Virtual Auditing: Guidance and Best Practices

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There's been a lot of talk about virtual audits lately, a conversation that can sometimes be uncomfortable for seasoned EHS auditors. Years of auditing on site, face-to-face with your auditees, with hundreds of audits behind you makes one hyper-aware of all of the things that can go wrong when conducting an EHS audit without actually being there.

Times are changing. One of the implications of the COVID-19 pandemic is that some corporations are moving to a more virtual way of life, so that they can manage the 'new normal' and also be more proactive moving into new and unknown scenarios in the future. But even before the coronavirus, organizations were exploring virtual audits because the benefits they could offer were increasingly relevant to 21st century EHS management. The emergence of Data Analytics puts audit-relevant information and details at our fingertips and can allow an auditor to quickly determine if what they are seeing on the surface really adds up. Better communication and new technology tools are readily available and becoming more secure, and corporate culture often tends to be more receptive to their use. Corporate audit managers are being asked to verify EHS performance as efficiently and cost-effectively as possible. Tech savvy Non-Governmental Organizations (NGOs) are, in effect, already auditing companies without having ever set foot on the premises.[1] Corporate risk management policies had already acknowledged the risks associated with foreign travel and started restricting travel to potentially unsafe or hostile locales.

With COVID-19 pushing us to reconsider every non-essential site visit, now more than ever, EHS professionals have an obligation to their senior management colleagues to evaluate and demonstrate where and how virtual auditing can contribute to and indeed improve the organizational audit program. This white paper is intended to help you through that process: After offering a **working definition** for "virtual audit," the paper focuses on **deciding** about virtual audits: why organizations are undertaking them and what concerns and considerations to keep in mind. The next section addresses **planning** for virtual audits with six concrete steps to guide your team. The final section addresses **executing** virtual audits, highlighting differences from site visit audits in the pre-audit, audit, and reporting phases. Practical pointers and lessons learned are offered throughout to help you get your virtual audit program off to a smooth start.

WHAT is a Virtual Audit?

Let's begin with terms. <u>What is a virtual audit?</u> Not finding an explicit definition in our auditing standards, here is an empirical operating description for a virtual audit: First, a virtual audit is conducted when, for various compelling reasons, <u>the ability to conduct physical inspections and observations is restricted, but the duty to audit is still applicable</u>. Second, the virtual audit can and should be conducted in a manner that is substantially the same as an audit as defined by IIA/BEAC, ASTM, and other recognized EHS auditing standards.

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[1] Parker Doug, IIA EHS Exchange Conference, September 11, 2017, "Transparency in Environmental Reporting: Emerging Risks, Challenges, and Big Data."

How does a virtual audit differ from a remote audit? In general terms a "remote" audit has long been understood to consist of a paperwork review perhaps augmented with phone interviews (often called a "desktop" audit). It was understood that a remote audit was limited in comparison with a site visit audit. The term "virtual" implies that the remote audit has been augmented to be the best representation of a site visit audit that can be accomplished given the limitations of the technology available to the organization. So, we assume that a virtual audit goes beyond the remote audit by including one or more technology enhancements to make the audit more authentic to the process one would follow during a site visit audit, such as video conferencing, electronic document repositories, use of data analytics, and visualization of facility operations through videography (real-time and recorded). There is a continuum of technology enhancement that can be utilized, though all are not yet equally or readily available, and emerging technology is still being developed or beta tested.

It should be pointed out that some technology innovations that are being associated with virtual audits can also enhance the site visit audit. For example, allowing data gathering at previously inaccessible locations, or taking advantage of an electronic document repository prior to the audit site visit so that auditors can be more fully prepared prior to the site visit. That is, leveraging technology to launch virtual audits might have unexpected benefits to the overall audit program.

DECIDING If Virtual Auditing Is Right for Your Organization

Pandemic realities aside, pressure was already mounting to consider virtual audits[2]. Organizational change together with pressure to control cost was already a strong driver. Consider one of our clients, a corporate EHS audit program director in a Mergers & Acquisition (M&A) scenario who became responsible for many more facilities while her EHS audit team could not grow in kind. Another of our clients had facilities needing auditing in politically hostile locations in the Middle East with strict travel bans for their US and European corporate staff.

Also, as organizations become more risk averse, facilities and operations that previously did not warrant audits are coming under the scope of the program. This may include offices, retail operations, sales forces, and leased facilities that may have previously been considered out of scope. