Any public inquiry must also include early notice from facility management to the local USPS Corporate Communications office. The list of Corporate Communications contacts is provided on the internal Postal web site at <http://www.usps.com/communications/newsroom/mediacontacts.htm>. Additionally, if the inquiry is from a Congressman or has political ramifications, local management must contact their USPS Government Relations office. The list of Government Relations contacts is provided on the internal Postal web site at <http://blue.usps.gov/grweb/> (select a state in the upper, left corner of the main page). Chapter 7 details roles and responsibilities of both offices.

Facility and mail security issues as a result of a third party inquiry are rare, but can occur. If the Installation Head or other facility manager believes there is an inquiry that could impact facility security or the sanctity of US mail, they must immediately contact their local Postal Inspection Service (see sections 7.1.12 and 7.2).

3.2.1 Site Access Requests (Verbal or Written)

The term ‘access request’ is where a third party such as an entity responsible for VI concern or its consultant, or a local or federal regulator such as a government environmental or health agency, requests access to Postal owned or leased property to evaluate VI potential. An access request can be written or verbal and is not the same as a formal or informal employee or public complaint. The access request is typically based on existing data, with a defined investigation or a proposed mitigation plan. OSHA-based site investigation details are provided in section 3.1.

As mentioned in a March 1, 2007, Postal Bulletin article (Attachment 1), all VI-based, Postal site access requests, whether verbal or written, must be referred to the respective Facilities Service Office (FSO) for consultation with the Law Department for a determination as to whether or not a legally binding access agreement is required. In most cases, an access agreement is required and must be executed by a Contracting Officer (CO) with the appropriate level of contracting authority. The Facilities Environmental Specialist (FES) will help the FSO work with the Law Department and will also involve environmental and safety personnel. This is an important step since the environmental and safety staff will need to help address employee, local management or public concerns as a result of the access request.

The Installation Head or other facility representative must never sign an access request without the requisite CO authority and without first contacting the FSO. In addition, they should not allow third party access without proper internal notification. While the FSO and Law Department’s early involvement is critical, early notice to environmental and safety staff by the Installation Head or facility representative is also prudent.

There are site access issues that must be defined in legal terms such as the need to restore the facility to its original condition, proof of insurance, early notice of planned work, sharing data and how this is communicated, and not impacting Postal operations. Further, the party requesting access must be technically and financially accountable for addressing any VI-related concerns that arise. This might be handled in another legal agreement, but the access agreement can be a legal precursor to any corrective measures.

Examples of access request documents are in Appendix B, whether for VI investigation or mitigation system installation.

A formal access agreement may also be required at a leased facility, either directly between the landlord and USPS (where the landlord has possibly caused the VI concern) or between the landlord, USPS and a third party. Appendix B includes such examples.

3.2.2 Owned vs. Leased Facilities

USPS has full responsibility for addressing VI access requests at its owned facilities. Where USPS is a tenant, the landlord has full responsibility for accommodating such requests. However, Installation Head coordination with the FSO and Law Department is required since USPS’ interests as a tenant with lease conditions, work site health and safety issues, security and operations needs must be protected. The landlord would also

be expected to immediately notify the Installation Head of any VI-related access request. The FSO and Law Department are available to interpret any lease terms regarding landlord responsibility.

4. Real Estate & Design & Construction VI Considerations

With ever-changing operational needs, USPS continually adjusts its real estate portfolio with property leases, acquisitions, disposals or developmental projects and is steadily involved with design and construction work on the portfolio, including facility expansions. *Understanding and addressing environmental concerns, including the emergence of VI as a recognized risk to building occupants and building operations, will continue to be important to the successful management of USPS' real estate portfolio.*

For new development, projecting possible VI impacts will be especially challenging to the USPS staff involved and their consultants. EPA, ITRC and ASTM offer guidance for those VI cases where the structure has yet to be built. Chapter 5 also considers such development.

Records management, as detailed in Chapter 7, is a critical part of addressing real estate VI considerations. This includes important final real estate agreement terms.

Properly executed internal and external communications are also critical to project success. The USPS person leading the project must ensure that all key project stakeholders share in the plans, including corporate and government relations contacts mentioned in section 3.2, and chapter 7.

4.1 Due Diligence – ASTM and Beyond

USPS policy requires environmental due diligence reviews for lease, acquisition, disposal and developmental efforts in accordance with Facilities Environmental Guide Handbook RE-6 (11/2004). Projects requiring Phase I Environmental Site Assessments (ESAs) follow American Society for Testing and Materials (ASTM) Practice E 1527. This standard provides direction on all of the resources and level of inquiry that should be attained when researching a site's actual or potential environmental concerns. Adherence to this standard protects the prospective buyer under CERCLA's 'innocent landowner defense' (i.e. - acceptable lengths were undertaken to establish a baseline of site environmental conditions prior to tenancy or acquisition).

Completion of a Phase I ESA or even a lesser level of due diligence (reference Facilities Handbook RE-6) will show actual or potential contamination sources on or near the proposed site. VI concerns can arise as a result of due diligence.

During May, 2008, ASTM issued 'Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions' (Designation: E 2600-08). This practice is described by ASTM as a voluntary supplement to ASTM Practice E 1527. Section 2.4.4 refers to ASTM guidance and gives details on other agency VI resources.

Facilities HQ Real Estate Department issued a policy memorandum dated September 12, 2008 to Facilities Department and Safety and Environmental Performance Management staff, advising that the new ASTM VI practice will not be a formal Phase I ESA requirement for USPS real estate transactions. The basis for this directive is that while the new practice sets standard VI source distances and methods to conclude if VI is a concern, VI-related regulations and standards are still evolving, including debate between EPA and OSHA VI regulation. Further, USPS often has very case-specific site concerns from USPS management, employees and/or the general public.

The policy memorandum does emphasize that VI consideration will be included as a new section in every Phase I ESA. ASTM Practice E 1527 identifies actual or potential environmental threats to the proposed site. These findings will be the basis to help USPS, sometimes with consulting firm assistance, determine if further VI investigation is needed.

4.2 Assessing Various Real Estate Projects for VI Issues

There are critical staff resources who will help guide VI decision-making and resolution, whether for new real estate actions, facility expansions, site disposal or developmental projects. In addition to the Facilities Department Real Estate group (broadly defined for FSO's as any staff group covering USPS real estate needs), the Facilities Design and Construction group (any staff group covering design and construction needs) is a key resource for helping to make nearly all VI-related real estate decisions.

Besides new facilities that will undergo environmental due diligence and related VI consideration, facility expansions on Postal-owned land, site disposals and developmental projects (i.e. - more complicated real estate exchanges) will also merit VI consideration as detailed in the following sections.

4.2.1 New Construction (Acquired or Leased Property)

For new facilities, including new construction on acquired or leased property, the Facilities Department (whether the FSO or Facilities HQ) is responsible for VI considerations.

Well before any construction plans, the Facilities Department must consider USPS policies on when and how properties with known contamination can be acquired. When the proposed site is documented as contaminated, usually by being listed as 'active' on a regulatory database, the Facilities Department must consult with the Law Department on whether pursuit of the site is feasible.

Acquisition of leased, occupied facilities will involve the same staff resources and careful coordination, especially with environmental and safety staff, when a VI issue is suspected.

Based on environmental due diligence findings, the FES will discuss any potential VI concerns early with the Real Estate Specialist (RES) [broadly meaning assigned real

estate expert], Design and Construction (D&C) Project Manager (assigned design and construction expert) handling the project *and* the assigned Environmental Specialist.

For purposes of this guidance, the ‘assigned Environmental Specialist’ is the person who handles environmental compliance and risk mitigation needs for the region that includes the VI site. They are part of a regional team, led by a Team Leader (see section 7.1.2), that handles all local environmental compliance and risk mitigation.

The FES will have the due diligence facts and ideas on further VI investigation or mitigation which can include institutional and/or engineering controls. The RES will have an understanding of the local internal and external demand for the project and negotiations with the current owner. The D&C Project Manager will have a preliminary design and an understanding of the site logistics and project needs. The D&C Project Manager can help work on engineering controls to consider VI prevention or mitigation as further detailed in section 5.2, ‘Making Well-informed Design and Construction Decisions.’

The assigned Environmental Specialist will be consulted on project details and presented with long-term, facility-specific concerns that could arise from VI-related efforts. Even in cases where VI mitigation can successfully be applied, such measures might be too much of a threat to long-term continuity of the operation given case-specific concerns and local history. It is recommended that the assigned Environmental Specialist consult the local Safety Specialist and local management for any concerns, past or present, regarding the prospective project plans.

This core group first examines the situation to see if further VI investigation or mitigation should be conducted. If so, further involvement of the local Safety Specialist, Installation Head, local management and Law Department would be required. For further investigation, this group’s involvement is more informational. They need to be aware of the further study and that it could lead to critical decisions to pursue or cancel the project plans for the subject site.

Once mitigation is the scenario (whether based on due diligence or additional study), local Safety Specialist, Installation Head, local management and Law Department involvement will be more intensive. Local management needs to be fully aware, with the help of the assigned Environmental Specialist, of the site’s VI-related needs and reminded that VI concerns can always resurface and potentially impact building operations.

The decision to mitigate also needs to involve consideration of how future VI conditions could change. If indoor air sampling results could change dramatically over time, a short-cut to mitigation might be the best plan. This scenario could happen when there is a soil or groundwater contamination plume that is proven to be frequently shifting and changing.

The assigned USPS attorney needs to work on VI mitigation terms with the FES, RES, D&C Project Manager and assigned Environmental Specialist. These terms will be a critical part of negotiations with the seller or potential landlord. Besides engineering controls, this might include institutional controls to restrict or limit use of the site or its resources. The FES needs to ensure that the assigned Environmental Specialist, Safety Specialist and Installation Head understand what type of VI measures will be implemented at the facility, who will monitor these measures, what follow up controls will be in place to ensure that the measures are working and who can they work with if there are concerns once the facility is operational. Note that the Installation Head position may not be defined early on or may change. Nevertheless, it is critical that the local person who understands the future operation the most be very involved so that the final Installation Head can be educated on the VI controls their site will have.

Records management, as detailed in Chapter 7, is a critical part of managing further investigation or VI mitigation. This includes important final real estate agreement terms.

4.2.2 Facility Expansions (Postal-owned or Leased Property)

For leases, nearly all facility expansion cases will involve new lease actions and the due diligence detailed above. Even for those rare cases where a facility is expanded on already leased land, all of the aforementioned guidance for new facilities will apply, including a need for FES-determined due diligence and terms with the site owner for any VI mitigation measures.

For new expansions on Postal-owned property, the FES will consult with the D&C Project Manager and assigned Environmental Specialist on any potential VI issues. For example, there might be documented VI cases where a Postal-owned site has had regulatory restrictions placed on it and the expansion will require coordination with regulatory agencies. Less obvious concerns might arise from new, potential, off-site contamination sources in the vicinity of the expansion area. The assigned Environmental Specialist may have this knowledge to share with the FES since they are involved with the facility's operational environmental needs. The FES can also do a regulatory database search to look for newer off-site concerns. As with VI investigation for new facilities, the local Safety Specialist, Installation Head, local management and Law Department are involved for informational purposes. As with acquisition of leased facilities, expansions will require careful coordination, especially with environmental and safety staff, when a VI issue is suspected at or near an occupied space.

Once VI mitigation measures are determined on a Postal-owned expansion site, all of the heavier involvement by the local Safety Specialist, Installation Head and local management detailed for new facilities will apply. There might be an adjustment with Law Department level of input. The USPS attorney will not be dealing with another site owner, but they might be consulted on negotiation of legal terms with regulatory agencies or even off-site parties who may have impacted the expansion area with VI issues *or* feel that the expansion will somehow impact their interests.

4.2.3 Site Disposals

Site disposals require coordination between the RES or Asset Management contact disposing property and the FES. According to Facilities Handbook RE-6 (11/04), notification of any known site environmental contamination to a prospective buyer is required. Known or suspect VI issues would be a critical part of that disclosure. Coordination with the Law Department on the required level of disclosure and any further investigation is needed. The assigned Environmental Specialist, local Safety Specialist and Installation Head will be notified of any environmental disclosures prior to disposal, as necessary.

4.2.4 Site Developmental Projects

Site developmental projects are special cases of real estate-related business decisions that can meet or improve USPS operations and/or provide economic benefit to USPS. They can get very complicated and layered. Developmental projects can include even more than one site disposal, sub-leases, and third party investors/developers and can change in scope many times before plans are finalized. They can also include adding new leased or owned property along with one or several disposals. The RES or Asset Management contact and FES have to fully address VI potential and follow all the guidance for each type of real estate action and they can't let VI consideration get lost in how complicated some developmental projects can get. Law Department involvement is critical and different levels of working with other support staff will apply (depending on new leases or acquisitions, site disposals or even expansions).

5. Maintaining a Preventative Approach

USPS applies a preventative approach to all aspects of its environmental and health and safety programs. Avoiding or mitigating the presence of VI is an important strategy to help protect our employees and communities that we serve. As detailed in this chapter, there are real estate and design and construction-based choices that can be made to support the *preventative* approach to handling VI.

5.1 Making Well-informed Real Estate Decisions

The team approach detailed in Chapter 4 is inherent to preventing VI problems that could present health and safety threats, impacts to operations and impacts to USPS real estate investments.

Sound real estate decisions involving VI will most importantly ensure that human health and safety is protected. USPS continuity of operations is also a major success factor as is securing a good real estate investment. There are countless VI-related terms, precautions and USPS benefits that can be worked into any given real estate negotiation.

The following people involved in decisions on planning new facilities, expansions, disposal or developmental projects or handling real estate matters need a basic understanding of VI:

- RESs,
- Asset Management contacts
- Facilities Department Managers
- Law Department Attorneys
- District Staff

They need to know how it can be dealt with and how it can impact our employees, operations and business if it is not properly addressed.

Design and Construction Project Managers and their supervisors need at least this level of understanding to help the RES and team make the best real estate decisions. For instance, the estimated cost alone of certain engineering controls might be a reason not to pursue a certain site. The VI InfoPak (Attachment 2) can be used, possibly by the FES or assigned Environmental Specialist as a VI briefing to these staff members.

FESs, assigned Environmental Specialists, local Safety Specialists and their managers need an in-depth understanding of VI issues in order to help those planning the real estate actions make the best decisions. This staff needs to have a good working knowledge of this VI guidance document.

The USPS real estate contact is in an especially important position since they have to help communicate FES, environmental and safety specialist VI guidance and concerns to site owners, USPS performance cluster-level operations managers and staff and FSO

managers. Site operations and/or investment needs can never outweigh human health and safety precautions. This is insurmountable without the team approach detailed in Chapter 4.

5.2 Making Well-informed Design and Construction Decisions

VI mitigation is comprised of various engineering controls.

- While for new real estate actions, the D&C Project Manager will help the RES early in the site review process to assess design possibilities for VI mitigation, the D&C Project Manager's involvement will increase once engineering controls are selected, designed and constructed.
- The FES and assigned Environmental Specialist will provide technical support.
- The local Safety Specialist and Law Department will also be involved at this advanced stage in the project at least for informational purposes, but they might have more involvement depending on local concerns (e.g. – employee informal or formal concerns or complaints) and legal needs (e.g. – environmental regulatory agency involvement).
- Outside consulting firms will likely be involved when implementing VI engineering controls. Some firms will have environmental and architect/engineering resources both in-house or two firms will consult on the environmental health and safety aspects and related design and construction project needs. Sound VI decisions on engineering controls involve all of these parties working together on the best long-term solution.

As supported in the ASTM VI Practice, it is generally much easier and cost effective to incorporate VI engineering controls into new construction versus an existing building. One good precautionary measure is to include a sub-slab vapor barrier for new construction. Any VI engineering controls should be considered and evaluated in the early phases of project planning and design.

5.2.1 USPS Building Design Standards that Can Apply

USPS Building Design Standards (2008 Building Design Standards 2008-2, revised 12/17/08) already include a high level of detail on regular building components that can help prevent VI. Proper design and construction of building components commonly called the 'building envelope' (e.g. – floors, foundation, roof, walls, doors and windows) can help prevent VI. Proper heating, ventilation and air conditioning (HVAC) system design and construction can also be a preventative VI measure. The design of where the building footprint, paved areas and landscaped areas lie on a property can also help prevent VI.

As detailed in the next section, the D&C Project Manger would work on a specific VI case to see how these standard specifications might be augmented or adjusted to fully address site-specific VI concerns. For example, HVAC design might be completed to ensure internal positive building pressure at all times. Or, there may be sub-slab

modifications to install a gravel base with a perforated pipe that attaches to a vertical stack and fan to keep negative pressure under the slab to remove vapors.

Where VI mitigation is needed, standard design may also need to be altered to avoid creating ‘vapor conduits.’ Some man-made conduits such as utility lines and sanitary or storm sewer lines can sometimes create pathways from a contamination source to the building site.

5.2.2 VI Engineering Controls and Strategies

As defined in ASTM’s VI Practice, there are several types of VI engineering controls which are discussed below:

- *‘Source removal or treatment’* is either removal of contaminated soils or groundwater (e.g. – pump and treat) or on-site treatment of soils or groundwater (e.g. – soil vapor extraction or in-situ chemical oxidation). With proper regulatory approvals, pre-treated groundwater can also be released back to the site. This type of control will definitely require FES, assigned Environmental Specialist, and likely environmental consulting firm and architect/engineering firm expertise. Law Department assistance may also be required since regulatory involvement with any site remediation is the norm. While not exclusively a D&C responsibility, source removal or treatment is usually intrinsically tied to and best carried out during site prep work, design and construction.
- *‘Barriers and venting’* include physical vapor barriers and systems to vent vapors. ASTM advises in their VI Practice that while barriers are most effective in new construction, they may be successfully placed in the earthen floor of crawl spaces or basements of existing buildings. Venting systems will often be very similar to radon venting systems. However, radon-based system design should never be blindly applied to a VI case.
- *‘Passive barriers’* create a diffusion gradient that causes vapors to migrate laterally beyond the building footprint. Passive barriers include an impermeable surface, often a high-density polyethylene or a rubberized asphalt emulsion, beneath the floor slab or for existing structures, in crawl spaces or basements. Even sealing cracks in existing floor slabs and foundations can help with a passive barrier system. These passive barriers are relatively low cost and low maintenance, but may later require more active measures (e.g.- a depressurization system with fans/blowers and motors) and they can fail even with minor cracks or tears.
- *‘Passive vapor collection/venting systems,’* often coupled with a passive barrier, have a porous sub-grade material (e.g. – gravel or sand), sometimes with a perforated pipe, to emit vapors beyond the building footprint. Wind-driven fans at the vapor output are an option that can also be considered as part of the passive venting system.

