

## Beggs, Tauren R - DNR

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**From:** Beggs, Tauren R - DNR  
**Sent:** Friday, January 27, 2017 8:16 AM  
**To:** 'John Emery'  
**Cc:** Omni Environmental Assoc Don Brittnacher; Sellwood, Alyssa A - DNR  
**Subject:** RE: Question on communication testing  
**Attachments:** Communication Testing ITRC.PDF

Hi John,

Communication testing before installing a mitigation system is recommended, not required. Communication testing after commissioning (installing) the system is required along with indoor air sampling for performance verification that the system is working effectively to eliminate the known vapor intrusion pathway. Please see page 17. Section B. Verification, in the RR-800 DNR vapor intrusion guidance document (link: <http://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf>) for more details. If the contractor is comfortable with the building type and soil conditions, then doing the communication testing during commissioning of the system, rather than prior to can also be an effective option.

I have included a couple pages from an external (not a DNR guidance document) ITRC Technical and Regulatory Guidance document called: *Vapor Intrusion Pathway: A Practical Guideline*. I think this provides a good explanation why pre-installation, during installation, and/or post-installation communication testing is completed.

If you have any other questions, please let me know.

Sincerely,

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**Tauren R. Beggs**

Phone: (920) 662-5178

Tauren.Beggs@wisconsin.gov

**From:** John Emery [mailto:emery.ja@gmail.com]  
**Sent:** Thursday, January 26, 2017 12:54 PM  
**To:** Sellwood, Alyssa A - DNR; Beggs, Tauren R - DNR  
**Cc:** Omni Environmental Assoc Don Brittnacher  
**Subject:** Question on communication testing

Alyssa & Tauren - As I work with contractors to develop proposals a question has come up about communication testing before & after the mitigation system is operational. One contractor is proposing to install five suction points then do communication system testing after startup to insure the entire sub-slab is being drawn from. Then, if necessary he would add 1-2 additional suction points and re-test. He feels this would be the most cost-effective approach.

Is that an acceptable strategy, or is communication pre-testing an absolute must? Your answer will help as I work with other contractors as they prepare their proposals.

Thanks, John

#### 4.3.3.3 *Premitigation Diagnostic Tests*

When necessary, premitigation tests can be conducted in existing buildings to measure the potential extent of the suction field for SSD systems. These tests, which are often referred to as “communication” or “suction field extension” tests, indicate whether SSD systems are viable and aid in the selection of suction pit locations and fan size. They may also indicate whether any conditions (soil or building) exist that might preempt the use of active depressurization systems. The test typically involves applying suction to a centrally located hole drilled through the floor slab (using a shop vacuum or a portable radon fan) and observing the movement of smoke downward into construction joints and/or small holes drilled at locations surrounding, but distal to, the suction point. Digital micromanometers or other types of small differential-pressure monitoring devices can also be used to assess the extent to which the suction system can achieve sufficient vacuum. Diagnostics should include testing under stressed conditions, such as during operation of furnaces and vent fans that tend to depressurize the building. In most cases, suction field extension tests are the only premitigation diagnostic testing necessary prior to design and installation of SSD systems (USEPA 1993b).

Suction field extension tests may also be conducted during installation of SSD systems, rather than prior to installation, using the first suction point to apply a vacuum and determine whether additional suction points (and/or larger fans) are required.

In many cases, mitigation contractors have sufficient experience with soil conditions and building types to accurately judge the size and locations of mitigation components. If a large number of mitigation systems need to be installed as quickly as possible, it may be more expedient to install standard systems, test these systems as they are being installed, and, when necessary, enhance or modify the systems to meet performance criteria (see Section 4.3.3.4).

#### 4.3.3.4 *Post-Mitigation Diagnostic Tests and System Modifications*

Post-mitigation diagnostic tests are generally recommended to ensure that mitigation systems are meeting performance objectives and criteria. Some states have required indoor air tests shortly after mitigation systems are installed to ensure that action levels are being achieved. The number and timing of required tests varies, from a minimum of two (MassDEP 2002) to long-term indoor air testing programs (CDPHE 2004). When only two post-mitigation indoor air tests are performed, at least one of the tests is generally performed during cooler months. Post-mitigation indoor air tests should not be conducted immediately after the system has been installed because time is required for vapors that have already entered the structure to dissipate. Some state guidance documents suggest that indoor air sampling not be conducted for at least 30–45 days after installation and, preferably, during the heating season, although experience at sites in Colorado suggests that indoor testing may be conducted within two weeks of system installation (unless extenuating circumstances suggest waiting for a longer period of time).

In some cases, no indoor air testing is required, and post-mitigation suction field testing is considered sufficient to demonstrate SSD performance, assuming downward pressure gradients are measured or observed at all points over the slab. Post-mitigation suction field extension testing can be conducted immediately after system installation or after a short period of

operation. In cases of widespread contamination in the state of New York, indoor testing of a representative number of buildings may be considered (NYSDOH 2006).

When long-term indoor air testing is used to monitor mitigation system performance, other forms of diagnostic testing are generally not necessary (except when action levels are not being achieved). On the other hand, when no indoor air testing is performed, perhaps due to concerns about background sources of contamination, more rigorous suction field testing is warranted.

If post-installation diagnostic tests indicate an inadequate suction field, a number of system modifications or enhancements have been shown to be effective (Folkes and Kurz 2002), including the following:

- improved sealing of cracks, construction joints, loose membrane seals, and other penetrations in slabs or membranes that may be short-circuiting the system (as indicated by smoke tests)
- enlarging suction pits below floor slabs
- extending suction points further under membranes, using a pipe tee, perforated pipe, or nonwoven geotextiles
- adding additional suction points, with or without addition fans
- increasing fan size

#### 4.3.3.5 Access and Scheduling

Whether the structure to be mitigated is a commercial or institutional structure or a private residence, arranging for access to the property can prove difficult. Commercial building tenants may not want construction activities disrupting business operations, and some homeowners may resist granting access to their home for a variety of reasons, including privacy issues. Scheduling indoor tests may also be difficult since access is required for both placing canisters and picking them up 24 hours later. Homeowners will often want to schedule tests before or after work. To address these concerns, it is highly advisable that an access agreement between the property owner and the investigating/mitigating entity be executed.

#### 4.3.3.6 Lead-Based Paint/Asbestos

Depending on the age of the structure being investigated, other environmental hazards such as lead-based paint or asbestos may be present and can potentially delay mitigation activities. Generally speaking, structures built before 1990 may pose a hazard with respect to lead-based paint, while asbestos may be present in buildings built before 1980.

The presence of one or more of these materials may delay construction activities within the structure until the hazard is adequately addressed or the appropriate safeguards are in place. Addressing these hazards adds to the cost of mitigation and may negatively impact the overall project schedule. Fortunately, most SSD systems are installed in basements and crawl spaces and, whenever possible, in unfinished portions of the house, limiting the potential for disturbing lead paint or materials containing asbestos.

----- Forwarded message -----

From: **Beggs, Tauren R - DNR** <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)>

Date: Wed, Jan 25, 2017 at 3:05 PM

Subject: RE: Status of proposals for Allyn property

To: John Emery <[emery.ja@gmail.com](mailto:emery.ja@gmail.com)>

Cc: "Don Brittnacher ([Don.Brittnacher@omni.com](mailto:Don.Brittnacher@omni.com))" <[Don.Brittnacher@omni.com](mailto:Don.Brittnacher@omni.com)>, "Sellwood, Alyssa A - DNR" <[Alyssa.Sellwood@wisconsin.gov](mailto:Alyssa.Sellwood@wisconsin.gov)>, Terry Fox <[tfox@klfgllp.com](mailto:tfox@klfgllp.com)>

Thanks for the update John

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**Tauren R. Beggs**

Phone: [\(920\) 662-5178](tel:(920)662-5178)

[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)

**From:** John Emery [mailto:[emery.ja@gmail.com](mailto:emery.ja@gmail.com)]

**Sent:** Wednesday, January 25, 2017 2:51 PM

**To:** Beggs, Tauren R - DNR

**Cc:** Don Brittnacher ([Don.Brittnacher@omni.com](mailto:Don.Brittnacher@omni.com)); Sellwood, Alyssa A - DNR; Terry Fox

**Subject:** Status of proposals for Allyn property

Hello again Tauren - While waiting for proposals from A-1 and SWAT, I've been trolling the list of contractors & found a couple more interested parties. I have one site visit scheduled for Tuesday & tentatively one for Thursday. Hoping to start getting some viable proposals in the next few weeks. I'll keep you posted.

