

ITRC State Survey:
**Re-Visiting "Closed" Site for
 Vapor Intrusion Concerns**

State	Has your state re-opened/revisited any formally "closed" sites to investigate whether the VI pathway has been adequately addressed?	If sites have been revisited, how did you prioritize which site(s) to revisit?	Who (state, PRP) is responsible for any additional investigation that is necessary?"	Additional Comments	Respondent
AL	NO				Brian Espy Alabama Department of Environmental Management 334-271-7749 BEspy@adem.state.al.us
AK	NO We haven't reopened any sites for vapor intrusion related issues, nor have we done any kind of systematic review of sites with plans to reopen sites based on a vapor intrusion issue. We do have a clause in our closure letters that allows us to reopen sites.				Jill Taylor Alaska Dept. of Environmental Conservation Contaminated Sites Program 410 Willoughby Avenue, Suite 303 Juneau, AK 99801-1795 Tele: 907-465-5209 jill.taylor@alaska.gov
CA	NO To the best of my knowledge, and of other DTSC personnel I've conferred with on this issue, our office has not reopened any "closed" site on account of potential risk from VI. However, the regulatory mechanism does exist for reopening such sites, and that is the 5-year review of remedy decisions under CERCLA and RCRA.	Not having gone through the process, we have yet to establish a formal prioritization scheme. However, I imagine that prioritization would be based on (a) existing data on residual VOCs based on confirmation sampling during the time of closure (vapor and GW media) that exceed currently accepted risk threshold values, and (b) proximity to receptors, especially sensitive receptors (residential neighborhoods, day-care centers, schools, etc.)	Any additional investigation would likely be shouldered by the PRP, on the principle that any closure granted by DTSC are based on scientific information existing at the time of closure. The PRP remains responsible if there is new finding of potential risk from past VOC release based on recent scientific knowledge.		Alfredo Zanoria, CEG, CHG Chief, Geological Services - Southern California Geology, Permitting and Corrective Action Branch Hazardous Waste Management Program Department of Toxic Substances Control Tel. 714-484-5420 AZanoria@dtsc.ca.gov
CO	NO Fortunately a) not many sites formally close (persistent contamination) and if they did b) closure in our state would typically require meeting state ground water standards (i.e., MCLs) or being darn close to it, suggesting vapor intrusion will be an unlikely pathway.				Walter Avramenko, Unit Leader Hazardous Waste Corrective Action Unit Solid and Hazardous Waste Program Colorado Department of Public Health and Environment HMWMD-HWC-B2 4300 Cherry Creek Drive South Denver, CO 80246-1530 303-692-3362 FAX: 303-759-5355 walter.avramenko@state.co.us
CT	NO Connecticut has had vapor requirements in its remediation regulations since 1996, so we only have a handful of sites that were officially completely closed out before our regulations became effective. We have no formal process for reevaluation of older sites, except that any sites subject to our property transfer program get reevaluated upon subsequent transfers, if still active sites, using the latest regulatory requirements. Other sites are evaluated on a case by case basis as they come to our attention.		If there is still a viable RP we may issue an enforcement order for action; for some volatilization problems the state remedial program has funded action, with a future possibility of cost recovery once the RP is sorted out (multiple potential RPs of varying viability)		Kenneth Feathers Kenneth.Feathers@po.state.ct.us
DE	NO None of our state agencies is re-opening any closed Sites based on the possibility of VI. My branch (Site Investigation and Restoration Branch-SIRB) has recently required vapor intrusion risk evaluations at a few Sites which are in the operation and maintenance phase.	These sites were identified based on the presence of VOCs during the remedial investigation and the proximity of the contamination to buildings.	Up to this point, PRPs have been responsible.		Rick Galloway DNREC Rick.Galloway@state.de.us

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FL	<p style="text-align: center;">NO</p> <p>As of yet, Florida has no plans to revisit closed sites to assess VI issues and does not have vapor intrusion Cleanup Target Levels established to date. However, a VI team has been formed to investigate this matter.</p>				<p style="text-align: center;">Diedre Lloyd Environmental Specialist Site Investigation Section Florida Department of Environmental Protection Diedre.Lloyd@dep.state.fl.us</p>
IL	<p style="text-align: center;">NO</p> <p>Illinois has not re-opened/revisited any formally "closed" sites to investigate whether the VI pathway has been adequately addressed. We are in the process of developing regulations that will incorporate remediation objectives for the indoor inhalation pathway into our existing methodology for developing remediation objectives. That process will take around 18-24 months. Once that rulemaking process is complete we still do not intend to re-open closed sites.</p>				<p style="text-align: center;">Gary King Bureau of Land Illinois EPA Gary.King@illinois.gov</p>
IN	<p style="text-align: center;">NO</p> <p>At this point, Indiana has not re-opened any sites specifically to address vapor intrusion and has no plans to do so. We do have the authority to reopen cases if an oversight or threat is determined to be present; however, I don't believe that has occurred yet.</p>	<p>We do have VI guidance and evaluate that exposure pathway for VOCs along with the soil and GW. Generally, we use GW screening values that we have derived in house rather than rely exclusively on methods such as J&E modeling to make a determination if further investigation is warranted (such as subslab and indoor air sampling). If new information was presented showing a change in site conditions (i.e., residential housing improperly built on a contaminant plume) or some other threat, then we would review sites on a case-by-case basis.</p>	<p>Depending on the situation, either the state or the RP could be responsible for costs. We have had cases where a VI investigation was required perhaps later in the site closure process than we would prefer (going back to the VI), and in several cases, the state has done the indoor air and subslab sampling.</p>	<p>On a related note, we are currently getting a background air project going and have an intern coming in to add additional information to our VI policies.</p>	<p style="text-align: center;">Melissa Allen Hamer-Bailey Sr. Environmental Manager Applied Science Technologies Office of Land Quality IN Dept. of Environmental Management 100 North Senate Avenue Indianapolis, IN 46204 317 232 8854 MHAMER@idem.in.gov</p>
IA	<p style="text-align: center;">NO</p> <p>At this present juncture, we do not re-open closed sites unless there is some potential emergency situation or new information that indicates the site could have an increased risk classification.</p>			<p>Iowa does evaluate vapor pathways for soil, groundwater, and soil leaching to groundwater through its Risk-Based Corrective Action (RBCA) assessment programs under our Chapter 135. You may see the following link for more information: http://www.iowadnr.com/land/ust/technicalresources/lustsiteassessment/lustsiteassessmentindex.html</p>	<p style="text-align: center;">Rochelle Cardinale Environmental Specialist Underground Storage Tank Section Wallace State Office Building Des Moines, IA 50319 Tel: 515-242-6488 rochelle.cardinale@dnr.state.ia.us</p>

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KS	<p style="text-align: center;">NO</p> <p>KDHE reserves the right to go back to any site worked in our remedial programs to re-assess for vapor intrusion.</p>		Depending on the program the site was in when the NFA was issued would determine who would pay for the assessment (i.e. UST or Drycleaner site, then the state trust fund would pay, vs. a VCP, voluntary cleanup program site would be the PRP).		<p style="text-align: center;">Bill Morris Environmental Scientist Bureau of Environmental Remediation 1000 SW Jackson, Suite 410 Topeka, KS 66612-1367 (785) 296 - 8425 E-mail: bmmorris@kdhe.state.ks.us</p>
LA	<p style="text-align: center;">NO</p> <p>In accordance with LAC 33:1.1305.B sites that have been closed under a previously approved corrective action plan or closure standard will not be reopened unless there is actual adverse exposure or an expectation that such exposure will occur in the near future. New pathways (i.e. enclosed space) at sites that have been closed under a previously approved corrective action plan or closure standard may be evaluated using RECAP without re-evaluating all other pathways pursuant to the RECAP regulation. This will address questions that have arisen regarding new construction at previously closed sites where the indoor air pathway must be evaluated. In these cases, the indoor air pathway will be evaluated using RECAP while other pathways will remain closed under the previously approved Corrective Action Plan.</p>				<p style="text-align: center;">Dave Narendra Narendra.Dave@LA.GOV</p>