- *'Active vapor collection/venting systems'* are another ASTM VI Practice engineering control that augment passive venting design with motors and fans or blowers. These systems might more efficiently address VI, but they can be more costly to run and maintain and may require special air emissions permits. The D&C Project Manager, in consultation with the project stakeholders, would need to perform a life cycle analysis to determine if the extra cost, maintenance and permitting would be acceptable to USPS. Many times, these active systems become more of a long-term burden and will not work for new facilities.
- *'Pressurization of building interiors'* is also an engineering control defined by the ASTM VI Practice. As mentioned earlier in this chapter, a building's HVAC system can be designed to operate at an air exchange rate to create continued positive indoor pressure. This measure *has* to be maintained whenever there might be human occupancy to avoid excessive VI exposure. This can be a sensitive issue since HVAC systems are often automatically shut down during assumed vacancy. Energy demands and costs to maintain this measure can be high, as with active vapor collection/venting systems. The D&C Project Manager would need to perform a life cycle analysis to determine if these costs would be acceptable to USPS.
- *'Indoor air treatment'* is an ASTM-defined engineering control that can apply to new facilities, but is more likely an option for existing facilities where other controls will not work. Treatment systems such as activated carbon filters are used to remove air contaminants. This measure has long-term cost and maintenance issues. Vital maintenance, such as filter replacement, must be done as scheduled in order to protect human health and safety.
- Finally, ASTM adds *'intrinsically safe building design'* as an engineering control. Building design is based on significant reduction or elimination of VI. While examples include open air spaces below a main floor, such as a parking garage, this design method does not easily fit most USPS facility design needs. Postal operations typically need to be, at least for the most part, on a first floor level.

Experts involved with VI mitigation are increasing the awareness and use of 'green' mitigation. Where possible for USPS, consultants can provide help with 'greening' a system to include sustainable materials and elements such as wind turbine power and solar vents.

6. Vapor Intrusion Realities – USPS Case Studies

There are Postal examples of vapor intrusion cases across the country. While a few of the following examples are early in the investigation stage, key USPS Environmental, Safety, Facilities and Law Department staff have worked with facility and local management to fully address the concern in every case. The older cases reflect a learning curve for everyone involved. Lessons learned from every case are captured below.

Case Study 1 – A New York State Post Office has VI Issues with its Dry Cleaner Neighbor

It is uncertain exactly when a nearby dry cleaner started to contaminate area soil and groundwater with the volatile organic compound called ‘perchloroethylene’ (PCE), but this case study started to be an issue with this downgradient, medium-sized post office in an affluent New York City area suburb in 2000. The dry cleaner, New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) jointly received approval from the postmaster to allow for soil gas sampling beneath the post office parking lot. The results seemed to indicate there was no hazard to building occupants. But when re-sampling was done in 2006, PCE and vapor intrusion concerns arose with the local unions. The union and management relationship was already severely strained at this time due to operational changes.

NYSDEC and NYSDOH wanted more extensive sampling within the post office, some of which involved drilling through the floor and disturbing operations. Two initial rounds of non-invasive sampling were allowed by the post office management and both showed no trace of PCE.

Consequently, at about the same time as the follow up sampling, a worker voiced concerns of high cancer rates of co-workers to a supervisor. The supervisor promptly solicited the guidance of New York Metro Area environmental and safety staff and the Facilities Department.

In order to protect USPS staff health and Postal business interests, it was determined that an access agreement was required for any further sampling requests...and there were more requests. This was an area of stress and confusion for USPS as the state regulatory agencies wanted to collect and learn from Postal vapor intrusion indoor air sampling data. They had the compliance-related leverage over the dry cleaner and were requiring that entity to collect the additional information from adjacent sites. The data would be helpful to regulators, but USPS could be left with a huge health and safety problem and possible cessation of the mail operations at this busy post office.

An access agreement was spearheaded by the USPS Law Department, with New York Metro Area environmental and safety staff and New York Facilities Service Office (FSO) support. The agreement was between USPS and the dry cleaner with provisions to satisfy NYSDEC and NYSDOH requirements. Further, much more time and funds were spent on a third party human health evaluation, completed during late 2006. This study took

into account all previous dry cleaner and neighboring site investigations, including the post office studies and a cancer cluster analysis. The study concluded that there were no significant health and safety concerns. The third party consultant is still being retained to support ongoing study of the post office vapor intrusion conditions.

Important lessons from this example include:

- While NYSDOH formally concluded in 2001 that there were no harmful health effects to the post office interior conditions from the dry cleaner contamination, the Postal Service has to remain vigilant with ongoing vapor intrusion reviews. The subject is sensitive to employees and operations and can't be closed out to everyone's satisfaction. The third party consultant oversight is required in order to properly address concerns and explain the differences between 'occupational exposures' and 'lifetime exposures';
- From the very first site access request, whether by a private party or public entity, USPS has to protect its interests with a formal access agreement. If one had never been done for this case, USPS could have eventually been left with a defunct post office; and
- The supervisor listened to the employee's concerns and acted on them immediately. The supervisor and employee did not know about the site sampling and pending indoor air sampling when the concerns were voiced. The support staff that was then contacted worked fast and efficiently to address the matter. However, it is also important to note that extensive time and budget resources were expended to respond to this matter. Future cases should be more streamlined in staff and possibly consultant/contractor effort.

Case Study 2 – 10,000-gallon Underground Tank Rupture in Urban New Jersey Raises VI Concern

During the early spring of 1996, employees noticed strong gasoline odors in the basement of a large, urban New Jersey post office. Maintenance staff quickly discovered gasoline product in a basement floor sump. The source was soon found to be a ruptured underground storage tank under the back portion of the neighboring City Hall.

What followed was nearly ten years of regular indoor air quality monitoring by a third party consultant as the City slowly remediated their major spill. There was no traditional access agreement in this case as USPS was already in a steady sampling mode and shared information with New Jersey Department of Environmental Protection (NJDEP). USPS did seek damages from the City through our Law Department.

While sampling results regularly showed no major health threats, there were just enough readings of gasoline constituents in certain years (e.g. – December, 2003; June, 2005; and April, 2006) to support ongoing sampling. This is despite the fact that all levels were below federal OSHA limits. There were some 2006 readings that were in excess of

NJDEP indoor air screening levels, so a risk evaluation was conducted. This study involved interviews with USPS staff about the initial gasoline discovery and aftermath.

USPS' swift response to pump and remove gasoline product, prevent basement access and install a vapor treatment system supported the risk evaluation's conclusion that "worker exposure was highly limited and not of sufficient duration to cause long-term adverse health effects."

NJDEP has ongoing groundwater monitoring requirements for this spill. To date, there have been no findings to support changes in post office indoor air quality, but as with Case Study 1, USPS remains vigilant in order to protect its employees and operation.

Lessons learned from this case include:

- Quick response to an indoor air quality issue is critical. Key staff included Postal management, maintenance staff and environmental and safety personnel. Vapor intrusion was not as much of a major health and safety topic as it is now, but staff knew enough to act swiftly. This protected human health and safety and continuity of operations. USPS also realized that the matter between NJDEP and the City would not be resolved for years.

(This is an older case. It is also worth noting that as with Case Study 1, future cases would be expected to involve more streamlined consultant and contractor time and USPS staff time.)

- The involvement of a third party consultant was critical, especially with interpreting federal versus state health and safety clearance levels and how they relate to Postal operations, if only in guidance mode versus legally required; and
- While there was not a traditional access agreement, the USPS Law Department's early involvement was important as they built a case to attempt to recover damages from the City.

Case Study 3 – With a New Boston, MA-area Lease Comes VI Investigation and Mitigation

During the spring of 2007, The Northeast FSO's Real Estate department was hard-pressed to find emergency quarters for a busy carrier operation. USPS was being evicted from the current space within several months, the district was under much pressure to continue the operation and the Real Estate Specialist (RES) had very few lease or purchase opportunities in the very lucrative Boston area real estate market at that time.

Management and the RES were relieved when a site that fit all of the many Postal needs was offered for lease...until the environmental due diligence was done. The May, 2007 Phase I Environmental Site Assessment (ESA) revealed that there were state-reported releases from a nearby gas station. These releases likely contaminated soil and

groundwater and likely impacted the proposed lease site. There was already a simplified treatment system in the basement involving sumps.

The USPS Facilities Environmental Specialist (FES) quickly started relaying the information to key staff that would be impacted by this finding. Whether or not to further consider the site at all was a source of many hours of debate between the FES, FSO managers, RES, local managers and the assigned Environmental Specialist who would inherit environmental issues with the occupied site.

After much debate and the realization that there were no viable site alternatives, it was decided that a series of indoor air sampling events would be required, the landlord would have to install a more advanced treatment system to include any vapor mitigation and the FSO RES and FES would work with the USPS Law Department and the assigned Environmental Specialist on specific lease terms to protect employee health and safety and USPS business interests. The local Safety Specialist was also informed of developing plans.

May, 2007 indoor air sampling with summa canisters throughout the building indicated petroleum-related constituents. A concurrent limited risk assessment showed that conditions were well below federal OSHA permissible exposure limits and were acceptable under EPA guidance. Nevertheless, the consulting firm added that the one sampling event only provides a 'snapshot' of conditions. Detailed recommendations for an upgraded basement vapor mitigation system were then offered as were recommendations for a series of follow up indoor air sampling.

The next month involved many hours between the landlord and USPS FES, RES and Law Department to finalize detailed lease terms. Important VI-related requirements included: landlord acknowledgement of the contamination; detailed venting system requirements with a price cap; agreement that USPS would maintain the system; the right to vacate should future indoor air quality sampling results show occupancy risk; landlord agreement that there would be no basement level improvements or adjustments without USPS approval as this can alter venting effectiveness; and standard indemnification language to protect USPS from any contamination claims.

The venting system was installed during the fall of 2007. Pre-occupancy indoor air sampling that December showed the system was effective and there were no vapor concerns. The FES emailed a detailed summary to the future Installation Head to explain the system and emphasize that it has simple, but very critical maintenance requirements for which USPS is assigned (e.g. – annually check faulty or worn bearings; ensure sump covers and piping are intact).

Another round of indoor air sampling during August, 2008, showed no additional concerns. USPS will continue to monitor indoor air quality at least for the next few years of this long-term lease. There is a chance that the contamination case will be closed out with the Massachusetts Department of Environmental Protection (MADEP) in the next few years. However, USPS would likely continue to check indoor air quality even after

case closure as the case could always be re-opened under vapor intrusion concerns. Without continued sampling, there would be no documentation of conditions for that interim period.

This case presents an interesting set of lessons learned, especially because it involved a new lease:

- Team work between environmental staff, the Law Department, the RES and FSO and local managers was critical. Environmental staff could not completely rule out the site, but management also could not insist on the site without the proper provisions. This was a carefully orchestrated success story of making various sides understand the issues, including the landlord;
- While an access agreement was not involved, the Law Department worked effectively with FSO and local staff to set specific lease terms to protect employee health and safety and USPS business interests. Negotiations were complicated. While USPS had to cap system costs in order for the landlord to agree to pay for the system and USPS had to agree to system maintenance, the case was an overall success as it ensured safe and continuous operations; and
- The decision to proceed with vapor mitigation at a new site has to involve the acknowledgement that indoor air sampling might continue indefinitely and there is a critical maintenance component to even the most basic system. With sometimes high Installation Head and maintenance staff turnover, there has to be one person spearheading the effort to keep everything safe and operational. In this case, it continues to be the FES.

Case Study 4 – The VI Specter Arrives When USPS Goes to Buy a Long-term Leased Post Office in Maine

In early summer of 2008, the Postal Service was considering purchase of this leased post office. When the FES reviewed the FSO real estate files, it appeared that USPS had also considered a purchase in the late 1990's. The due diligence done by a predecessor from that era showed an open spill case with Maine Department of Environmental Protection (DEP). There was also a consultant recommendation for indoor air sampling at the post office due to possible vapor intrusion. There was no additional information. USPS chose not to purchase the site at that time.

The new purchase consideration then posed extra challenges for not only real estate decisions, but for employee health and safety and continuity of operations. The FES promptly advised local environmental staff of the findings and had another Phase I ESA done along with an indoor air quality assessment and limited human health risk assessment. The Phase I database search still showed that the site was listed as an active clean up case. The latter two reports showed no vapor intrusion hazards. There was also a plan for Phase II soil and groundwater sampling. USPS sent a letter to the landlord to advise them that there appeared to be an unresolved compliance matter with Maine DEP.

While the additional soil and groundwater sampling was being planned, the landlord responded with a thorough package of documents that showed case closure was in fact achieved with Maine DEP and several rounds of landlord-sponsored indoor air quality sampling showed no vapor intrusion concerns. Maine DEP confirmed this finding.

USPS was able to halt further investigation and proceed with the acquisition without further incident.

The main lesson learned here is fact gathering surrounding a vapor intrusion concern is imperative. Environmental or safety issues need full documentation of their status, particularly if someone has gone to great lengths to resolve them. There were all new FSO and area staff involved with the second purchase plan and the Installation Head was relatively new to the post office. Without a portion of the file, no one had any understanding of the site's history. It is rare that the landlord holds all the answers to such a problem and can relay them so effectively, but that's where the answers were found in this case.

Case Study 5 – If the Site was Once a Grocery Store, Isn't it Safe from VI?

There was major local management pressure on the NE FSO RES to find a large space for a busy, urban Postal operation. When he found a former major chain grocery store space that had been vacant for several years, it seemed perfect. The owner did mention that the site was listed as a Brownfield with Rhode Island Department of Environmental Management (RIDEM), but the details were not revealed until the FES did the required environmental due diligence.

The Phase I ESA showed that the site was slowly undergoing soil and groundwater clean up with RIDEM. It had been a metal plating operation for over forty years. RIDEM confirmed to the FES that they were considering that the owner examine indoor air quality conditions at the vacant grocery store. Further, there was a very astute, local environmental interest group with a regular newsletter about their concerns with the former grocery store and surrounding sites. They were not satisfied with RIDEM's pace and were demanding that the indoor air quality impacts of the contamination be promptly and fully investigated.

The building was in good condition and was slab on grade. For a while, the FES was considering a slab maintenance plan to stop any vapor intrusion. But after much consultation with the assigned Environmental Specialist, the FSO decided to do some limited on-site readings with hand-held devices and summa canisters. The readings showed unacceptable vapor intrusion levels. Unbeknownst to USPS until the sampling event, the owner had his own consultant conduct indoor air sampling on the same day as the USPS consultant.

The RES advised the site owner of USPS' unfavorable findings and plans to lease the site were abandoned. The owner's data was never offered to USPS nor was an explanation as to why he chose to do his own sampling. It was possibly an effort to refute any Postal

findings, a new RIDEM requirement, or an attempt to satisfy the demands of the environmental interest group.

Valuable lessons learned from this case include:

- The Facilities Real Estate department faces daily challenges to find the best site for the best price in the timeliest manner. Environmental staff can face daily challenges when they inherit a site with known contamination and even a remote chance of indoor air quality issues. It is this staff that has to work with local Safety resources and management to resolve health and safety concerns and keep the operation going. The FES is often on middle ground – they need to support business demands but also foresee any environmental issues that could ultimately cause health and safety alarm and result in a bad real estate decision and possibly interfere with Postal business.

(Once all of the key staff got involved with this prospective site and discussed long-term concerns, the site was determined to be too much of a potential risk. Everyone had to understand the other person's background, job demands and goals. The decision not to pursue the site and successfully advise management of this decision was a culmination of those communications).

- There are many vapor intrusion-related factors that support Postal decision-making. In this case, the strength and activity of the local environmental interest group supported not leasing the site. Even if the site was proven as not a hazard, their newsletter, website and public protests would definitely concern Postal employees and likely result in many administrative and consultant hours to address concerns; and
- A site might seem promising on the surface, but due diligence can change all that. In this case, there was Real Estate department and local management confidence that a former grocery store would surely never pose a health and safety threat. Even the term 'Brownfield', as supported by an agency such as RIDEM, sounded environmentally proactive or 'green'. That turned out to not be the case, at least for Postal needs.

Case Study 6 – California Contamination Sparks VI Study:

In 2004, the Postal Service removed two leaking underground storage tanks (USTs) from a central California suburban vehicle maintenance facility and started the remediation process with the California Department of Environmental Protection (CA DEP). One was a 12,000-gallon gasoline UST and the other was an approximately 2,000-gallon waste oil UST. In California, the county Department of Health (DOH) is the agency authorized to act on CA DEP's behalf. CA DEP-required 2008 sampling revealed unexpected findings that petroleum-related contaminants in excess of state clean up standards extended further than USPS initially thought and possibly under the adjacent post office.

This is a new case study as additional site soil and groundwater sampling and a vapor intrusion investigation are planned for 2009. An early 2009 work plan submitted to the county DOH includes extensive exterior soil boring analysis and the addition of groundwater monitoring wells. The exterior work will be the first investigative step before interior sampling.

So far, the Pacific FSO has learned that regulatory agencies are more aggressively looking at vapor intrusion threats when soil and/or groundwater data is not favorable. In this case, the CA DEP/county DOH data review was swift and focused on indoor air quality concerns, causing USPS to quickly strategize and respond with a sampling plan.