More later,

John

PS - this email thread was getting way too long, so I cut this message down to include only the last couple messages & gave it a new subject line. Older messages are still attached to prior emails.

On Mon, Jan 23, 2017 at 1:06 PM, Beggs, Tauren R - DNR <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)> wrote:

Hi John,

Glad to hear the visit with SWAT went well! As part of the DNR, it is policy that I can't provide recommendations for specific contractors/vendors. I can only provide a list of available contractors and provide you with qualifications to look for when you are contacting them. If there are questions about specific details of a proposal such as system design, communication testing, etc. that was provided to you, you can call Alyssa Sellwood-Statewide DNR Vapor Expert at [608-266-3084](tel:608-266-3084) to discuss details/requirements/recommendations and get clarification. The contractor can also call Alyssa if they have certain questions as well. If you do contact her, please let me know, so I am aware of it and can assist you as project manager of the site when work begins moving forward with installation of the system.

Thanks,

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**Tauren R. Beggs**

Phone: [\(920\) 662-5178](tel:920-662-5178)

[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)

**From:** John Emery [mailto:[emery.ja@gmail.com](mailto:emery.ja@gmail.com)]  
**Sent:** Saturday, January 21, 2017 10:31 PM  
**To:** Beggs, Tauren R - DNR  
**Cc:** Don Brittnacher ([Don.Brittnacher@omni.com](mailto:Don.Brittnacher@omni.com))  
**Subject:** Re: Status of proposal?

Tauren - I had a good site visit with SWAT Environmental on Thursday. They definitely seem to be qualified to do the work & will submit a proposal within the next two weeks. I'm a bit concerned however that their rough estimate for a mitigation system with five floor penetrations is in the \$10-20k range. Still trying to find a third qualified vendor but so far no good candidates. If you can help with any recommendations on qualified vendors that would help.

Thanks, John

## Beggs, Tauren R - DNR

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**From:** Beggs, Tauren R - DNR  
**Sent:** Thursday, January 19, 2017 9:34 AM  
**To:** 'John Emery'  
**Cc:** Don Brittnacher (Don.Brittnacher@omni.com)  
**Subject:** RE: Status of proposal?

Thanks for the update John!

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**Tauren R. Beggs**

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[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)

**From:** John Emery [<mailto:emery.ja@gmail.com>]  
**Sent:** Tuesday, January 17, 2017 9:45 PM  
**To:** Beggs, Tauren R - DNR  
**Cc:** Don Brittnacher ([Don.Brittnacher@omni.com](mailto:Don.Brittnacher@omni.com))  
**Subject:** Re: Status of proposal?

Hi Tauren - Thanks for the helpful information. When Adam returns from vacation I will share this with him to help him prepare a proposal. However, he did say it would be about two months from now before he would have a proposal for us. Meanwhile I will continue working with other contractors starting with a site visit by SWAT Environmental this Thursday.

John

On Tue, Jan 17, 2017 at 8:53 AM Beggs, Tauren R - DNR <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)> wrote:

Hi John,

The vapor mitigation systems installed at these sites (the one in Milwaukee and the one in Green Bay) were precautionary systems that are becoming more common

to be installed as part of new building construction since it is much cheaper to do it at time of new construction than retroactively installing a system. I am not too familiar with the Milwaukee one but the Green Bay one I have more information on. This system

was installed due to the new building being adjacent to a chlorinated solvent plume from a former dry cleaner. Based on preliminary sub-slab vapor sampling after the building was constructed, it was not required that the vapor mitigation system be turned on.

Due to the system being installed during new construction and at this time, the system is not required to run, no communication testing was warranted in this scenario. It appears we have good documentation in the file of the system design and photo documentation.

Since there is no requirement at this point to run the system at that Green Bay site, there is also no need for an operation, monitoring and maintenance plan.

For the Allyn Property site, there is a confirmed vapor intrusion pathway based on the vapor sampling, so communication testing, documentation and photos of

system design, and an operation, monitoring and maintenance plan for continued system operation will all be needed so as long as A-1 is familiar with conducting communication testing and providing the proper documentation and has included that in their cost

proposal to you, I don't see any reason why they couldn't do the work at the site. A-1 would provide the documentation to your environmental consultant (Don) for inclusion into his report submittals. I have attached a few different examples of construction

documentation reports, communication testing documentation, and operation, maintenance, and monitoring plans from some other sites to give you a better idea of the kind of information A-1 would need to provide for an active vapor mitigation system. The attached

documentation also includes indoor air and sub-slab vapor sampling, which would be completed by whoever you hire (Sigma or another company) to do that. They would also be providing that information to Don for inclusion in his reports, like Sigma has done for

the first round of vapor sampling completed at the site.