ME	<p style="text-align: center;">YES</p> <p>Maine has no plans to systematically evaluate vapor intrusion potential at its closed uncontrolled sites; a project of that scale is beyond our resources. Having said that, we would clearly revisit vapor intrusion from any closed site upon evidence that residual contaminants posed health or safety issues. We have in fact done this at several closed petroleum remediation sites where nearby residences or utilities were reported to have air quality issues. The only closed Maine site at which vapor intrusion potential was revisited without cause was a CERCLA site, and as part of its five-year review.</p>				<p style="text-align: center;">Fred Lavallee Fred.C.Lavallee@maine.gov</p>
MD	<p style="text-align: center;">NO</p> <p>If an indoor air was identified on a closed site we would reopen but at this time the State of Maryland has not pursued this route on closed sites.</p>		The PRP would be responsible if this were pursued.	<p>Here is a link to an article on the issue: http://www.abanet.org/enviro/committees/superfundnatresdamages/newsletter/mar06/superfund0306.pdf</p>	<p style="text-align: center;">Mark Mank mmank@mde.state.md.us Herbert Meade Maryland Department of the Environment Administrator Oil Control Program 1800 Washington Blvd. Baltimore MD. 21230-1719 410-537-3385 hmeade@mde.state.md.us</p>

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MA	NO While MassDEP has not re-opened any formally closed sites for this reason, we have investigated a limited number to determine whether there is any ongoing vapor intrusion pathway concern.	MassDEP considers locations with chlorinated VOCs in groundwater proximate to schools, daycares and residences a higher priority with respect to vapor intrusion pathway concerns.	MassDEP has used state resources to conduct some investigations; in other cases, property owners have conducted the investigation.		Liz Callahan BWSC Policy Branch Chief MassDEP, One Winter Street, Boston, MA 02108 phone (617)348-4056 fax (617)292-5530 elizabeth.j.callahan@state.ma.us
MO	NO To my knowledge no "closed" sites have been re-examined solely for VI pathway concerns. Superfund, RCRA, Federal Facilities and Voluntary Cleanup all say they have no plans to go back and re-open/revisit any formally closed sites to investigate whether the vapor intrusion pathway has been adequately addressed. To date no site that has been formally closed under any of these cleanup programs has been re-opened or revisited however they all say that if new information became available that would warrant re-opening a closed site they would and they would make the PRP conduct any additional investigation that was deemed necessary.	Neither do we have any specific efforts underway to screen or prioritize closed or remediated sites for potential reassessment of the VI pathway.	If such a site were to come to our attention, I suspect that any additional assessment would be funded at least initially with state/federal funds.		Michael Stroh Missouri DNR / Hazardous Waste Program (573) 522-9902 phone (573) 751-7869 fax michael.stroh@dnr.mo.gov Julieann F. Warren Chief, Superfund Site Assessment Unit Hazardous Waste Program QA Coordinator ITRC Point of Contact 573-751-1087 julieann.warren@dnr.mo.gov
NE	NO Nebraska DEQ has not re-opened closed sites with vapor intrusion issues.				William C. Gidley Waste Management Section Supervisor Nebraska Dept. of Environmental Quality 402.471.4210 Bill.Gidley@NDEQ.State.NE.US
NV	NO				Sara Arav Piper spiper@ndep.nv.gov
NH	NO In New Hampshire we have not gone back to previously closed sites to evaluate VI. Our GW cleanup standards for site closure are lower than our VI GW screening levels. For example PCE must meet 5 ppb for site closure, our VI screening value for PCE in GW is 80 ppb. However, we are re-examining our sites when annual GW quality reports come in and requesting a VI assessment if the GW values exceed our recently updated VI screening levels.		The responsible party would be required to complete any evaluation/mitigation for the VI pathway.		Robin Mongeon, P.E. NH Department of Environmental Services Waste Management Division Oil Remediation & Compliance Bureau 29 Hazen Drive, PO Box 95 Concord, NH 03302 Tel 603-271-7378 rmongeon@des.state.nh.us
NJ	NO In New Jersey, we have not developed a formal policy on reopening closed cases. In general, we will reopen a closed case when the screening levels for soil, GW, sediments, SW have changed (lowered) by an order of magnitude. Since vapor intrusion is a new pathway (and thus wasn't considered), the NJDEP has been reviewing old sites on a case-by-case basis.			I suspect that a more formal policy will be developed in the future.	John E. Boyer Environmental Scientist ITRC Vapor Intrusion Team Co-Lead NJ Dept. of Environmental Protection P.O. Box 413 Trenton, NJ 08625 (609) 984-9751 - office john.boyer@dep.state.nj.us