Case Study 7 – Late 1980’s Alaska Clean Up Brings 2008 VI Concerns

A vehicle maintenance facility in a well-populated area of Alaska was recently the subject of Alaska Department of Environmental Conservation (DEC) vapor intrusion inquiries of USPS. There were several leaking USTs removed from the site in the late 1980’s. During 1988, shallow groundwater contamination was confirmed as were low levels of petroleum-related soil contamination. From 1988 through the present, USPS continues to struggle with getting state closure for the site. Significant amounts of free product and contaminated soil have been removed and monitoring wells are regularly sampled. There is an area that can’t be accessed due to extensive underground utility lines.

Late 2008 well sampling data showed a significant petroleum-related concern close to the adjacent general mail facility. Benzene concentrations were found over 3,000 times higher than the state groundwater screening criteria and well in excess of federal standards. Alaska DEC indicated in a December, 2008 letter that the reported levels showed “high potential exposure for indoor and outdoor air inhalation.” They directed USPS to various state-sponsored, web-based resources and requested that USPS conduct a vapor intrusion investigation.

As with Case Study 6, this is a new vapor intrusion case. USPS has been cleaning up the property for over twenty years, but the December, 2008, Alaska DEC request is the first of its kind for this site. During 2009, USPS’ Western FSO and Western Area will work together to fully address Alaska DEC’s concerns and the anticipated facility management and employee concerns.

Lessons learned thus far for this case are:

- While Alaska DEC “strongly encouraged” USPS to investigate vapor intrusion concerns, they also emphasized that, according to their risk analysis, health and safety concern is high. Western FSO believes that while the tone in the late 2008 Alaska DEC letter was voluntary, USPS non-response or slow response would result in a later enforcement action. It is critical for USPS to quickly act on every VI inquiry, particularly from a regulatory agency, regardless of the tone; and

- This case involves a twenty year remediation relationship between USPS and Alaska DEC. USPS now has to strategize the best way to investigate and resolve issues that have surfaced after twenty years of ongoing soil and groundwater clean up. This takes countless hours of planning, research, sampling and constant communication with DEC, Postal employees, management and unions every step of the way.

7. Roles and Responsibilities

This guidance offers methods for VI investigation, mitigation and related real estate and design and construction decision-making. It includes resources from regulatory agencies, Statements of Work and emphasizes the importance of keeping good records. *None of this is of use without the involvement of essential staff, whether in a leadership or support role.*

7.1 Key Staff

The following roles and responsibilities are the framework for addressing VI issues. The [Roles and Responsibilities chart](#) in section 7.10 gives a list of each department's VI-related duties. Note that the respective Headquarters-level staff for groups below such as Environmental, Safety, Medical and Facilities will all need a general understanding of what VI is and how it can impact USPS. The InfoPak included as Attachment 3 can help with that awareness.

A few of the following departments are represented by exceptionally straightforward, Postal web-based listings of local resources. These offices – Government Relations, Corporate Communications and the Inspection Service – are typically there in a support and awareness role, while the other departments will likely be more heavily involved in VI cases.

7.1.1 Facility Installation Head (Installation Head)

This person, who may also be called the Postmaster, Officer in Charge or FIH, first and foremost has Postal facility security interests to protect with any site access request, whether from a private or public sector party, either at an owned or leased facility. Chapter 3 gives details on how facility management, in this case, the Installation Head, should respond to various VI inquiries.

Any third party site access request has to be done in accordance with Attachment 1, Postal Bulletin Access Article (03/07). A third party or their representative (e.g. – a consultant or contractor) should never be allowed site access without a formal USPS access agreement. This includes not just indoor access, but requests to inspect or sample the site exterior grounds.

Further, all employee, customer, tenant, general public, regulatory agency or political VI inquiries require prompt Installation Head attention. Environmental and safety staff should be immediately involved as detailed in Chapter 3.

According to MS-1 Handbook, Section 101, the Installation Head is assigned for maintenance concerns at smaller, non-maintenance capable offices. Maintenance-related duties that could apply to the Installation Head at a smaller facility are detailed in section 7.1.7.

The Installation Head also must ensure that a detailed, permanent file on a VI issue is kept at the facility. Refer to Attachment 4, Sample List of VI Records to Retain. Once a facility is no longer in existence, that file should be transferred to the respective FSO (to the attention of the FES). The FSO FES will then review the file for any information that needs to be copied or relayed to other offices.

7.1.2 Team Leaders, Environmental Compliance and Risk Mitigation, and Their Staff

The Headquarters Environmental Policy and Programs (EPP) staff, formerly ‘Area Managers, Environmental Programs’ and Environmental Specialists who report to Team Leaders, need to be consulted early in VI-related inquiries, access requests, site selection and planning and mitigation plans. As mentioned throughout this guidance, Team Leaders and their staff (‘assigned Environmental Specialists’) cover a specific territory for all environmental compliance and risk mitigation needs. These environmental personnel are critical to all VI concerns as they are heavily involved in the daily environmental issues and needs of a facility in their territory. They are the ones who help respond to management, employee, union and regulatory agency environmental site concerns. They work closely with Safety staff and handle the aftermath of any VI inquiry, investigation or mitigation. They also handle site and surrounding soil and/or groundwater contamination concerns that are often the impetus for VI concerns.

The Headquarters EPP environmental managers overseeing Team Leaders and their environmental staff need a detailed understanding of this guidance. They also need to ensure that their staff properly support VI cases in an expert and timely manner.

7.1.3 Safety Managers and Specialists

Area Safety Managers need an understanding of this guidance. They also need to provide the same level of Safety staff oversight as the environmental managers (section 7.1.2). Safety Specialists at the facility level need early involvement with any VI concern or inquiry at their location. District-level Safety Specialists also need early involvement – they need to be informed of VI issues either by local management, local Safety staff, the Area Safety Manager, area or assigned Environmental Specialist staff or the FSO FES.

While there are several levels of Safety staff available, they all need to be aware of VI concerns so that they can determine the right level of staff support depending on the specific instance.

The environmental staff will normally take the lead with any array of VI issues, but Safety is a critical part of the VI response team, particularly where OSHA is or can become involved [see section 3.1, ‘Employee Inquiries (Formal or Informal)’]. Safety involvement is also important for any site with a VI mitigation system as their staff will likely be consulted by employees and unions as long as the system is in effect.

7.1.4 Medical

USPS has Associate Area Medical Directors (AAMDs) for Area medical coverage and Occupational Health Nurse Administrators (OHNAs) assigned to every District. This

staff needs to understand VI health and safety concerns and must be involved whenever there is a federal, state or local Department of Health VI-related inquiry. Safety is typically the group that would directly consult the Medical Department, but other offices such as EPP and the FSO might also contact this group on VI matters, provided there is already Safety involvement.

7.2 Facilities Department

This organization has many levels of VI involvement at the FSO or Facilities Headquarters (HQ) level. Facilities HQ would typically handle VI cases when planning a new plant, large expansion or some similar effort at our larger facilities.

While not noted in separate sections below, Facilities HQ and the FSO's have support staff who are also part of resolving VI matters. Planning and Approval and the Contracting staff are important to VI-related planned and unplanned budget needs and contractor and consultant support respectively. They need to be readily available to the FES, real estate staff and D&C Project Managers when such needs arise.

7.2.1. Facilities Environmental Specialist (FES)

The FES has a main role in supporting the FSO or Facilities HQ Real Estate and Design and Construction staff as detailed in Chapters 4 and 5. The FES is not only critical to supporting new facility actions, but they get involved with access requests as well (see section 3.2) and any VI-based facility repair or alteration. The FES is a critical link to local environmental and safety staff and their managers; the FES often brings that staff 'to the table' with other key FSO staff when making important VI decisions.

The FES also must ensure that a permanent VI case file is kept at the FSO, either in their custody as an environmental file, or with Real Estate or D&C files. If the VI file is placed with Real Estate or D&C, it can not be discarded. Even after a site is disposed, there may be future health and safety or environmental claims that could be addressed by that file information.

7.2.2 Real Estate

Facilities HQ and FSO real estate staff, including Real Estate Specialists (RESs), must understand this VI guidance as it relates to our real estate and mail business decisions. Chapters 4 and 5 illustrate the important role that RESs and other real estate staff have in VI-related cases. While much of the RES and related staff focus will be on new, renewed (e.g. – lease renewals) or divesting real estate actions, they are also important to help assess VI impacts at routine facilities as these matters can impact the facility operations and our real estate investment. The RES and related staff is also a critical link to our landlords when there are VI issues at new or ongoing leased facilities.

7.2.3 Design and Construction

Chapters 4 and 5 detail the important role that Facilities HQ and FSO D&C Project Managers have when planning for, investigating and/or responding to VI matters. The Project Manager's technical knowledge is a key VI decision-making factor for which there is no substitute. As with Real Estate, they must understand this guidance from a

business standpoint, but their technical expertise also can help make health and safety-related VI decisions.

7.3 Law Department

As outlined in Chapter 3 and as emphasized throughout this guidance, Postal attorneys protect USPS health and safety and business interests for VI inquiries. The Postal attorney can draft written access and/or VI mitigation system agreements and they have an important role in defining sales agreement, lease, disposal or developmental terms. They assist with VI-based cost recovery from third parties and they can help with formal employee, customer, third party or general public claims against USPS. Postal attorneys can also be invaluable when working with various regulatory agencies.

A good general practice is to consult the Law Department early in a known or suspect VI case. Should it turn out that their assistance is not – or not yet – needed, early consultation can be critical.

While Postal environmental attorneys will be a main resource for VI issues, this staff has a bevy of other internal law resources with whom they may consult, such as health and safety and labor relations.

7.4 Maintenance

Whether a facility has in-house maintenance staff or has to share personnel among several facilities, local maintenance staff needs to be aware of VI mitigation systems in their facilities. According to MS-1 Handbook, Section 101, the Facility Installation Head is assigned for maintenance concerns in smaller, non-maintenance capable offices. So, either the maintenance contact or Installation Head need to have at least a basic understanding of the system so that they can report any problems or concerns to facility or local management.

Certain Facilities Single Source Provider (FSSP) calls/problems called into FSO's are first offered to the Field Maintenance Office (FMO) for their action or for the FMO to decline. For VI-based calls/problems, Maintenance needs to promptly advise the FSO that they will not accept these call/problem assignments so that key staff (e.g. – environmental; safety) can promptly coordinate their response.

Local and Area maintenance staff (and Installation Heads at non-maintenance capable offices) need to understand the basics of this guidance, specifically what VI is, how it can impact a facility and what VI mitigation systems typically involve. The InfoPak that is Attachment 3 is a good resource.

Even where lease terms specify that a landlord will have maintenance responsibility for a VI mitigation system, it is important that Postal maintenance staff, or the Installation Head as applicable, understand system basics.

7.5 Human Resources

Any suspect VI issues that concern employees and Postal unions must be reported to the District Human Resources Manager, whether by the Installation Head, local management, safety or environmental staff or the FSO. The human resources managers and their staff have valuable labor relations knowledge in the areas of safety, medical reporting and injury compensation.

As with the Postal Law Department, early consultation with Human Resources on known or suspect VI cases is important.

7.6 Finance

Section 7.1.5 mentions that the Facilities HQ or FSO Planning and Approval sections need to help support planned or unplanned VI-based expenses. Since facility, District and Area budgets are integral parts of Facilities Department budget planning, these other finance offices also must understand what VI is, how it can impact a facility and that support funds are often critical to keeping the larger operation viable. The VI InfoPak included as Attachment 3 offers basic VI facts. Where VI funding can be planned – e.g. - ongoing system maintenance and indoor air quality review – the various levels of finance need to coordinate to ensure that adequate funding is available to support that effort. Where there is an emergency, the various finance department levels must ensure that adequate funding is immediately available. For many emergencies, the FSO Planning and Approval section will work with either FSO staff (FES, RES or D&C Project Manager) or environmental or safety staff to support emergency funding needs.

7.7 Government Relations

The Governmental Relations internal Postal web link at <http://blue.usps.gov/grweb/> describes the USPS Government Relations department as “the Postal Service’s primary liaison to government leaders and policy makers.” The link provides Government Relations representative contact information for every state and territory within the country (select a state in the upper, left corner of the main page). While the local representative link emphasizes communications with Congress, USPS relies on these resources for support with other levels of government leaders and policy makers.

As detailed in Chapter 3 and emphasized throughout this guidance, the local USPS Government Relations office should be advised early of any political VI inquiry. Dialogue with political officials or their representatives should not take place without Government Relations involvement.

7.8 Corporate Communications

USPS Corporate Communications lists all local and area-based support staff on the internal Postal web link at <http://www.usps.com/communications/newsroom/mediacontacts.htm>. These valuable contacts provide local news and media support on an array of Postal issues. Any public and/or media VI-related concern should be relayed early to these local Corporate Communications representatives. As with Government Relations, there should be no

dialogue with local news or media representatives until Corporate Communications is involved.

7.9 Inspection Service

As with Government Relations and Corporate Communications, the internal Postal web link for the Postal Inspection Service – <https://Postalinspectors.uspis.gov/> - also gives organized details on local Postal Inspection Service contacts. The direct link to find a local Inspection Service office is <http://www.usps.com/ncsc/locators/find-is.html>. These staff resources would not typically get involved with VI inquiries. However, should the Installation Head or other facility manager, supervisor or local management determine that a VI-related inquiry poses a threat to USPS security concerns, the local Inspection Service representative should immediately be contacted.

7.10 Roles and Responsibilities Summary Chart

Title:	VI-related Duties:
Facility Installation Head (Installation Head) a.k.a. – Officer in Charge; Postmaster; FIH	<ul style="list-style-type: none"> - protect Postal site and mail security interests - promptly inform FSO of any verbal or written VI-based site access request - promptly inform environmental and safety staff of any public or employee VI concern - keep a detailed, permanent VI case file at the facility
Team Leaders, Environmental Compliance and Risk Mitigation and Their Staff (‘assigned Environmental Specialists’)	<ul style="list-style-type: none"> - be available for early VI consultation - consider VI-based health and safety concerns and potential operations impacts - work with local management, Safety, unions/employees, Facilities Dept. and regulatory agencies on VI cases - support VI investigation and mitigation efforts
Safety Managers and Specialists	<ul style="list-style-type: none"> - be available for early VI consultation - assist with any formal or informal union/employee VI complaint (e.g. – OSHA filing; form 1767) - support VI investigation and mitigation efforts, particularly where unions/employees have long-term concerns
Medical (Assoc. Area Medical Directors; Occupational Health Nurse Administrators)	<ul style="list-style-type: none"> - support VI inquiry, investigation and health & safety-based follow-up, particularly where the Safety Dept. is involved - consult with Safety Dept. on VI concerns from local, state or federal departments of health
Facilities Department	<ul style="list-style-type: none"> - general consideration of VI issues for all real estate (RE) and/or design and construction

	(D&C) efforts
Facilities Environmental Specialist (FES) FES (continued)	<ul style="list-style-type: none"> - help guide VI-based considerations for RE and/or D&C efforts - work with Law Department and local environmental staff on written site access requests - work with environmental staff on RE/D&C VI-related decision-making, including mitigation/post-mitigation - keep a detailed, permanent VI case file at the FSO; if files are kept with RE or D&C, they can not be discarded
Facilities Real Estate Specialist (RES) and related RE staff	<ul style="list-style-type: none"> - work with FES on VI concerns early in any RE transaction - help coordinate VI inquiries with landlords - help Law Dept., FES and assigned Environmental Specialist with special VI-based lease terms - support RE-based business decisions when VI issues arise
Design and Construction (D&C) Project Managers	<ul style="list-style-type: none"> - provide architect/engineering-based technical support for VI concerns (e.g. – site design and planning knowledge as it relates to VI) - support FES, RE, environmental staff and Law Department site access, VI mitigation system, real estate agreement term development given technical site knowledge - help make the best health and safety and business VI-based considerations, including long-term cost and use analysis
Law Department	<ul style="list-style-type: none"> - work with FES, RE, D&C and environmental staff to ensure optimal VI site access, mitigation, real estate agreement terms - seek cost recovery for third party VI-based damages - consult with other areas of Law Dept., if necessary, on any union/employee, customer, third party or general public VI-based claims - assist with various regulatory agency requests
Maintenance [Field Maintenance Office (FMO)] or Installation Head in non-maintenance capable offices	<ul style="list-style-type: none"> - quickly respond to FSO on FSSP-generated, VI-based calls/problems so that key staff can promptly respond - learn VI guidance and mitigation system basics
Human Resources (Area HR Mgrs. and Their Staff)	<ul style="list-style-type: none"> - work with Installation Head, local management, safety, environmental and/or Facilities staff on any labor

	relations-based VI concerns, particularly matters of safety, medical reporting and/or injury compensation
Finance	<ul style="list-style-type: none">- all Finance Dept. levels, whether District or Area, need to work with Facilities Planning & Approval on planned or unplanned VI-based funding needs- handle all VI budget matters in a timely and thorough manner with any financial justification support from FSO or local environmental staff
Government Relations	<ul style="list-style-type: none">- provide early support and leadership on any VI matter involving a political leader or policy maker- gather key VI facts from staff involved and be the spokesperson for political communications
Corporate Communications	<ul style="list-style-type: none">- provide early support and leadership on any VI matter involving the local news or media- gather key VI facts from staff involved and be the spokesperson for local news or media communications
Inspection Service	<ul style="list-style-type: none">- provide security protection upon request by Installation Head, other facility manager, supervisor or local management

8. Conclusions

Understanding VI issues and knowing how to respond to them are the objectives of this guidance. With the evolving study of VI impacts comes a steady stream of new findings and theories. However, there are a few guidance points that remain consistent for USPS:

- a. Timely response to any VI inquiry is imperative;
- b. There are numerous types of VI inquiries, whether formal or informal, public or private sector-based. They ALL merit serious attention and prompt resolution;
- c. Essential USPS personnel will help ensure successful resolution of VI matters;
- d. VI case recordkeeping is critical and records must be permanently maintained;
and
- e. Health and safety and business-related foresight help make sound VI-related real estate and design and construction decisions.

This guidance will be periodically updated as necessary as regulatory requirements and VI policies and scientific findings continue to develop.

Appendix A – List of Select Agencies with VI Guidance (Sept., 2009)

The following list provides internet vapor intrusion (VI) resources that were selected because they provide information mainly for laypersons seeking VI help. While web site addresses may change, searching for the main agency site, then doing a keyword search under ‘vapor intrusion’ should always yield good resources.

State Agency Resources:

Main sites are listed, then do a keyword search under ‘vapor intrusion’:

New York Dept. of Environmental Conservation - www.dec.ny.gov

New York Dept. of Health – www.health.state.ny.us/

New Jersey Dept. of Environmental Protection – www.state.nj.us/dep

Maryland Dept. of Environmental Protection – www.mde.state.md.us/

Virginia Dept. of Environmental Quality – www.deq.virginia.gov

Massachusetts Dept. of Environmental Protection – www.mass.gov/dep

Indiana Dept. of Environmental Management – www.in.gov/idem/4337

Michigan Dept. of Environmental Quality – www.michigan.gov/deq

California Dept. of Toxic Substances Control - www.dtsc.ca.gov

Alaska Dept. of Environmental Conservation – www.dec.state.as.us/

Federal Agency or Other Resources:

Environmental Protection Agency – www.epa.gov (then keyword search ‘vapor intrusion’)

Interstate Technology and Regulatory Council – www.itrcweb.org/teampublic_vapor.asp

American Society for Testing and Materials – www.astm.org (then keyword search ‘vapor intrusion’)

Brownfields Internet Forum – www.cpeo.org/brownfields/brown.html#vapor

Appendix B1 – Sampling/Investigation Access

Introduction: The following document is offered as an example of a revocable license and consent agreement that provides key terms and requirements for third party vapor intrusion investigation access requests. *The USPS Law Department must always be involved in executing such agreements.*

This specific example is for a leased facility as it includes USPS, the landlord and the third party requesting access (referred to as ‘consultant’ since environmental consulting firms are typically the parties conducting the investigation).

Many of the agreement terms herein will also apply to cases where USPS *owns* the facility. Another scenario may be a case where the landlord *is* the party who needs to do the investigation. For these latter cases, the Law Department typically still requires the agreement since lease terms alone might not fully protect USPS operations interests as a result of the landlord’s investigation.

This example can accommodate any sampling/investigation scope; details would be included as an addendum to the agreement.

REVOCABLE LICENSE AND CONSENT AGREEMENT

THIS REVOCABLE LICENSE AND CONSENT AGREEMENT (“License and Agreement”) is entered into this ____ day of _____, 20__, by and among United States Postal Service (hereinafter “USPS” or “Lessee”), an independent establishment of the Executive Branch of the Government of the United States, and its successors and assignees, (39 U.S.C. § 201), _____ (hereinafter “Owner” or “Lessor”), and _____ (hereinafter “Consultant”).

WITNESSETH:

WHEREAS, on or about _____, the USPS entered into a lease with Lessor, for real property referred to as the _____ located at (hereinafter “USPS Premises”) for a lease term of ____ years beginning ____ and ending _____.

WHEREAS, Consultant has requested permission on behalf of _____ (“_____”) to access the USPS facility for indoor air sampling as part of an ongoing investigation with _____ (agency names) _____; and

WHEREAS, Owner is willing to grant a revocable license and USPS is willing to consent to Owner grant of a revocable license to Consultant and its aforesaid agents, employees, or contractors, to enter said USPS Premises for such purposes herein described, subject to the conditions and restrictions hereinafter set forth.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth and undertaken, the Parties agree as follows:

1. Owner hereby grants to Consultant, its agents, employees or contractors, a License and Agreement, revocable at the will of the Owner and USPS, to enter upon the USPS Premises for the purposes of performing _____ (describe investigation plans) _____ in accordance with the attached scope of work, attached hereto and incorporated herein.

2. USPS hereby consents to Owner’s grant of the License and Agreement as set forth in paragraph 1. However, the USPS consent is conditioned upon the paragraphs, (3) through (17), set forth below.

3. Consultant expressly agrees that all costs associated with performing the activities defined in paragraph 1 of this License and Agreement shall not be the responsibility of Owner or USPS.

4. Consultant shall comply and require its contractors to comply, with all applicable laws, regulations, ordinances, rules, and requirements whatsoever including any governmental authority or court controlling environmental standards and conditions on said USPS Premises and shall furnish satisfactory evidence of such compliance as

required by USPS. Consultant shall not dispose of any contaminated soil or groundwater on the property, nor release on or from the property any hazardous materials or substances.

5. Consultant shall require its contractor and/or Consultant to conduct activities necessary to complete an inspection of the USPS Premises in compliance with the Occupational Safety and Health Act of 1970 and to maintain an accurate record of exposure date and all accidents incident to work performed under this License and Agreement resulting in death, traumatic injury, occupational disease, or damage to property, and the same will be reported to the USPS and Owner.

6. Consultant and Owner, by acceptance of this License and Agreement, each agree, for and on behalf of itself, its consulting firm, agents, servants, employees, invitees or contractors, who may at anytime use, occupy, visit or maintain said USPS Premises that the USPS, its successors and assigns, shall not be responsible for damages or loss to property, injuries, or death, which may arise from or be incident to the use and occupation of the USPS Premises as granted herein to the Consultant, its agents, servants, employees, invitees or contractors under this License and Agreement.

Owner and Consultant agree to defend, indemnify and hold harmless USPS from and against any and all claims, demands, actions, liability, responsibility, and causes of action asserted against USPS for death, injury, loss or damage arising out of Consultant's entry upon the USPS Premises under the terms of this License and Agreement. Consultant expressly accepts and assumes the risk of the current condition of the USPS Premises, and it undertakes the responsibility to inspect the USPS Premises and insure that it is safe for the entry of its agents, employees, and contractors.

7. All work undertaken by Consultant pursuant to this License and Agreement shall be completed by qualified engineers and Consultants. Consultant requires its contractors to carry and maintain workmen's compensation, comprehensive general liability, and commercial automobile insurance policies in the following amounts:

	<u>Bodily Injury</u>	<u>Property Damage</u>
General Liability	\$1,000,000/person \$5,000,000/accident	\$100,000/occurrence \$500,000/aggregate
Automobile Liability	\$100,000/person \$500,000/accident	\$100,000/occurrence \$500,000/aggregate

8. The term of this License and Agreement shall commence on the date first above written and shall continue until terminated by seven days (7) days notice in writing given by either party to the other.

9. USPS representatives shall have the right to be present and observe first-hand all work conducted by Consultant and/or its contractors on the USPS Premises under the License and Agreement. Consultant agrees to provide USPS notice of the date

and time for performance of the work and to work with USPS for a mutually agreeable date and time for performance of the work.

10. Consultant shall be responsible for the operation, maintenance and repair of its equipment and facilities pursuant to the License and Agreement, and any and all costs related thereto, and shall remove all trash and debris caused by Consultant's exercise of its rights under this License and Agreement. Consultant shall repair any defects or damages directly arising from activities conducted under the License and Agreement in a timely manner and upon request by USPS.

11. In accordance with paragraph 17, Consultant agrees to provide the USPS with copies of any written field, analytical and laboratory data, quality assurance and quality control data, environmental tests, studies, or reports resulting from this License and Agreement, including but not limited to information and/or reports submitted to State or Federal regulatory agencies.

12. Consultant shall, at its sole cost and expense, make technical experts available to communicate the results of all investigations and sampling to the USPS. Consultant shall notify USPS' representatives prior to the public release of the results of investigations conducted under this License and Agreement.

13. Consultant agrees that, throughout the duration of this License and Agreement, it shall provide the USPS, its employees, customers, and the public with continual and uninterrupted access to the Postal Facility and that it shall not use the License and Agreement in a manner that unreasonably interferes with USPS operations.

In the event Consultant fails to provide continual and uninterrupted access to the Postal Facility, the USPS has the option of terminating this License and Agreement by providing written notice to Consultant, in accordance with paragraph 8 of this License and Agreement, that the License and Agreement is terminated. Upon receipt of said notice, Consultant has twenty-four (24) hours to remedy the situation. In the event the Consultant fails to provide access to the USPS Premises within the twenty-four (24) hours, said notice of termination shall become final and the License and Agreement is terminated at no cost to USPS.

14. **REMEDICATION**

The Parties agree that this License and Agreement does not authorize Consultant to perform remediation on the USPS Premises in the event contamination is discovered. The Parties agree that any and all remediation shall be performed in accordance with a written agreement that is negotiated in good faith and approved in writing by the USPS, the Owner, and Consultant Official(s) with the appropriate authority. Consultant acknowledges that any remediation determined necessary as a result of activities conducted under this License and Agreement is not the responsibility of USPS and is the responsibility, liability, and expense of Owner and Consultant. Owner and Consultant shall further indemnify and hold harmless the USPS, its officers, employees, agents,

successors and assigns (“USPS Indemnities”), from and against any and all claims, liabilities, losses, obligations, penalties, damages, causes of action, costs and expenses, including but not limited to reasonable legal, accounting, consulting, engineering, and any other expenses incurred by or asserted against USPS Indemnities arising out of or in connection with the activities associated with this License and Agreement.

15. **RESTORATION**

Consultant shall restore any portion of the USPS Premises affected by Consultant’s activities under this License and Agreement to the condition it existed in prior to Consultant’s access. Restoration and repair shall be in compliance with, any and all applicable environmental laws, regulations, standards, and guidelines including but not limited to those established by the _____ (name applicable agencies)_____.

16. **CLAIMS AND DISPUTES**

This Agreement is governed by applicable federal laws.

17. **NOTICES**

Any notice or report provided hereunder shall be given in writing to the party for whom it is intended either in person or by first class mail to the following addresses or to such future addresses as may be designated in writing:

CONSULTANT

Owner

USPS: _____ (specify USPS Contracting Officer name and address)_____

With a copy to: _____ (specify main USPS technical support contact name and address)_____

IN WITNESS WHEREOF, the foregoing instrument was executed by the authorized representatives of the Parties on this ____ day of _____, 20__.

Consultant

By: _____

Name Printed: _____

Title: _____

STATE OF _____

County of _____

On _____, 20____, _____
personally appeared before me, who is personally known to me to be the signer of the
above document, and he/she acknowledge that he/she signed it on behalf of the
_____.

(print name)

NOTARY PUBLIC for the State of _____

Residing at _____,

My Commission Expires: _____

(SEAL)

UNITED STATES POSTAL SERVICE

By: _____

Contracting Officer

STATE OF _____)

) ss.

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of
_____, 20____, by _____, Contracting Officer,
on behalf of the United States Postal Service.

NOTARY PUBLIC

Lessor/Owner

Appendix B2 – Mitigation and Follow-up Access

Introduction: The following document is offered as an example of a revocable license and consent agreement that provides key terms and requirements for third party requests to install vapor intrusion mitigation systems. It also has provisions for third party follow-up investigation to ensure the subject system is operating successfully. *The USPS Law Department must always be involved in executing such agreements.*

This specific example is for a USPS-*owned* facility. Many of the key terms herein will also apply to leased facility scenarios where a third party is responsible for installing the system and conducting any follow-up investigation. Another scenario could be where the landlord is *also* the responsible party who needs to install the mitigation system and conduct follow-up work. For these latter cases, the Law Department typically still requires the agreement since lease terms alone might not fully protect USPS operations interests as a result of the landlord's system installation and follow-up work.

This example can accommodate any mitigation and follow-up scope; details would be included as an addendum to the agreement.

REVOCABLE LICENSE AND CONSENT AGREEMENT

THIS REVOCABLE LICENSE AND CONSENT AGREEMENT (hereinafter “LICENSE AND AGREEMENT”), is made and entered into by and between the United States Postal Service (hereinafter “USPS”), an independent establishment of the Executive Branch of the United States Government, and its successors and assigns, (39 U.S.C. § 201), and _____ (hereinafter “_____”), in accordance with the terms and conditions described herein and contained in the Exhibits, attached hereto and incorporated herein.

WITNESSETH:

WHEREAS, the USPS is the sole fee simple owner of certain real property located at _____ and referred to as the _____ (hereinafter “USPS Premises”).

WHEREAS, USPS Premises is located in close proximity to the former _____ (name potential vapor intrusion [VI] source) _____ that was part of a cleanup that started in _____ pursuant to the directive of _____ (agency names) _____.

WHEREAS, in 20____, _____ sought permission to enter upon USPS property to install a _____ (describe VI mitigation system) _____ (hereinafter ‘mitigation system’) in order to evaluate and mitigate any future migration of the _____ (describe contamination source allegedly causing VI) _____ and to address potential vapor intrusion at the USPS Premises. After installation of the mitigation system, _____ has requested permission to collect interior samples and _____ (describe other follow-up investigation parameters) _____. The scope of work and _____ (describe key mitigation system and follow-up information to be include) _____ is depicted as Appendix A, attached hereto and incorporated herein.

WHEREAS, the purpose of this License and Agreement is to provide _____ with permission to enter the USPS property, install the mitigation system and perform the scope of work and follow-up investigation as defined in this License and Agreement and as detailed in Appendix A.

WHEREAS, the USPS and _____ desire to set forth below their respective rights and obligations for a License and Agreement with respect to the USPS Premises.

AGREEMENTS

NOW, THEREFORE, for and in consideration of the recitals and the mutual agreements that follow, the Parties agree as follows:

1. USPS hereby grants _____, its employees, representatives, agents, or consultants a nonexclusive License, revocable at the will of the USPS to enter onto the USPS Premises for the purpose of installing the mitigation system and conducting follow-up investigation in accordance with Appendix A. However, the USPS grant of said License is conditioned upon the Paragraphs as set forth below.

2. **TERM**

The term of this License and Agreement shall commence on the date first above written and shall continue until unless terminated earlier by either party providing the other party with seven (7) days written notice.

3. _____ expressly agrees that all work conducted under this License and Agreement shall be performed at the sole cost and expense of _____.

4. _____ shall comply and require its contractors and consultants to comply with all applicable laws, regulations, ordinances, rules, and requirements whatsoever including

any governmental authority or court controlling environmental standards and conditions on said property and shall furnish satisfactory evidence of such compliance as required by USPS. _____ shall not dispose of any contaminated soil or groundwater on USPS property, nor release on or from the property any hazardous materials or substances.

5. _____ shall require its contractor and/or consultant to comply with the Occupational Safety and Health Act of 1970 and to maintain an accurate record of exposure date and all accidents incident to work performed under this License and Agreement resulting in death, traumatic injury, occupational disease, or damage to property, and the same will be reported to the USPS.

6. USPS representatives, including but not limited to its environmental consultants, shall have the right to be present and observe first-hand all work conducted by _____ on the property under the License and Agreement. USPS representatives may also collect duplicate sets of samples taken by _____ or their representatives. _____ agrees to provide USPS contacts listed in paragraph 17 a minimum of seven (7) days written notice of the date and time for performance of the work or any planned activity on the property.

7. _____ shall be responsible for the operation, maintenance and repair of its equipment and facilities pursuant to the License and Agreement, and any and all costs related thereto, and shall remove all trash and debris caused by the _____'s exercise of its rights under this License and Agreement. _____ shall repair any defects thereto, immediately, or at such times when requested by USPS.

8. _____ agrees to provide the USPS with copies of any written field, analytical and laboratory data, soil gas measurement samples, indoor air concentration samples, duplicate samples, quality assurance and quality control data, environmental tests, studies, or reports

resulting from this License and Agreement including but not limited to information and/or reports submitted to the State or Federal Regulatory Agencies (hereinafter “Agency Report”).

_____ shall provide USPS with copies of all laboratory and test results within ten (10) days of receipt. Copies shall be sent to USPS contacts listed in paragraph 17.

If after reviewing the copy of the report, the USPS wishes to obtain additional samples from sampling devices (e.g. – sub-slab probes) or install other monitoring device(s), it shall notify _____ within fourteen (14) days from receipt of the copy and _____ and USPS shall arrange for a mutually satisfactory time to conduct the additional sampling. If _____, upon making such arrangement, requests that USPS plan to provide them with duplicate samples, the USPS shall honor that request. Any additional sampling shall be done by a qualified contractor for the USPS at USPS’ sole expense. _____ shall have the right to review and approve the Quality Assurance/Quality Control plan of the USPS’ contractor before such sampling is undertaken. Within sixty (60) days of the date of such testing, USPS shall provide _____ with a copy of all written field, analytical and laboratory data relating to such additional testing conducted by USPS. _____ shall be required to await the results of USPS testing and USPS written approval of any final agency report prior to submission _____ (name agenc[ies])_____.

9. _____ shall at its sole cost and expense make technical experts available to communicate the results of all investigations and sampling to the USPS. _____ shall coordinate the release of their investigation with USPS’ representatives, specifically USPS contacts listed in paragraph 17.

10. _____, by acceptance of this License and Agreement, agrees for and on behalf of itself, its consulting firm, agents, servants, employees, invitees or contractors, who may

at anytime use, occupy, visit or maintain said property that is the subject of this License and Agreement herein created that the USPS, its successors and assigns, shall not be responsible for damages or loss to property, injuries, or death, which may arise from or be incident to the use and occupation of the License and Agreement as granted herein to _____, its agents, servants, employees, invitees, consultants or contractors.

_____ agrees to defend, indemnify and hold harmless USPS from and against any and all claims, demands, actions, liability, responsibility, and causes of action asserted against USPS for death, injury, loss or damage arising out of _____'s entry and work performed on the property under the terms of this License and Agreement. _____ expressly accepts and assumes the risk of the current condition of the property, and agrees to undertake the responsibility to inspect the property and insure that it is safe for the entry of its agents, employees, consultants, and contractors.

The USPS shall not be liable and _____ waives and releases the USPS from all claims for damage to persons or property sustained by _____, or its employees, agents, consultants, servants, invitees, contractors and customers resulting by reason of the use of the License and Agreement.

11. All work undertaken by _____, its contractors, and its consultants pursuant to this License and Agreement shall be completed by qualified engineers and consultants.

_____ or their contractors and consultants shall carry and maintain workmen's compensation and comprehensive public liability insurance policies in the following amounts:

	<u>Bodily injury</u>	<u>Property Damage</u>
General Liability	\$1,000,000/person \$5,000, 000/accident	\$100,000/occurrence \$500, 000/aggregate
Automobile Liability	\$100,000/person \$500,000/accident	\$100,000/occurrence \$500,000/aggregate

12. _____ agrees, throughout the duration of this License and Agreement, to provide the USPS, its employees, customers, and the public with continual and uninterrupted access to the USPS Premises and that _____ shall not use the License and Agreement in a manner that unreasonably interferes with USPS operations.

In the event _____ fails to provide continual and uninterrupted access to the Postal Facility, the USPS has the option of terminating this License and Agreement by providing written notice to _____ that the License and Agreement is terminated. Upon receipt of said notice, _____ shall have forty-eight (48) hours to remedy the situation. In the event _____ fails to provide access to the USPS Premises within the forty-eight (48) hours, said notice of termination shall become final and the License and Agreement is terminated. This remedy is in addition to the termination provision in paragraph 2 above.

13. **REMEDICATION**

The Parties agree that this License and Agreement does not authorize _____ to perform remediation on USPS property in the event contamination is discovered on USPS property. The Parties agree that any and all remediation shall be performed only in accordance with a written agreement that is approved in writing by the USPS official with the appropriate authority. _____ acknowledges that any remediation generated as a result of _____'s License and Agreement on USPS property is the sole responsibility, liability, and expense of _____, not USPS. _____ shall further indemnify and hold harmless the USPS, its officers, employees, agents, successors, and assigns ("USPS Indemnities"), from and against all liabilities, claims, losses, obligations, damages, penalties, causes of action, costs, and expenses, including, without limitation, reasonable legal, accounting, consulting,

engineering, expert fees, and other expenses incurred by or asserted against any of the USPS Indemnities by any other party or parties (including, without limitation, a governmental entity), arising out of, in connection with, or relating to _____'s activities associated with this License and Agreement.

14. **INSTALLATION, RESTORATION AND MAINTENANCE**

_____ shall restore any affected portion of the property to the condition it existed prior to _____'s access and installation of the mitigation system to the satisfaction of the USPS. Restoration includes but is not limited to fully sealing and repairing damage to the slab and/or foundation cracks and does not include the mitigation system permanent components.

_____ shall ensure that any asbestos-containing material, lead-based painted material, mold-impacted areas or otherwise compromised materials are properly handled and restored as part of the mitigation system installation. _____ shall ensure that all building systems, including but limited to HVAC and electrical systems, are not impacted or compromised by mitigation system installation. _____ is solely responsible for adjusting or upgrading any building system in order to install the mitigation system.

_____ shall be solely liable for mitigation system maintenance and shall correct any mitigation system malfunction within twenty-four (24) hours of notice by USPS or _____ or their representatives. Should USPS desire air monitoring during the course of system repair to ensure that the building may remain safely occupied, _____ must solely provide and pay for those oversight services.

15. **CLAIMS AND DISPUTES**

This Agreement is governed by applicable federal law.

16. **AUTHORIZATION**

The undersigned parties hereby warrant and represent that all necessary actions to duly approve the execution, delivery, and performance of this License and Agreement have been taken and this License and Agreement constitutes a valid and binding agreement of the parties enforceable in accordance with its terms.

17. **NOTICES**

Any notice hereunder shall be given in writing to the party for whom it is intended in person or by certified mail to the following addresses or such future addresses as may be designated in writing:

_____ (name third party; can also include their consultant) _____

USPS: _____ (specify USPS Contracting Officer name and address) _____

With a copy to: _____ (specify main USPS technical support contact name and address) _____

IN WITNESS WHEREOF, the parties have signed this License and Agreement as of the day and year indicated below.

Executed by, this ____ day of _____, 20__

United States Postal Service (USPS) Statement of Work (SOW)
Preliminary Investigation of Vapor Intrusion (VI) [9/09]
(Appendix C1 to USPS Vapor Intrusion Guidance)

1.0 Background

Vapor intrusion (VI), caused when indoor air quality is compromised by vapors emitted from contaminated soil and/or groundwater, is an emerging health and safety and business concern for USPS. As regulatory agencies continue to develop formal requirements and less formal guidance on how to handle VI investigation, this SOW provides a basic framework to help make USPS preliminary VI investigations consistent and of the best quality.

This SOW does not cover radon or other indoor air quality concerns (e.g. – HVAC-related or operations-based air quality complaints). The focus is on either formal or informal requests for USPS to specifically investigate VI concerns.

1.1 Rationale for Technical Assistance

VI investigation is a specialized field that requires the expertise of an ‘industrial hygiene (IH) consulting firm’. This term applies to USPS ‘general environmental’ consulting firms provided that they have adequate IH resources. Particular health and safety-related VI understanding and federal, state and local regulatory knowledge is critical to proper VI investigation. The IH consulting firm must also analyze the situation and findings and determine appropriate response. Said firms must also have the required professional and liability insurance.

This SOW is structured to provide a task order-type professional services contract for consultative assistance to USPS, whether on a national or local basis.

2.0 Requirements

2.1 General Requirements

2.1.1 The IH consulting firm shall supply necessary personnel, material and all other resources necessary for or incident to the performance of the assigned tasks. A Certified Industrial Hygienist (CIH) must be consulted for basis and analysis of investigation results and final recommendations.

2.1.2 The IH consulting firm shall be held liable for conducting all work in compliance with applicable federal, state and local regulations, including but not limited to Occupational Safety and Health Act and environmental protection regulations. Methods and recommendations shall also be consistent with all applicable federal, state and local laws and Postal Service policy and guidance in effect at the time of the final report.

2.1.3 All materials gathered, provided and/or developed in the performance of this contract will be the sole property of USPS. Public release of contract-generated reports and materials require written approval of the Postal Service Contracting Officer (CO).

2.1.4 In addition to hard copy final reports, information shall be delivered to USPS under this contract in the form of electronic media as determined by the Contracting Officer's Representative (COR). Such media shall be free from viruses prior to delivery; this requirement also applies to any sub-contracted services.

2.1.5 The IH consulting firm must have the ability to issue and manage subcontractors for any task or sub-task within this SOW.

2.2 Specific Requirements for Task Orders

Performance will require short-term studies of days to months as specified in individually priced and funded tasks that may be ordered by the CO in accordance with the ordering procedures established elsewhere in the IH consulting firm's contract. All tasks will be within the general scope of task areas described herein, but tasks will be modified on a case-specific basis between COR and IH consulting firm interaction. At the COR's direction, tasks may be further modified by interaction with the party requesting the subject investigation (e.g. – a regulatory agency, party responsible for contamination and/or their consultant). Sampling plans may include sole sampling on behalf of USPS, or side-by-side cases where coordination with an outside party is required.

2.2.1 Prior to VI investigation, the IH consulting firm must perform the following employee/management outreach tasks:

2.2.1.1 Initiate verbal contact with the Installation Head to inform them as to what will take place, request local facility escort as required, and coordinate the investigation schedule. The initial contact shall be followed by written correspondence to the Installation Head, with a copy to the COR, no later than ten (10) days prior to the investigation to confirm the schedule and plans.

2.2.1.2 Coordinate with the Installation Head to conduct a pre-sampling indoor facility inspection to evaluate: physical building and site layout; building and site conditions; and identify and correct any conditions that may affect or interfere with VI investigation (e.g. – consumer products such as cleaners, paints and glues, activities such as food preparation and certain construction materials can interfere with indoor air sampling results).

2.2.1.3 Conduct up to a one-hour, on-site briefing with the Installation Head (and other local management as determined by the Installation Head) prior to the initiation of the VI investigation. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management meeting. The IH consulting firm will be responsible for completing

meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.1.4 Once the management meeting has been accomplished, a meeting with that personnel plus employees, Human Resources and union representatives will be conducted prior to initiation of the VI investigation. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management/employee/union meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.2 Prior to VI investigation, the IH consulting firm must perform the following investigation tasks:

2.2.2.1 Review all relevant USPS records, federal, state and local regulatory database and case file information, if available, in order to best plan the VI investigation. The IH consulting firm must consider any pre-existing data that is helpful to the VI investigation interpretation of results, including but not limited to: site-specific sampling data of air, soil and/or water; local, typical indoor air quality background concentrations for chemicals of concern; and any geographic, ambient air data or findings.

2.2.2.2 Upon consultation with the COR, appropriate staff, public parties (e.g. – regulatory agencies) and/or private sector entities involved with the basis of the VI investigation will be interviewed in order to ensure that the VI investigation is properly planned and executed.

At no time during this task is the IH consulting firm to discuss the VI investigation with any non-USPS private or public sector entity without first consulting the COR.

2.2.2.3 The IH consulting firm's case-specific VI sampling plan must be based on the best methodology, locations and frequency and all sampling instruments must be properly calibrated.

2.2.2.4 A site and project-specific health and safety (H&S) plan must be developed by the IH consulting firm and submitted to the COR within ten (10) work days prior to the start of the VI investigation. H&S concerns must be thoroughly addressed by the IH consulting firm in accordance with USPS Contractor Health and Safety Guidelines (EL-800), including viewing of the COR-supplied USPS contractor safety video.

2.2.2.5 Obtain any as-built drawings, site plans or other relevant design and construction-related drawings to guide and depict VI-based sampling plans.

2.2.2.6 Verify the presence of any asbestos-containing material, lead-based paint, mold-impacted materials or otherwise environmentally compromised material (i.e. – can't be handled safely without abatement or treatment) so that such areas are not impacted by VI sampling plans.

While it should be avoided, if invasive VI sampling is required as determined after consultation with the COR, environmentally compromised materials must first be abated or treated in accordance with federal, state and local regulations and applicable USPS policy and guidance.

2.2.2.7 Provide all federally, state or locally required VI-based certifications and/or training records to the COR at least ten (10) work days prior to the start of the VI investigation.

2.2.2.8 Consult with the COR on the appropriate laboratory sampling results turnaround time and costs prior to submission of the IH consulting firm's task order proposal as this requirement can vary on a case-specific basis. Further negotiate any expedited draft or final report schedule with the COR.

2.2.2.9 Coordinate the required level of CIH involvement with the COR prior to submission of the task order. The CIH will either conduct tasks or IH staff will conduct tasks under the direct supervision of the CIH. As mentioned in section 2.1.1, the CIH must be consulted for basis and analysis of investigation results.

2.2.3 During the VI investigation, the IH consulting firm must perform the following tasks:

2.2.3.1 Use relevant federal, state and local requirements and USPS policy and guidance to conduct the VI investigation.

2.2.3.2 As determined in consultation with the COR (with key USPS support staff), conduct ambient air sampling during any intrusive VI-based sampling, such as sub-slab work that requires holes in flooring.

2.2.3.3 Accurately depict all sampling locations and photos (see section 2.2.3.5) on a detailed site plan, preferably electronically drawn (with scale, north arrows and title blocks). If there is some reason the plan must be hand-drawn, this option must first be approved by the COR.

2.2.3.4 Do not conduct any destructive sampling or otherwise harm materials as detailed in section 2.2.2.6. Should conditions change during actual sampling and destructive or intrusive sampling points are required, COR approval is first required (COR to coordinate with Installation Head).

2.2.3.5 Log digital photos by ID number to document the VI investigation. Match photos on the site plan with a detailed photo log.

2.2.3.6 Use quality assurance/quality control (QA/QC) protocols as defined by the IH consulting firm's requirements and any federal, state and local requirements.

2.2.3.7 The IH consulting firm will only stop work at the direction of the COR, unless the Installation Head determines some major health and safety and/or continuity of operations impact by the VI investigation. The IH consulting firm will immediately contact the COR should such conditions be alleged.

2.2.4 Post-VI investigation requirements of the IH consulting firm are:

2.2.4.1 Restore site to pre-investigation conditions including but not limited to: return of any equipment or fixtures to their original locations; removal of sampling/investigation equipment and materials; and full clean up of sampling/investigation areas.

2.2.4.2 Any areas of intrusive or destructive sampling/investigation must be restored to their original condition. For example, sub-slab samples shall require immediate and full patching and restoration so that vapor entry is not a concern. Further, any environmentally compromised areas (e.g. – asbestos or lead-containing) will be restored to their original appearance as approved by the COR (e.g. – new, non-asbestos replacement flooring or non-lead-containing paint will be as close to original finishes as possible).

2.2.4.3 Meet with Installation Head (and local management as determined by the Installation Head) for up to one hour to review the VI investigation and discuss any questions or concerns prior to the IH consulting firm vacating the facility. This meeting must be attended by the IH consulting firm's CIH. The COR must have two (2) work days prior notice of this exit meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.4.4 Ensure that all samples follow proper chain of custody and are sent to properly certified laboratories.

3.0 Deliverables

3.1 VI Investigation Report ('report')

3.1.1 A draft VI investigation report will be forwarded to the COR within twenty (20) calendar days of completion of the VI investigation, unless an alternate due date is already negotiated with the COR. COR and the IH consulting firm might also negotiate an initial teleconference or email summary of investigation findings immediately after completion of the investigation work. The COR will share the draft report with key USPS support staff and coordinate all comments to send one revised version to the IH consulting firm. In coordination with the COR, the IH consulting firm must also be able to respond to employee requests for exposure records within fifteen (15) days of data collection. All VI sampling results are considered employee exposure records.

With COR approval, the draft VI report will be sent electronically, with the contents mentioned below, with the exception of any non-essential Appendices/Attachments.

Final report contents include, but are not limited to, the following sections in this order:

- Executive Summary (must be able to act as stand alone document with details on the report's purpose, methods, results, conclusions and recommendations)
- Introduction (includes building and site description)
- Background (includes the basis of the VI investigation)
- Pre-investigation (includes meeting summaries; building reconnaissance)
- VI Investigation Details (includes sampling methods; protocols)
- VI Investigation Results (includes sampling text, charts or chart references; addresses interpretation of results as they relate to applicable regulations, policies and guidance)
- Post-investigation Conclusions and Recommendations (includes detailed options on what can be done to address VI investigation findings, with cost and operations considerations. Information on: type(s) of VI mitigation systems; level of maintenance; maintenance schedule; reliability; and level and frequency of follow up indoor air sampling must be provided. *Cost information may be provided as separate correspondence at the direction of the COR*)
- Special Considerations (includes any unique planning, regulatory, cost or USPS issues that need to be isolated as they could significantly alter follow up plans)
- Appendices/Attachments:
 - site plan with photo and sampling ID
 - any critical maps, aerial photos and/or database information
 - photos and detailed log
 - laboratory certification, chain of custody and results information
 - key IH consulting firm staff resumes (e.g. – CIH, IH technicians)

3.1.2 Four (4) hard copies of the report will be forwarded to the COR within no more than thirty (30) calendar days of completion of the VI investigation, unless an alternate due date is already negotiated with the COR. An electronic copy as detailed in section 2.1.4 may also be provided to the COR. Copies of reports should be distributed by the COR and go to: 1. the facility that is the subject of the VI investigation; 2. the COR's project file (with any electronic media – e.g. – disks); 3. the assigned Environmental Compliance and Risk Mitigation Specialist; and 4. the Facilities Environmental Specialist (FES) assigned to the respective Facilities Service Office (FSO).

3.1.3 The IH consulting firm shall maintain at their place of business an archived copy of the VI investigation report, including all text, attachments and appendices in electronic format. USPS shall be notified within ten (10) work days of any plans to discard said report copies.

United States Postal Service (USPS) Statement of Work (SOW)
Investigation of Vapor Intrusion (VI) with Limited Human Health Risk
Assessment [9/09]
(Appendix C2 to USPS Vapor Intrusion Guidance)

1.0 Background

Vapor intrusion (VI), caused when indoor air quality is compromised by vapors emitted from contaminated soil and/or groundwater, is an emerging health and safety and business concern for USPS. As regulatory agencies continue to develop formal requirements and less formal guidance on how to handle VI investigation, this SOW provides a basic framework to help make USPS preliminary VI investigations and limited human health risk assessments consistent and of the best quality.

Further, this SOW includes specifications for a limited human health risk assessment (hereinafter ‘risk assessment’) based on preliminary investigation results. The term ‘limited’ is based on any pre-existing information and results of the VI investigation versus long-term analysis of data trends for a more elaborate risk assessment. This combined effort of preliminary investigation and limited risk assessment may suffice for USPS decision-making in many potential VI cases. For instances where a more intensive human health risk assessment is required, USPS will develop a case-specific, detailed plan and report with a hired consultant and other consulting parties as appropriate.

USPS does not offer a stand-alone SOW for a *limited* VI risk assessment as it is so intrinsically connected to the VI investigation. However, USPS may opt to have the risk assessment report separate from the VI investigation report.

This SOW does not cover radon or other indoor air quality concerns (e.g. – HVAC-related or operations-based air quality complaints). The focus is on either formal or informal requests for USPS to specifically investigate and assess VI concerns.

1.1 Rationale for Technical Assistance

VI investigation and human health risk assessment is a specialized field that requires the expertise of an ‘industrial hygiene (IH) consulting firm’. This term applies to USPS ‘general environmental’ consulting firms provided that they have adequate IH resources. Particular health and safety-related VI understanding and federal, state and local regulatory knowledge is critical to proper VI investigation and determination of any potential human health risk. The IH consulting firm must also analyze the situation and findings and determine appropriate response. Said firms must also have the required professional and liability insurance.

This SOW is structured to provide a task order-type professional services contract for consultative assistance to USPS, whether on a national or local basis.

2.0 Requirements

2.1 General Requirements

2.1.1 The IH consulting firm shall supply necessary personnel, material and all other resources necessary for or incident to the performance of the assigned tasks. A certified industrial hygienist (CIH) must be consulted for basis and analysis of investigation results and the risk assessment and final recommendations.

2.1.2 The IH consulting firm shall be held liable for conducting all work in compliance with applicable federal, state and local regulations, including but not limited to Occupational Safety and Health Act and environmental protection and human health regulations. Methods and recommendations shall also be consistent with all applicable federal, state and local laws and Postal Service policy and guidance in effect at the time of the final report.

2.1.3 All materials gathered, provided and/or developed in the performance of this contract will be the sole property of USPS. Public release of contract-generated reports and materials require written approval of the Postal Service Contracting Officer (CO).

2.1.4 In addition to hard copy final reports, information shall be delivered to USPS under this contract in the form of electronic media as determined by the Contracting Officer's Representative (COR). Such media shall be free from viruses prior to delivery; this requirement also applies to any sub-contracted services.

2.1.5 The IH consulting firm must have the ability to issue and manage subcontractors for any task or sub-task within this SOW.

2.2 Specific Requirements for Task Orders:

Performance will require short-term studies of days to months as specified in individually priced and funded tasks that may be ordered by the CO in accordance with the ordering procedures established elsewhere in the IH consulting firm's contract. All tasks will be within the general scope of task areas described herein, but tasks will be modified on a case-specific basis between COR and IH consulting firm interaction. At the COR's direction, tasks may be further modified by interaction with the party requesting the subject investigation (e.g. – a regulatory agency, party responsible for contamination and/or their consultant). Sampling plans may include sole sampling on behalf of USPS, or side-by-side cases where coordination with an outside party is required.

2.2.1 Prior to VI investigation, the IH consulting firm must perform the following employee/management outreach tasks:

2.2.1.1 Initiate verbal contact with the Installation Head to inform them as to what will take place, request local facility escort as required, and coordinate the investigation schedule. The initial contact shall be followed by written correspondence to the Installation Head, with a copy to the COR, no later than ten (10) days prior to the investigation to confirm the schedule and plans.

2.2.1.2 Coordinate with the Installation Head to conduct a pre-sampling indoor facility inspection to evaluate: physical building and site layout; building and site conditions; and identify and correct conditions that may affect or interfere with VI investigation (e.g. – consumer products such as cleaners, paints and glues, activities such as food preparation and certain construction materials can interfere with indoor air sampling results).

2.2.1.3 Conduct up to a one-hour, on-site briefing with the Installation Head (and other local management as determined by the Installation Head) prior to the initiation of the VI investigation. At this time, the concept of the limited risk assessment must also be explained, particularly since the IH consulting firm will likely have detailed questions on facility hours and methods of operations in order to complete the risk assessment. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.1.4 Once the management meeting has been accomplished, a meeting with that personnel plus employees, Human Resources and union representatives will be conducted prior to initiation of the VI investigation. This briefing shall include a description of the investigation plans and a basic description of the risk assessment plans. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management/employee/union meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.2 Prior to VI investigation and risk assessment, the IH consulting firm must perform the following investigation tasks:

2.2.2.1 Review all relevant USPS records, federal, state and local regulatory database and case file information, if available, in order to best plan the VI investigation and risk assessment. The IH consulting firm must consider any pre-existing data that is helpful to the risk assessment, including but not limited to: site-specific sampling data of air, soil and/or water; disease or impairment-related regional data (e.g. – cancer incidence data); employee health data with USPS Medical Department release approval (through the COR); local, typical indoor air quality background concentrations for chemicals of concern; and any geographic, ambient air data or findings.

2.2.2.2 Upon consultation with the COR, appropriate staff, public parties (e.g. – regulatory agencies) and/or private sector entities involved with the basis of the VI investigation and risk assessment will be interviewed in order to ensure that the VI investigation and risk assessment are properly planned and executed.

At no time during this task is the IH consulting firm to discuss the VI investigation and/or risk assessment with any non-USPS private or public sector entity without first consulting the COR.

2.2.2.3 The IH consulting firm's case-specific VI sampling plan must be based on the best methodology, locations and frequency and all sampling instruments must be properly calibrated.

2.2.2.4 A site and project-specific health and safety (H&S) plan must be developed by the IH consulting firm and submitted to the COR within ten (10) work days prior to the start of the VI investigation. H&S concerns must be thoroughly addressed by the IH consulting firm in accordance with USPS Contractor Health and Safety Guidelines (EL-800), including viewing of the COR-supplied USPS contractor safety video.

2.2.2.5 Obtain any as-built drawings, site plans or other relevant design and construction-related drawings to guide and depict VI-based sampling plans.

2.2.2.6 Verify the presence of any asbestos-containing material, lead-based paint, mold-impacted materials or otherwise environmentally compromised material (i.e. – can't be handled safely without abatement or treatment) so that such areas are not impacted by VI sampling plans.

While it should be avoided, if invasive VI sampling is required as determined after consultation with the COR, environmentally compromised materials must first be abated or treated in accordance with federal, state and local regulations and applicable USPS policy and guidance.

2.2.2.7 Provide all federally, state or locally required VI-based certifications and/or training records to the COR at least ten (10) work days prior to the start of the VI investigation.

2.2.2.8 Consult with the COR on the appropriate laboratory sampling results turnaround time and costs prior to submission of the IH consulting firm's task order proposal as this requirement can vary on a case-specific basis. Further negotiate any expedited draft or final report schedule with the COR.

2.2.2.9 Coordinate the required level of CIH involvement with the COR prior to submission of the task order. The CIH will either conduct tasks or IH staff will conduct tasks under the direct supervision of the CIH. As mentioned in section 2.1.1, the CIH must be consulted for basis and analysis of investigation results and the risk assessment.

2.2.3 During the VI investigation and risk assessment, the IH consulting firm must perform the following tasks:

2.2.3.1 Use relevant federal, state and local requirements and USPS policy and guidance to conduct the VI investigation and risk assessment. Since VI requirements and guidance vary so much by agency, the IH consulting firm shall first consult with the COR on the best investigation and risk assessment parameters in order to develop meaningful risk

assessment conclusions and recommendations. The COR will work with key USPS personnel on this technical effort.

2.2.3.2 As determined in consultation with the COR (with key USPS support staff), conduct ambient air sampling during any intrusive VI-based sampling, such as sub-slab work that requires holes in flooring.

2.2.3.3 Accurately depict all sampling locations and photos (see section 2.2.3.5) on a detailed site plan, preferably electronically drawn (with scale, north arrows and title blocks). If there is some reason the plan must be hand-drawn, this option must first be approved by the COR.

2.2.3.4 Do not conduct any destructive sampling or otherwise harm materials as detailed in section 2.2.2.6. Should conditions change during actual sampling and destructive or intrusive sampling points are required, COR approval is first required (COR to coordinate with Installation Head).

2.2.3.5 Log digital photos by ID number to document the VI investigation. Match photos on the site plan with a detailed photo log.

2.2.3.6 Use quality assurance/quality control (QA/QC) protocols as defined by the IH consulting firm's requirements and any federal, state and local requirements.

2.2.3.7 The IH consulting firm will only stop work at the direction of the COR, unless the Installation Head determines some major health and safety and/or continuity of operations impact by the VI investigation. The IH consulting firm will immediately contact the COR should such conditions be alleged.

2.2.4 Post-VI investigation requirements of the IH consulting firm are:

2.2.4.1 Restore site to pre-investigation conditions including but not limited to: return of any equipment or fixtures to their original locations; removal of sampling/investigation equipment and materials; and full clean up of sampling/investigation areas.

2.2.4.2 Any areas of intrusive or destructive sampling/investigation must be restored to their original condition. For example, sub-slab samples shall require immediate and full patching and restoration so that vapor entry is not a concern. Further, any environmentally compromised areas (e.g. – asbestos or lead-containing) will be restored to their original appearance as approved by the COR (e.g. – new, non-asbestos replacement flooring or non-lead-containing paint will be as close to original finishes as possible).

2.2.4.3 Meet with Installation Head (and local management as determined by the Installation Head) for up to one hour to review the VI investigation and discuss any questions or concerns prior to the IH consulting firm vacating the facility. This meeting must be attended by the IH consulting firm's CIH. The COR must have two (2) work

days prior notice of this exit meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.4.4 Ensure that all samples follow proper chain of custody and are sent to properly certified laboratories.

2.2.5 Risk assessment requirements of the IH consulting firm are:

2.2.5.1 In early consultation with the COR, the IH consulting firm's CIH will determine the particular elements to be evaluated for risk levels. The COR will work with key USPS personnel on this technical effort. Where risk analysis methods and parameters are uncertain (e.g. – TCE), the CIH will work with the COR and his/her USPS support staff to develop the most reliable means of analysis, all in accordance with applicable regulations and USPS policy and guidance.

2.2.5.2 The CIH, with help of IH consulting firm staff as needed, will assess specific patterns, times, habits and occupancy levels of human subjects to be considered in the risk assessment. This information will be coupled with a thorough assessment of building conditions as detailed in section 2.2.1.2.

2.2.5.3 Where there is potential for exposure to two or more elements that may impact the same organs/systems or cause the same disease or impairment, the CIH shall calculate potential risk for this 'synergistic' interaction.

2.2.5.4 Risk analysis shall include comparison of all selected, published occupational exposure limits to the limit of analytic detection for each sampling result. Where there are no such published limits, the CIH shall determine acceptable risk based on a conservative analysis of available data in conjunction with the best available risk assessment standards for that chemical of concern, or combination thereof.

2.2.5.5 In addition to a detailed narrative on risk assessment methods (see section 3.1.1), the CIH shall clearly describe results of the risk analysis and how they relate to the specific occupants' health and safety for long- and short-term interests. The CIH must also specify what and how conditions, if any, might alter future risk potential (e.g. – proposed building alterations; change in level of use; change in original VI source plume conditions).

2.2.5.6 Conclusions and recommendations must be authored by, or with the oversight of, the CIH and shall include detailed guidance on methods to protect human health and safety given the risk assessment results. While detailed information on further investigation might be appropriate, a simple directive to conduct additional sampling will not be acceptable to USPS. Conclusions and recommendations shall read more like specifications in their level of detail. *Detailed cost information to implement IH*

consulting firm recommendations will also be included in the main report or by separate correspondence at the direction of the COR.

3.0 Deliverables

3.1 VI Investigation Report and Limited Human Health Risk Assessment ('report'):

3.1.1 A draft report will be forwarded to the COR within twenty (20) calendar days of completion of the VI investigation and limited risk assessment, unless an alternate due date is already negotiated with the COR. COR and the IH consulting firm may also negotiate an initial teleconference or email summary of investigation/risk assessment findings immediately after completion of the work. The COR will share the draft report with key USPS support staff and coordinate all comments to send one revised version to the IH consulting firm. In coordination with the COR, the IH consulting firm must also be able to respond to any employee request for exposure records within fifteen (15) days of data collection. All VI sampling results are considered employee exposure records.

With COR approval, the draft report will be sent electronically, with the contents mentioned below, with the exception of any non-essential Appendices/Attachments.

Final report contents include, but are not limited to, the following sections in this order:

Executive Summary (must be able to act as stand alone document with details on the report's purpose, methods, results, conclusions and recommendations)

Introduction (includes building and site description)

Background (includes the basis of the VI investigation and limited risk assessment)

Pre-investigation (includes meeting summaries; building reconnaissance; special conditions or precautions)

VI Investigation Section:

- VI Investigation Details (includes sampling methods; protocols)

- Results (includes sampling text, charts or chart references; addresses interpretation of results as they relate to applicable regulations, policies and guidance)

- Investigation-specific Conclusions and Recommendations (provided risk assessment results are acceptable with or without facility modifications, includes detailed options on what can be done to address VI investigation findings, with cost and operations considerations. Information on: type(s) of VI mitigation systems; level of maintenance; maintenance schedule; reliability; and level and frequency of follow up indoor air sampling must be provided. *Cost information may be provided as separate correspondence at the direction of the COR*)

- Investigation-specific Special Considerations (includes any unique planning, regulatory, cost or USPS issues that need to be isolated as they could significantly alter follow up plans)

Limited Risk Assessment Section (can be a separate report as mentioned in section 1.0):

- Methodology and Rationale (includes description of how factors such as physical building and site condition, and type and level of occupancy were considered in risk analysis. Includes justification of selected risk analysis parameters)
- Results (includes detailed analysis of synergistic and/or long- and short-term effects to human health; includes a layperson's summary of such findings)
- Limited Risk Assessment-specific Conclusions and Recommendations (specifies whether or not occupancy can be safely considered or continued and under what, if any, special conditions or modifications)
- Limited Risk Assessment-specific Special Considerations (includes any unique planning, regulatory, cost or USPS issues that need to be isolated as they could significantly alter follow up plans)

Report Conclusions and Recommendations (combines entire report findings into one, brief guidance section for USPS; highlights any special concerns or considerations)

- Appendices/Attachments:

- site plan with photo and sampling ID
- any critical maps, aerial photos and/or database information
- photos and detailed log
- laboratory certification, chain of custody and results information
- sampling result chart w/ exposure limit comparison
- any other illustrative information to help with risk assessment as agreed by COR
- key IH consulting firm staff resumes (e.g. – CIH, IH technicians)

3.1.2 Four (4) hard copies of the report will be forwarded to the COR within no more than thirty (30) calendar days of completion of the VI investigation and risk assessment, unless an alternate due date is already negotiated with the COR. An electronic copy as detailed in section 2.1.4 may also be provided to the COR. Copies of reports should be distributed by the COR and go to: 1. the facility that is the subject of the VI investigation and risk assessment; 2. the COR's project file (with any electronic media – e.g. – disks); 3. the assigned Environmental Compliance and Risk Mitigation Specialist; and 4. the Facilities Environmental Specialist (FES) assigned to the respective Facilities Service Office (FSO).

3.1.3 The IH consulting firm shall maintain at their place of business an archived copy of the VI investigation report and limited risk assessment, including all text, attachments and appendices in electronic format. USPS shall be notified within ten (10) work days of any plans to discard said report copies.

United States Postal Service (USPS) Statement of Work (SOW)
Oversight of Vapor Intrusion (VI) Mitigation System Installation [9/09]
(Appendix C3 to USPS Vapor Intrusion Guidance)

1.0 Background

Vapor intrusion (VI), caused when indoor air quality is compromised by vapors emitted from contaminated soil and/or groundwater, is an emerging health and safety and business concern for USPS. This SOW focuses on steps to oversee VI mitigation system installation ('system') so that human health and safety and USPS operations interests are thoroughly addressed.

This SOW exclusively involves VI matters and does not cover oversight of radon mitigation system installation or mitigation oversight of other indoor air quality concerns (e.g. – HVAC-related or operations-based air quality complaints).

1.1 Rationale for Technical Assistance

VI mitigation and related monitoring is a specialized field that requires the expertise of an 'industrial hygiene (IH) consulting firm'. This term applies to USPS 'general environmental' consulting firms provided that they have adequate IH resources. Particular health and safety-related VI understanding and federal, state and local regulatory knowledge is critical to proper oversight of VI system installation. An understanding of indoor air quality science and requirements as they relate to occupational health and safety are paramount to such oversight.

The IH consulting firm must be able to analyze the system's design and performance. The firm must provide USPS with conclusions and recommendations to protect human health and USPS operations interests. Said firms must also have the required professional and liability insurance.

This SOW is structured to provide a task order-type professional services contract for consultative assistance to USPS, whether on a national or local basis.

2.0 Requirements

2.1 General Requirements

2.1.1 The IH consulting firm shall supply necessary personnel, material and all other resources necessary for or incident to the performance of the assigned tasks. A Certified Industrial Hygienist (CIH) must be consulted for: analysis of system design; installation methods; and future operations, maintenance and monitoring needs, including the need for any follow up indoor air quality sampling.

2.1.2 The IH consulting firm shall be held liable for conducting all work in compliance with applicable federal, state and local regulations, including but not limited to Occupational Safety and Health Act and environmental protection and human health

regulations. Methods and recommendations shall also be consistent with all applicable federal, state and local laws and Postal Service policy and guidance in effect at the time of the final report.

2.1.3 All materials gathered, provided and/or developed in the performance of this contract will be the sole property of USPS. Public release of contract-generated reports and materials require written approval of the Postal Service Contracting Officer (CO).

2.1.4 In addition to hard copy final reports, information shall be delivered to USPS under this contract in the form of electronic media as determined by the Contracting Officer's Representative (COR). Such media shall be free from viruses prior to delivery; this requirement also applies to any sub-contracted services.

2.1.5 The IH consulting firm must have the ability to issue and manage subcontractors for any task or sub-task within this SOW.

2.2 Specific Requirements for Task Orders:

Performance will require short-term studies of days to months as specified in individually priced and funded tasks that may be ordered by the CO in accordance with the ordering procedures established elsewhere in the IH consulting firm's contract. All tasks will be within the general scope of task areas described herein, but tasks will be modified on a case-specific basis between COR and IH consulting firm interaction.

At no time during this task is the IH consulting firm to discuss any aspect of the VI matter with any non-USPS private or public sector entity without first consulting the COR.

2.2.1 Prior to system installation oversight, the IH consulting firm must perform the following work, including but not limited to, employee/management outreach tasks:

2.2.1.1 Review all relevant, available records from the party allegedly responsible for the VI concern and system installation, USPS records, federal, state and local regulatory database and case file information, if available, in order to best plan the system installation oversight.

Oversight will include, but is not limited to: analysis of system design and installation plans; maintenance and operation requirements (e.g. – power demand); and follow up indoor air sampling needs to ensure human health and safety (short- and long-term) and continuity of USPS operations. Analysis will include confirmation that the system is contracted, designed and planned in accordance with all applicable federal, state and local regulations and Postal Service policy and guidance.

The CIH will consult with the COR (who will also consult with key USPS support staff) on an indoor air sampling plan during system installation. Any intrusive system installation work that will impact the building envelope and could increase vapors (e.g. –

building slab disturbance) will require indoor air monitoring until such disturbance is fully sealed.