If you have any further questions, please let me know.

Thanks,

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**Tauren R. Beggs**

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**From:** John Emery [mailto:[emery.ja@gmail.com](mailto:emery.ja@gmail.com)]

**Sent:** Friday, January 13, 2017 7:14 PM

**To:** Beggs, Tauren R - DNR

**Cc:** Omni Environmental Assoc Don Brittnacher

**Subject:** Fwd: Status of proposal?

Tauren - Adam Olinski from A-1 Radon installed mitigation systems most recently at these former dry cleaning sites, one in Milwaukee and one in Green Bay. He explained the systems are in newly constructed (redevelopment)

buildings at these locations. He was hired by the building contractors so he never knew who the DNR project managers were. Can you look that up? I'd like to know from you if this type of experience would qualify him to do our installation. He has not done

a mitigation system in an existing/former dry cleaning building.

Adam will be gone on vacation the next couple weeks, then due to his workload he said it would be a couple months from now before he could give us a proposal. If you could look up his projects in the next couple

weeks to see if he's qualified then we can let him know if we want him to proceed with a proposal. His order of magnitude estimate was in the ballpark.

Meanwhile, I have SWAT Environmental from Milwaukee scheduled to visit the site next Thursday. It was supposed to have been yesterday but they rescheduled due to the snow & ice. They claim they've done numerous

dry cleaning sites so we'll see what they propose.

Turns out our third mitigation contractor candidate is not qualified for our type of installation, so I will pursue another 1-2 candidates to keep the pipeline going.

I have also been in correspondence with EnviroForensics in Indianapolis but they seem to be a bit over-the-top for our type of job. Their order of magnitude estimate was about five times what we've been talking.

I'll keep you posted on progress & hope you can dig into A-1's qualifications.

John

----- Forwarded message -----

From: **A-1 Vacuum & Radon** <[a1vacuumradon@aol.com](mailto:a1vacuumradon@aol.com)>

Date: Fri, Jan 13, 2017 at 10:50 AM

Subject: Re: Status of proposal?

To: [emery.ja@gmail.com](mailto:emery.ja@gmail.com)

Here are the last sites we did.



Contractor: LaMacchia Group

Prime Financial CU

1923 W Oklahoma Avenue

Milwaukee, WI 53215

Contractor: CR Structures

Arbys

1911 Main St

Green Bay, WI

Thanks

Adam Olinski

A-1 Vacuum & Radon Services

mobile

[\(920\) 639-6542](tel:(920)639-6542)

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515 Sherman Rd.

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-----Original Message-----

From: John Emery <[emery.ja@gmail.com](mailto:emery.ja@gmail.com)>

To: Adam Olinski <[a1vacuumradon@aol.com](mailto:a1vacuumradon@aol.com)>

Cc: Beggs, Tauren R - DNR <[tauren.beggs@wisconsin.gov](mailto:tauren.beggs@wisconsin.gov)>; Omni Environmental Assoc Don Brittnacher <[don.brittnacher@omni.com](mailto:don.brittnacher@omni.com)>

Sent: Fri, Jan 13, 2017 10:09 am

Subject: Status of proposal?

Hi Adam - just checking to see how it's going on your end. Have you been able to contact Tauren with your questions & prepare the info he wants to know about your

dry cleaning mitigation experience? Looking forward to getting an initial proposal from you. Just keep me posted on progress.

Thanks, John

On Wed, Jan 4, 2017 at 2:16 PM John Emery <[emery.ja@gmail.com](mailto:emery.ja@gmail.com)> wrote:

Hi Adam - I informed Tauren Beggs at the DNR of your site visit yesterday and that you would be contacting him for more technical information. Below

is his response for what they look for in a mitigation contractor. Please send me the information on what dry cleaning sites you have worked on and the DNR project managers you have worked with. If you still have technical questions for Tauren, you may contact

him directly & copy me, or I can relay your questions to him. Hope this helps.

John