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NY	<p style="text-align: center;">YES</p> <p>New York is revisiting remediated sites to determine if a vapor intrusion problem remains. We have identified 421 sites where VOC contamination was suspected or confirmed and a remedial decision was made prior to 2003. Everyone of these sites will be re-evaluated. We are currently working on about 110 sites. We have mitigated structures at a number of sites. While many of the sites that we are currently evaluating need mitigation, since we are starting with the highest priority sites, the percentage with VI issues should go down.</p>	<p>The NYDEC policy document outlining our strategy is at http://www.dec.ny.gov/docs/remediation_hudson_pdf/der13.pdf and considers:</p> <ol style="list-style-type: none"> 1. Total chlorinated volatile organic compound (CVOC) concentration 2. Depth to contamination 3. Soil characteristics 4. Land use at and adjacent to the site above impacted soil or groundwater 	<p>RP's are responsible for about 225 sites, EPA has the lead on about 50 and DEC has the rest. The RP's all have been requested to evaluate their sites. EPA provides periodic progress reports on the sites where they have the lead. For sites where there is no RP or the RP has declined our request, we are working through the list, generally following the prioritization process outlined in the strategy.</p>	<p>Additional information about ITRC Surevy on Vapor Intrusion: Revisiting "Closed" Sites VI in New York is available on our web site. The link to the VI page is Vapor Intrusion Guidance - NYS Dept. of Environmental Conservation http://www.dec.ny.gov/regulation/s2588.html. We are using NewYork's Vapor Intrusion guidance as a tool in the evaluation of these "legacy" sites. Development of that document was lead by NYSDOH and can be found by following the link to NYS Dept of Health's Soil VI Information from the DEC page.</p>	<p style="text-align: center;">Jim Harrington NYDEC Chief Technology Section Division of Environmental Remediation 518-402-9755 jbharrin@gw.dec.state.ny.us</p>
NC	<p style="text-align: center;">NO</p> <p>If they are still open sites that we are working on, we will go back and screen or run a risk assessment on the VI pathway. We are not looking at closed sites.</p>		<p>If we were to revisit any sites, who would be responsible would depend on which program they are in. If they were in an RP- lead type program, they would be responsible. If they were in a funded program like our dry-cleaning program where we do the work ourselves and pay for it out of a state fund, then the fund(state) would do the investigation and mitigation. Currently, we do not pay for maintaining any mitigation systems even if the funded program (state) puts them in. The RP's are responsible for maintenance costs, etc.</p>		<p style="text-align: center;">Delonda Alexander delonda.alexander@ncmail.net</p>
ND	<p style="text-align: center;">NO</p> <p>North Dakota does not re-open site investigations/ remediation unless there is a very good reason, generally a new impact of some sort, off-site VI potentially being one. We have had some off-site VIs in the past, and are looking hard at the new ITRC guidance.</p>				<p style="text-align: center;">Kris Roberts Division of Water Quality 701.328.5236 Fax: 701.328.5200 Email: kroberts@nd.gov</p>
OK	<p style="text-align: center;">NO</p>				<p style="text-align: center;">Evelina Morales Epidemiologist DEQ Land Protection Division 707 N. Robinson Ave Oklahoma City, OK 73101-1677 Tel # 405 702-5108 Evelina.Morales@deq.state.ok.us</p>

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OR	NO Oregon DEQ has not (and is not planning to) re-open closed sites to evaluate the vapor intrusion pathway.	We have historically required evaluation of the vapor intrusion pathway when the conceptual site model indicated a potential problem		_DEQ has had published risk-based concentrations (RBCs) for vapor intrusion from petroleum since 1999, and have recently added many more chemicals to the guidance. See http://www.deq.state.or.us/lq/rbdm.htm for more information.	Ann Levine Cleanup Program Coordinator Oregon Department of Environmental Quality 811 SW Sixth Ave. Portland, OR 97204-1390 503-229-6258 LEVINE.Ann@deq.state.or.us
PA	NO We have not reopened any closed sites because of VI concerns, and it is not our intention to reopen any sites unless there is a documented immediate public health issue. We are instituting a review of sites currently going through the cleanup process to essentially validate the process we use, but the intent is not to use this information to go back and reopen any sites but rather to improve the process where needed.				Jeff Painter, P.G. Pennsylvania DEP Office of Energy & Technology Deployment P.O. Box 8772 Harrisburg, PA 17105-8772 Phone: 717-783-9989 Fax: 717-783-2703 Email: jepainter@state.pa.us