2.2.1.2 Review proposed system installation plans and any other case-specific VI information with the COR. COR will coordinate this review with key USPS support staff. With COR approval, coordinate system installation plans and schedule with any internal or external parties responsible for system installation. Every attempt must be made to schedule system installation during non-working hours for the subject facility, likely weekends and holidays. Parties involved with system installation could include, internally, facility management and environmental and safety staff and, externally, the party allegedly responsible for VI concern and/or their consultants and regulatory agencies.

2.2.1.3 Initiate verbal contact with the Installation Head to inform them as to what will take place, request local facility escort as required, and confirm system installation oversight schedule. The initial contact shall be followed by written correspondence to the Installation Head, with a copy to the COR, no later than ten (10) days prior to system installation to confirm the schedule and plans.

2.2.1.4 Coordinate with the Installation Head to conduct a pre-oversight indoor facility inspection to evaluate: physical building and site layout; building and site conditions; and identify and correct conditions that may affect or interfere with indoor air sampling during system installation (e.g. – consumer products such as cleaners, paints and glues, activities such as food preparation and certain construction materials can interfere with indoor air sampling results).

2.2.1.5 Conduct up to a one-hour, on-site briefing with the Installation Head (and other local management as determined by the Installation Head) prior to the initiation of system installation oversight. At this time, VI mitigation plans and system design, operations and future maintenance and monitoring needs must be explained. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

At the direction of the COR, the IH consulting firm will include the system installation contractor and any other consulting firm involved with system installation at this meeting (e.g. – consultant to party allegedly responsible for VI concern).

2.2.1.6 Once the management meeting has been accomplished, a meeting with that personnel plus employees, Human Resources and union representatives will be conducted prior to initiation of system installation oversight. At the direction of the COR, the IH consulting firm will include the system installation contractor, any other consulting firm involved with system installation at this meeting (e.g. – consultant to party allegedly responsible for VI concern) and representatives of other internal or external parties involved with the VI matter.

This briefing shall include a description of VI mitigation plans and system design, operations and future maintenance and monitoring needs. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management/employee/union meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.1.7 The IH consulting firm's case-specific system installation oversight plan (includes an indoor air sampling plan) must be based on the best methodology, locations and frequency and all indoor air sampling instruments must be properly calibrated.

2.2.1.8 A site and project-specific health and safety (H&S) plan must be developed by the IH consulting firm and submitted to the COR within ten (10) work days prior to the start of the oversight. H&S concerns must be thoroughly addressed by the IH consulting firm in accordance with USPS Contractor Health and Safety Guidelines (EL-800), including viewing of the COR-supplied USPS contractor safety video.

2.2.1.9 Obtain any as-built drawings, site plans or other relevant design and construction-related drawings to guide and depict oversight plans.

2.2.1.9.1 Verify the presence of any asbestos-containing material, lead-based paint, mold-impacted materials or otherwise environmentally compromised material (i.e. – can't be handled safely without abatement or treatment) to verify that such areas are not impacted by system installation.

While it should be avoided, if disturbance of such material is required as determined after consultation with the system installation contractor and COR, environmentally compromised materials must first be abated or treated in accordance with federal, state and local regulations and applicable USPS policy and guidance.

The IH consulting firm will propose any additional oversight requirements for removal of compromised materials (e.g. – air monitoring during asbestos-containing floor tile removal to accommodate system component).

2.2.1.9.2 Provide all federally, state or locally required VI-based certifications and/or training records to the COR at least ten (10) work days prior to the start of the oversight.

2.2.1.9.3 Consult with the COR on the appropriate laboratory sampling results turnaround time and costs prior to submission of the IH consulting firm's task order proposal as this requirement can vary on a case-specific basis. Further negotiate any expedited draft or final report schedule with the COR.

2.2.1.9.4 Coordinate the required level of CIH involvement with the COR prior to submission of the task order. The CIH will either conduct tasks or IH staff will conduct tasks under the direct supervision of the CIH. As mentioned in section 2.1.1, the CIH

must be consulted for basis and analysis of system design, installation methods and future operations, maintenance and monitoring needs, including the need for any follow up indoor air quality sampling.

2.2.2 During system installation oversight, the IH consulting firm must perform the following tasks:

2.2.2.1 Use relevant federal, state and local requirements and USPS policy and guidance to conduct the oversight.

2.2.2.2 Conduct ambient air sampling in accordance with the indoor air sampling plan as agreed upon with the COR. Plan will include indoor air monitoring of impacts to environmentally compromised materials as detailed in section 2.2.1.9.1 and indoor air monitoring of impacts during any building envelope disturbance that could increase vapors as detailed in section 2.2.1.1.

2.2.2.3 Accurately depict all sampling locations and photos (see section 2.2.2.5) on a detailed site plan, preferably electronically drawn (with scale, north arrows and title blocks). If there is some reason the plan must be hand-drawn, this option must first be approved by the COR.

2.2.2.4 The indoor air sampling plan to oversee system installation should not include any destructive sampling or otherwise harm materials as detailed in section 2.2.2.6. Should conditions change during actual sampling and destructive or intrusive sampling points are required as part of the indoor air sampling plan, COR approval is first required (COR to coordinate with Installation Head).

2.2.2.5 Log digital photos by ID number to document the oversight. Match photos on the site plan with a detailed photo log.

2.2.2.6 Use quality assurance/quality control (QA/QC) protocols as defined by the IH consulting firm's requirements and any federal, state and local requirements.

2.2.2.7 Should the IH consulting firm determine that a major health and safety and/or continuity of operations impact has occurred or is imminent during system installation oversight, work will be stopped with an immediate notification to the COR and Installation Head. Conditions permitting, the IH consulting firm will work with the COR, Installation Head and system installation contractor to secure the area to correct, or at least stabilize, the impact until it can be fully addressed.

2.2.3 Post-installation requirements of the IH consulting firm are:

2.2.3.1 Oversee the system installation contractor efforts to restore site to pre-investigation conditions including but not limited to: return of any equipment or fixtures to their original locations; removal of sampling/investigation equipment and materials; and full clean up of sampling/investigation areas.

2.2.3.2 Oversee the system installation contractor efforts to restore any areas of intrusive or destructive installation to their original condition. For example, building slab disturbance shall require immediate and full patching and restoration so that vapor entry is not a concern. Further, ensure that any environmentally compromised areas (e.g. – asbestos or lead-containing) are restored to their original appearance as approved by the COR (e.g. – new, non-asbestos replacement flooring or non-lead-containing paint will be as close to original finishes as possible).

2.2.3.3 Meet with Installation Head (and local management as determined by the Installation Head) for up to one hour to review the system installation oversight process and any available findings at the time and discuss any questions or concerns prior to the IH consulting firm vacating the facility. This meeting must be attended by the IH consulting firm's CIH. The COR must have two (2) work days prior notice of this exit meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.3.4 At the direction of the COR (with Installation Head coordination), an additional meeting for up one hour with local management, employees, Human Resources and union representatives will be conducted to review the system installation oversight process and any available findings at the time and discuss any questions or concerns prior to the IH consulting firm vacating the facility. At the direction of the COR, the IH consulting firm will include the system installation contractor, any other consulting firm involved with system installation at this meeting (e.g. – consultant to party allegedly responsible for VI concern) and representatives of other internal or external parties involved with the VI matter.

This meeting must be attended by the IH consulting firm's CIH. The COR must have two (2) work days prior notice of this exit meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

2.2.3.5 Ensure that all samples follow proper chain of custody and are sent to properly certified laboratories.

3.0 Deliverables

3.1 System Installation Oversight Report ('report'):

3.1.1 A draft report will be forwarded to the COR within twenty (20) calendar days of completion of oversight, unless an alternate due date is already negotiated with the COR. COR and the IH consulting firm might also negotiate an initial teleconference or email summary of oversight findings immediately after completion of the oversight work. The COR will share the draft report with key USPS support staff and coordinate all comments to send one revised version to the IH consulting firm. In coordination with the COR, the IH consulting firm must also be able to respond to employee requests for exposure

records within fifteen (15) days of data collection. All VI sampling results are considered employee exposure records.

With COR approval, the draft report will be sent electronically, with the contents mentioned below, with the exception of any non-essential Appendices/Attachments.

Final report contents include, but are not limited to, the following sections in this order:

Executive Summary (must be able to act as stand alone document with details on the report's purpose, methods, results, conclusions and recommendations)

Introduction (includes building and site description)

Background (includes history of the VI concern and investigation; summarizes system installation design and plans)

Pre-oversight (includes basis for and description of IH consulting firm's indoor air sampling plan to oversee system installation; meeting summaries; building reconnaissance; special conditions or precautions)

Oversight:

- Indoor Air Sampling Plan Details (includes sampling methods; protocols)
- Results (includes sampling text, charts or chart references; addresses interpretation of results as they relate to applicable regulations, policies and guidance)
- Conclusions and Recommendations [explains any future system maintenance and monitoring and follow up indoor air sampling needs (see section 2.2.1.1); specifies if and how any building repair or alteration could impact system effectiveness; offers any regulatory or other external factors that could alter or eliminate system (e.g. – original contamination case and VI case closure imminent); offers system-related cost information (*may be provided as separate correspondence at the direction of the COR*)]
- Investigation-specific Special Considerations (includes any unique planning, regulatory, cost or USPS issues that need to be isolated as they could significantly alter future operations)

- Appendices/Attachments:

- site plan with photo and sampling ID
- any critical maps, aerial photos and/or database information
- photos and detailed log
- laboratory certification, chain of custody and results information
- sampling result chart
- any other illustrative information to help with oversight analysis as agreed by COR (e.g. – copies of system design specifications; drawings; warranties)
- key IH consulting firm staff resumes (e.g. – CIH, IH technicians)

3.1.2 Four (4) hard copies of the report will be forwarded to the COR within no more than thirty (30) calendar days of completion of oversight, unless an alternate due date is already negotiated with the COR. An electronic copy as detailed in section 2.1.4 may also be provided to the COR. Copies of reports should be distributed by the COR and go to: 1. the facility that is the subject of the oversight; 2. the COR's project file (with any

electronic media – e.g. – disks); 3. the assigned Environmental Compliance and Risk Mitigation Specialist; and 4. the Facilities Environmental Specialist (FES) assigned to the respective Facilities Service Office (FSO).

3.1.3 The IH consulting firm shall maintain at their place of business an archived copy of the oversight report, including all text, attachments and appendices in electronic format. USPS shall be notified within ten (10) work days of any plans to discard said report copies.

United States Postal Service (USPS) Statement of Work (SOW)
Vapor Intrusion (VI) Post-mitigation Investigation [9/09]
(Appendix C4 to USPS Vapor Intrusion Guidance)

1.0 Background

Vapor intrusion (VI), caused when indoor air quality is compromised by vapors emitted from contaminated soil and/or groundwater, is an emerging health and safety and business concern for USPS. USPS has SOWs that focus on VI investigation, VI investigation with limited risk assessment and VI mitigation system ('system') installation oversight. This SOW focuses on VI post-mitigation investigation to ensure that human health and safety and USPS operations interests are thoroughly addressed.

As with all VI SOWs, this SOW exclusively involves VI matters and does not cover radon investigation or other indoor air quality concerns (e.g. – HVAC-related or operations-based air quality complaints).

1.1 Rationale for Technical Assistance

VI post-mitigation investigation is a specialized field that requires the expertise of an 'industrial hygiene (IH) consulting firm'. This term applies to USPS 'general environmental' consulting firms provided that they have adequate IH resources. Particular health and safety-related VI understanding and federal, state and local regulatory knowledge is critical to proper VI post-mitigation investigation. An understanding of indoor air quality science and requirements as they relate to occupational health and safety are paramount to such investigation.

The IH consulting firm must be able to analyze the system's performance and verify any concerns with indoor air sampling and other means of investigation. The firm must provide USPS with conclusions and recommendations to protect human health and USPS operations interests. Said firms must also have the required professional and liability insurance.

This SOW is structured to provide a task order-type professional services contract for consultative assistance to USPS, whether on a national or local basis.

2.0 Requirements

2.1 General Requirements

2.1.1 The IH consulting firm shall supply necessary personnel, material and all other resources necessary for or incident to the performance of the assigned tasks. A Certified Industrial Hygienist (CIH) must be consulted for analysis of system performance, indoor air sampling plan development and conclusions and recommendations for any system adjustment and/or the need for any further indoor air quality sampling.

2.1.2 The IH consulting firm shall be held liable for conducting all work in compliance with applicable federal, state and local regulations, including but not limited to Occupational Safety and Health Act and environmental protection and human health regulations. Methods and recommendations shall also be consistent with all applicable federal, state and local laws and Postal Service policy and guidance in effect at the time of the final report.

2.1.3 All materials gathered, provided and/or developed in the performance of this contract will be the sole property of USPS. Public release of contract-generated reports and materials require written approval of the Postal Service Contracting Officer (CO).

2.1.4 In addition to hard copy final reports, information shall be delivered to USPS under this contract in the form of electronic media as determined by the Contracting Officer's Representative (COR). Such media shall be free from viruses prior to delivery; this requirement also applies to any sub-contracted services.

2.1.5 The IH consulting firm must have the ability to issue and manage subcontractors for any task or sub-task within this SOW.

2.2 Specific Requirements for Task Orders:

Performance will require short-term, possibly intermittent studies as specified in individually priced and funded tasks that may be ordered by the CO in accordance with the ordering procedures established elsewhere in the IH consulting firm's contract. All tasks will be within the general scope of task areas described herein, but tasks will be modified on a case-specific basis between COR and IH consulting firm interaction.

At no time during this task is the IH consulting firm to discuss any aspect of the VI matter with any non-USPS private or public sector entity without first consulting the COR.

2.2.1 Prior to VI post-mitigation investigation, the IH consulting firm must perform the following work, including but not limited to, employee/management outreach tasks:

2.2.1.1 Review all relevant, available records from: the party allegedly responsible for the VI concern and system installation; USPS records (including any VI-based lease or sales terms made available by the COR); all previous indoor and ambient air quality data; and federal, state and local regulatory database and case file information, if available, in order to best plan VI post-mitigation investigation. Special consideration should be given to any third party or regulatory records that show a change in the VI source conditions or case (e.g. – regulatory spill case closure; increased spill monitoring requirements; third party regulatory non-compliance).

The CIH will consult with the COR (who will also consult with key USPS support staff) on a VI post-mitigation indoor air sampling plan and on the anticipated frequency of investigation events required to verify system effectiveness.

The indoor air sampling plan must consider: seasonal influence; current type and level of occupancy; system, building or site concerns (e.g. – breaches in building envelop such as slab cracks; system failures); VI contamination source changes; any case-specific or regional risk assessment data; local, typical indoor air quality background concentrations for chemicals of concern; and any geographic or ambient air data or findings.

2.2.1.2 Initiate verbal contact with the Installation Head to inform them as to what will take place, request local facility escort as required, and confirm VI post-mitigation investigation schedule. The initial contact shall be followed by written correspondence to the Installation Head, with a copy to the COR, no later than ten (10) days prior to system installation to confirm the schedule and plans.

2.2.1.3 Coordinate with the Installation Head to conduct a pre-investigation indoor facility inspection to evaluate: system condition and operation; physical building and site layout; building and site conditions; and identify and correct conditions that may affect or interfere with indoor air sampling during the investigation (e.g. – consumer products such as cleaners, paints and glues, activities such as food preparation and certain construction materials can interfere with indoor air sampling results).

2.2.1.4 Conduct up to a one-hour, on-site briefing with the Installation Head (and other local management as determined by the Installation Head) prior to the initiation of VI post-mitigation investigation. At this time, system condition and operation and any maintenance or monitoring concerns must be reviewed. The investigative indoor air sampling plan and any future investigation plans must also be discussed. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

Any future, planned investigation events after this initial event may not require this step as approved by the COR, but may instead involve a lesser briefing with local management and the COR.

2.2.1.5 Once the management meeting has been accomplished, a meeting with that personnel plus employees, Human Resources and union representatives will be conducted prior to initiation of VI post-mitigation investigation. This briefing will include a brief history of the VI matter, explanation of the VI mitigation system and basis for indoor air sampling plans and any future investigation events. This meeting must be attended by the IH consulting firm's CIH. Meeting notice must also be given to the COR at least three (3) work days prior to the management/employee/union meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

Any future, planned investigation events after this initial event may not require this step as approved by the COR, but may instead involve a lesser briefing with local management, management-designated attendees and the COR.

2.2.1.6 The IH consulting firm's case-specific VI post-mitigation investigation plan (including the indoor air sampling plan) must be based on the best methodology, locations and frequency and all indoor air sampling instruments must be properly calibrated.

2.2.1.7 A site and project-specific health and safety (H&S) plan must be developed by the IH consulting firm and submitted to the COR within ten (10) work days prior to the start of the investigation. H&S concerns must be thoroughly addressed by the IH consulting firm in accordance with USPS Contractor Health and Safety Guidelines (EL-800), including viewing of the COR-supplied USPS contractor safety video.

2.2.1.8 Obtain any as-built drawings, site plans or other relevant design and construction-related drawings to guide and depict investigation plans.

2.2.1.9 Verify that VI post-mitigation investigation plans will not impact any asbestos-containing material, lead-based paint, mold-impacted materials or otherwise environmentally compromised material (i.e. – can't be handled safely without abatement or treatment).

While it should be avoided, if disturbance of such material is required as determined after consultation with the COR, environmentally compromised materials must first be abated or treated in accordance with federal, state and local regulations and applicable USPS policy and guidance.

The IH consulting firm will propose any additional oversight requirements for removal of compromised materials (e.g. – air monitoring during asbestos-containing floor tile removal to accommodate system component).

2.2.1.9.1 Provide all federally, state or locally required VI-based certifications and/or training records to the COR at least ten (10) work days prior to the start of the investigation.

2.2.1.9.2 Consult with the COR on the appropriate laboratory sampling results turnaround time and costs prior to submission of the IH consulting firm's task order proposal as this requirement can vary on a case-specific basis. Further negotiate any expedited draft or final report schedule with the COR.