RI	NO As of this date we have not reopened any closed sites.	We have not developed any process to identify or prioritize sites.	If a site was reopened the PRP would be responsible for the additional investigation.		Paul Kulpa paul.kulpa@DEM.RI.GOV
SC	NO SC does not formally "close" sites. We have some we no longer actively work on, but they can (and are) reopened if we feel there has been an un-addressed hazard.				Craig Dukes, Environmental Health Manager III Brownfields/ Voluntary Cleanup Program Bureau of Land and Waste Management South Carolina Department of Health and Environmental Control Telephone (803)-896-4057 (866) 576-3432 DUKESCV@dhec.sc.gov
UT	NO Not to my knowledge.		PRP		John Menatti, P.G. Manager Petroleum Storage Tank Trust Fund Utah Department of Environmental Quality 168 North 1950 West Salt Lake City, Utah 84116 (801) 536-4159 jmenatti@utah.gov
VT	NO Vermont hasn't had any reopened specifically for VI.		Though it hasn't happened, it would be the PRP – unless through our brownfield's program we had Certificate of Completion in which case the former PRP is no longer a PRP, and it we would have to determine whether it would be the state or other PRPs (if any).	I am hopeful that you will keep us abreast of this issue as, at least in Vermont, this is currently on the radar screen for reconsideration of our existing approach.	Matt Moran Environmental Analyst VT Department of Environmental Conservation Waste Management Division 103 South Main Street, West Office Bldg. Waterbury, VT 05676 Tel : 802-241-3243 Matt.Moran@state.vt.us
VA	NO We have not re-opened any closed sites to evaluate vapor intrusion.				Patricia McMurray Scientist, Office of Remediation Programs Virginia Department of Environmental Quality 629 E. Main St. Richmond VA 23219 Phone:804-698-4186 pamcmurray@deq.virginia.gov

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WA	<p style="text-align: center;">NO</p> <p>I do not believe there is a re-open case due to VI concern. I might be wrong. WA State has not establish the blanket policy on how to handle the "legacy" sites who have not conducted any VI evaluation. However, by law in generic term, WA state has a right to re-open the case when A state determines that substantial changes in the cleanup action are necessary to protect human health and the environment at the closed-site via periodic review process. The WA State Dept of Ecology is currently considering how to approach this issue.</p>	No VI-specific policy	In the absence of written VI-specific policy, WA state presumes that liable party (or, the polluter) is primarily responsible for any investigation cost associated with VI exposure pathway evaluation.		<p style="text-align: center;">Park, Hun Seak (ECY) HPar461@ECY.WA.GOV</p>
WI	<p style="text-align: center;">NO</p> <p>We have no plans at this time to formally re-open closed sites to evaluate the VI pathway. Under our regulations, unless a new discharge occurred that wasn't addressed by the original action, information would have to come to our attention to show there is a threat from the original discharge before a site can be reopened. Our regulations state that we may require additional response actions for any case which has been previously closed if information indicates that contamination on or from the site poses a threat to public health, safety, welfare or the environment.</p>		Our regulations state that we may require additional response actions for any case which has been previously closed if information indicates that contamination on or from the site poses a threat to public health, safety, welfare or the environment. That may mean someone other than the RP would have to conduct additional investigation work to show a threat before the site could be reopened. Once reopened, the work would be the responsibility of the RP.		<p style="text-align: center;">Gary A. Edelstein, P.E., Waste Management Engineer Wisconsin Department of Natural Resources Bureau for Remediation and Redevelopment - RR/8 P.O. Box 7921 Madison, WI 53707 (608)267-7563 Gary.Edelstein@wisconsin.gov</p>
WY	<p style="text-align: center;">NO</p> <p>Wyoming has the ability to reopen sites if it is believed that there is a substantial threat to human health or the environment. To date, the WDEQ has not reopened any sites because of concerns with vapor intrusion.</p>				<p style="text-align: center;">Kathy Brown Wyoming DEQ/Solid & Hazardous Waste Division 510 Meadowview Drive Lander, WY 82520 307-335-6949 KBROWN2@state.wy.us</p>