2.2.1.9.3 Coordinate the required level of CIH involvement with the COR prior to submission of the task order. The CIH will either conduct tasks or IH staff will conduct tasks under the direct supervision of the CIH. As mentioned in section 2.1.1, the CIH must be consulted for analysis of system performance, indoor air sampling plan development and conclusions and recommendations for any system adjustment and/or the need for any further indoor air quality sampling.

2.2.2 During VI post-mitigation investigation, the IH consulting firm must perform the following tasks:

2.2.2.1 Use relevant federal, state and local requirements and USPS policy and guidance to conduct the investigation.

2.2.2.2 Conduct ambient air sampling in accordance with the indoor air sampling plan as agreed upon with the COR (with key USPS staff support) [see section 2.2.1.1].

2.2.2.3 Accurately depict all sampling locations and photos (see section 2.2.2.5) on a detailed site plan, preferably electronically drawn (with scale, north arrows and title blocks). If there is some reason the plan must be hand-drawn, this option must first be approved by the COR.

2.2.2.4 The indoor air sampling plan should not include any destructive sampling or otherwise harm materials as detailed in section 2.2.1.9. Should conditions change during actual sampling and destructive or intrusive sampling points are required as part of the indoor air sampling plan, COR approval is first required (COR to coordinate with Installation Head).

2.2.2.5 Log digital photos by ID number to document the investigation. Match photos on the site plan with a detailed photo log.

2.2.2.6 Use quality assurance/quality control (QA/QC) protocols as defined by the IH consulting firm's requirements and any federal, state and local requirements.

2.2.2.7 Should the IH consulting firm determine that a major health and safety and/or continuity of operations impact has occurred or is imminent during VI post-mitigation investigation, work will be stopped with an immediate notification to the COR and Installation Head. Conditions permitting, the IH consulting firm will work with the COR and Installation Head to secure the area to correct, or at least stabilize, the impact until it can be fully addressed.

2.2.3 Post-investigation requirements of the IH consulting firm are:

2.2.3.1 Restore the site to pre-investigation conditions including but not limited to: return of any equipment or fixtures to their original locations; removal of sampling/investigation equipment and materials; and full clean up of sampling/investigation areas.

2.2.3.2 If applicable, restore any areas of intrusive or destructive sampling to their original condition. For example, building slab disturbance shall require immediate and full patching and restoration so that vapor entry is not a concern. Further, ensure that any environmentally compromised areas (e.g. – asbestos or lead-containing) are restored to their original appearance as approved by the COR (e.g. – new, non-asbestos replacement flooring or non-lead-containing paint will be as close to original finishes as possible).

2.2.3.3 Meet with Installation Head (and local management as determined by the Installation Head) for up to one hour to review: the VI post-mitigation investigation process; future, planned investigation events; any available findings at the time; and discuss any questions or concerns prior to the IH consulting firm vacating the facility. This meeting must be attended by the IH consulting firm's CIH. The COR must have two (2) work days prior notice of this exit meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

Any future, planned investigation events after this initial event may not require this step as approved by the COR, but may instead involve a lesser briefing with local management and the COR.

2.2.3.4 At the direction of the COR (with Installation Head coordination), an additional meeting for up one hour with local management, employees, Human Resources and union representatives will be conducted to review: the VI post-mitigation investigation process; future, planned investigation events; any available findings at the time; and discuss any questions or concerns prior to the IH consulting firm vacating the facility. This meeting must be attended by the IH consulting firm's CIH. The COR must have two (2) work days prior notice of this exit meeting. The IH consulting firm will be responsible for completing meeting minutes, with a draft version to the COR no later than two (2) work days after the meeting.

Any future, planned investigation events after this initial event may not require this step as approved by the COR, but may instead involve a lesser briefing with local management, management-designated attendees and the COR.

2.2.3.5 Ensure that all samples follow proper chain of custody and are sent to properly certified laboratories.

3.0 Deliverables

3.1 VI Post-mitigation Investigation Report ('report'):

3.1.1 A draft report will be forwarded to the COR within twenty (20) calendar days of completion of investigation, unless an alternate due date is already negotiated with the COR. COR and the IH consulting firm might also negotiate an initial teleconference or email summary of investigation findings immediately after completion of the investigation work. The COR will share the draft report with key USPS support staff and coordinate all comments to send one revised version to the IH consulting firm. In coordination with the COR, the IH consulting firm must also be able to respond to employee requests for exposure records within fifteen (15) days of data collection. All VI sampling results are considered employee exposure records.

With COR approval, the draft report will be sent electronically, with the contents mentioned below, with the exception of any non-essential Appendices/Attachments.

Future investigation reports will reference all previous such reports and will also follow contents below.

Final report contents include, but are not limited to, the following sections in this order:

Executive Summary (must be able to act as stand alone document with details on the report's purpose, methods, results, conclusions and recommendations)

Introduction (includes building and site description; VI mitigation system basic description)

Background (includes history of the VI concern and previous investigation; summarizes system design, installation, operation, maintenance and monitoring details)

Pre-investigation (includes basis for and description of IH consulting firm's indoor air sampling plan; meeting summaries; building reconnaissance; special conditions or precautions)

Investigation:

- Indoor Air Sampling Plan Details (includes sampling methods; protocols)
- Results (includes sampling text, charts or chart references; addresses interpretation of results as they relate to applicable regulations, policies and guidance)
- Conclusions and Recommendations [explains influence of factors referenced in section 2.2.1.1 such as: seasonal influence; current type and level of occupancy; system, building or site concerns (e.g. – breaches in building envelop such as slab cracks; system failures); VI contamination source changes; any case-specific or regional risk assessment data; local, typical indoor air quality background concentrations for chemicals of concern; and any geographic or ambient air data or findings. Specifies if and how any building repair or alteration has or could impact system effectiveness and investigation results; offers any regulatory or other external factors that has or could alter or eliminate system (e.g. – original contamination case and VI case closure imminent); includes basis for and description of any recommended, future investigation events; offers system-related and future investigation cost information (*may be provided as separate correspondence at the direction of the COR*)]
- Investigation-specific Special Considerations (includes any unique planning, regulatory, cost or USPS issues that need to be isolated as they could significantly alter future operations)

- Appendices/Attachments:

- site plan with photo and sampling ID
- any critical maps, aerial photos and/or database information
- photos and detailed log
- laboratory certification, chain of custody and results information
- sampling result chart
- any other illustrative information to help with investigation as agreed by COR (e.g. – copies of system design specifications; drawings; warranties)

- key IH consulting firm staff resumes (e.g. – CIH, IH technicians)

3.1.2 Four (4) hard copies of the report will be forwarded to the COR within no more than thirty (30) calendar days of completion of VI post-mitigation investigation, unless an alternate due date is already negotiated with the COR. An electronic copy as detailed in section 2.1.4 may also be provided to the COR. Copies of reports should be distributed by the COR and go to: 1. the facility that is the subject of the investigation; 2. the COR's project file (with any electronic media – e.g. – disks); 3. the assigned Environmental Compliance and Risk Mitigation Specialist; and 4. the Facilities Environmental Specialist (FES) assigned to the respective Facilities Service Office (FSO).

3.1.3 The IH consulting firm shall maintain at their place of business an archived copy of the investigation report, including all text, attachments and appendices in electronic format. USPS shall be notified within ten (10) work days of any plans to discard said report copies.



Human Resources

Third-Party Requests to Perform Environmental Sampling on Postal Service Property

This article establishes Postal Service™ policy regarding requests from third-party consultants to enter Postal Service property to perform environmental sampling related to environmental conditions on adjoining property.

To enter Postal Service property to perform environmental sampling, a third-party consultant must have a properly signed license from the Postal Service. The license must:

- Set forth the conditions for entry, including terms and reporting requirements; and
- Be signed by the third-party consultant.

Installation heads who receive such requests must contact their local facilities service office (FSO), which will work with the Law Department to develop a license that

stipulates, among other things, that the third-party consultant will:

- Provide proof of insurance.
- Restore Postal Service property to its original condition in the event of damage or disturbance.
- Enter Postal Service property only during the times specified in the license so as not to interfere with Postal Service operations.
- Provide a copy of the data obtained and any report produced by the consultant.

These requirements are effective immediately, and they will be published in a Postal Service directive.

— *Environmental Policy and Programs, Safety and Environmental Performance Management, 3-1-07*

International Business

International Customized Mail

The International Customized Mail (ICM) updates now appear on the Postal Service™ Internet Web site at www.usps.com.

To read the latest updates:

- Go to www.usps.com.
- Click *All Products and Services*, then *International Customized Mail Updates*.

(The direct URL is <http://www.usps.com/publications/icm/welcome.htm>.)

— *Pricing Strategy, Pricing and Classification, 3-1-07*



MEMORANDUM OF POLICY

**TO: FACILITIES HEADQUARTERS REAL ESTATE (RE) AND DESIGN AND CONSTRUCTION (D&C) DEPARTMENTS
FACILITIES SERVICE OFFICE RE AND D&C DEPARTMENTS
SAFETY AND ENVIRONMENTAL PERFORMANCE MANAGEMENT
AREA ENVIRONMENTAL AND SAFETY MANAGERS**

SUBJECT: VAPOR INTRUSION CONSIDERATIONS FOR REAL ESTATE DUE DILIGENCE

DATE: SEPTEMBER 12, 2008

During May, 2008, the American Society for Testing and Materials (ASTM) issued 'Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions' (Designation: E2600-08). Vapor intrusion (VI) is when vapors from nearby contaminated soil and/or ground water can migrate into structures and possibly cause indoor air quality concerns. As detailed below, while USPS will now incorporate VI consideration into every Phase I Environmental Site Assessment (ESA), it will not formally require the VI assessment described in ASTM's new practice.

The published practice is intended to be a voluntary supplement to ASTM Practice E 1527 [for due diligence, including Phase I Environmental Site Assessments(ESA's)]. The new publication includes in Section 1, 'Scope', that the new practice is 'not a requirement of and does not constitute, expand or in any way define "all appropriate inquiry" as defined or approved by U.S. EPA under CERCLA and the regulations thereunder, including 40 CFR Sec. 312.11.'

The new practice outlines a tiered approach to considering VI potential for new or existing structures that are part of a real estate transaction. Tiers range from review of very basic Phase I ESA information (Tier 1, 'non-numeric screening') to detailed numeric analysis and/or site sampling (Tier 2, 'numeric screening', and Tier 3, 'Vapor Intrusion Assessment) to detailed implementation of institutional and/or engineering controls to mitigate vapor intrusion (Tier 4, 'mitigation').

Assessment of potential VI concern is based on very specific distances set by ASTM, site conditions, ASTM-listed 'chemicals of concern', and site design specifics. Section 4 of the practice, 'Significance and Use', explains that 'this practice is intended to reflect a commercially practical and reasonable inquiry.' Section 5, 'Relationship to Practice E 1527 Phase I ESA', goes on to say that "this practice is not meant to preclude an environmental professional from providing a professional opinion in the Phase I ESA on the impact of potential vapor migration onto a target property if deemed necessary to satisfy 'all appropriate inquiry'."

Due to the variety of and continuing evolution of state VI-related regulations and standards, debate between OSHA and EPA VI-related concerns and standards and very case-specific concerns that USPS management, employees or the general public might have about a proposed USPS real estate

transactions, the new ASTM VI standard will not be a formal Phase I ESA requirement for USPS real estate transactions.

However, as the new standard offers in Section 8.7.1 of 'Tier I Screening', the environmental professional and user (USPS) can make a decision on what further investigation, if any, might be undertaken based on recognized environmental conditions (REC's) indentified in the Phase I ESA.

For all future Phase I ESA's, this level of consideration shall be documented in its own VI section for all Phase I ESA's. Should further VI investigation be necessary, the Facilities Environmental Specialist will work the environmental professional on the best follow up actions. This can range from agency file reviews to soil and groundwater sampling to mitigation measures. The new ASTM VI standard should then be a valuable resource to help determine the next actions.

Please contact Charlotte Parrish, Facilities Environmental Specialist, Field and HQ Support, at (201)714-5487 should you any questions on this memorandum.

Thanks for your continued support of environmental and safety concerns.

A handwritten signature in black ink, appearing to read "Steve Roth". The signature is fluid and cursive, with the first name "Steve" and last name "Roth" clearly distinguishable.

Steve Roth
Manager, Real Estate, Facilities Headquarters

Cc: Ruth Gottlieb, USPS, HQ Law Dept.
Fac. HQ and FSO FES's

InfoPak

**Guidelines on environmental topics
for USPS employees**

August, 2009

Vapor Intrusion

What is vapor intrusion?

When chemicals or petroleum products accidentally or unknowingly spill or leak into the ground, they can give off gasses – or vapors – which move through the soil and enter buildings under certain conditions.

These vapors may seep through cracks in basements, foundations, sewer lines, and other openings. Gasoline, diesel fuel, dry cleaning solvents, and industrial degreasers are some of the products that cause vapor intrusion.

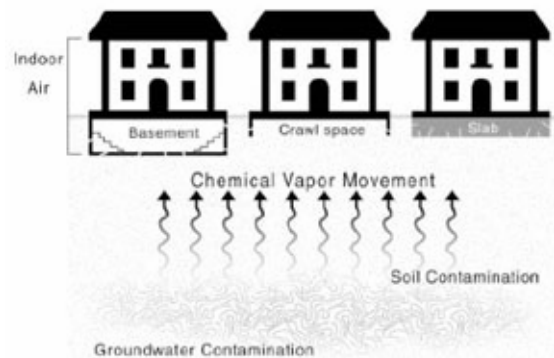
What are the objectives?

Protect employees and customers, comply with USPS, federal, state, and local requirements, as applicable.

What facilities could be affected by vapor intrusion?

While not common, vapor intrusion can occur at locations where there is soil and/or groundwater contamination, such as at a gas station that previously had a leaking underground gasoline storage tank.

Two facilities sitting next to each other could be affected differently by vapor intrusion due to the type of foundation, materials used, construction, or other factors.



How is vapor intrusion discovered?

When the state or federal EPA investigates a site with chemical or petroleum product contamination, they may also evaluate indoor air quality impacts should they determine vapors from the contamination are a concern.

Since indoor air quality varies from day to day, the best determination of whether a facility could be impacted by a vapor intrusion incident is to test the adjacent or underlying soil and/or groundwater.

If the adjacent soil and/or groundwater is found to be contaminated, samples of the air may be taken under the slab or foundation of a facility or within the facility itself.

What if vapor intrusion is found at my facility?

In most cases where vapor intrusion is occurring, a mechanical mitigation system can be installed to remove soil vapors from below basements or foundations before they enter the facility.

Vapors are vented outside of the facility where they disperse and are diluted by the outside air. Once the source of contamination is cleaned up or eliminated, the systems are no longer necessary.

What are the health risks of vapor intrusion?

The health risks related to vapor intrusion vary based on the type of chemicals, the level of the chemicals, the length of exposure, and the health of the individual exposed. Air monitoring results are typically compared to OSHA standards to determine if a workplace hazard exists. Over many years, exposure to certain chemicals may increase the lifetime risk of cancer or chronic disease. Such health concerns need to be verified with sound scientific tests, credible lab results and medical professional oversight.

What do I do if I think my facility has vapor intrusion?

Odors in a facility can be caused by many sources unrelated to vapor intrusion, such as storage of cleaning chemicals, musty or poorly ventilated spaces, and plumbing problems.

Generally, vapor intrusion issues are identified by state and federal environmental agencies while investigating soil and groundwater contamination issues. If they suspect vapor intrusion they will contact the facility manager to obtain access to the site to conduct an investigation.

Private parties may also contact the postal facility and request to do site soil/groundwater sampling or indoor air sampling.

It is imperative in both cases – whether a public or private sector request – that the facility representative immediately contact their Facilities Service Office and environmental specialist to arrange for site access and go over concerns with the building and certain legal access requirements.

Odors in facilities should be referred to USPS safety and environmental staff for analysis.

Where can I find more information? Go to Blue, our USPS intranet source, for the ‘United States Postal Service Vapor Intrusion Guidance’ manual. This document includes an array of vapor intrusion resources in its attachments and appendices.

Is training available? Contact the Environmental Specialist, Compliance and Risk Mitigation, assigned to your region.

Attachment 4 – Sample List of VI Records to Retain

Refer to USPS Vapor Intrusion (VI) Guidance for details on records retention, including where VI records should be kept and who should maintain them. However, the following list gives an example of typical records that should be maintained at least at the facility that is the subject of the VI case and the Facilities Service Office (FSO), should that office be involved in the VI case. *It is important to keep all records in perpetuity as VI concerns or claims can surface decades after the initial VI case.*

Note: The USPS Employee Labor Relations Manual, available at <http://www.usps.com/cpim/manuals/elm/elm.htm>, gives details on safety and medical records retention requirements in Chapter 8, 'Safety, Health, and Environment'.

VI Investigation and Risk Assessment Records:

- scopes of work
- final billing documentation
- investigation/sampling/risk assessment reports
- fully executed access agreement copies
- public or private sector correspondence
- all meeting minutes and attendance records

VI Mitigation Records:

- scopes of work
- final billing documentation (for USPS oversight)
- sampling reports (system installer and USPS oversight)
- fully executed system installation agreement copies
- system specifications/drawings
- warranties
- system operations and maintenance guidance
- system installation contractor name, office phone #, cell phone # and email address
- all meeting minutes and attendance records

VI Post-mitigation and Follow-up Investigation Records:

- scopes of work
- final billing documentation
- investigation/sampling reports
- fully executed access agreement copies (if investigation is not conducted by USPS)
- public or private sector correspondence
- all meeting minutes and attendance records

Attachment 5 – List of Guidance Contributors

September, 2009 – This guidance document would not be possible without the foresight and hard work of our in-house Vapor Intrusion Group. Thanks to this small group for your hard work and expertise. Group members are:

Group Leader: Charlotte Parrish, Facilities Environmental Spec., Field and HQ Support
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Members:

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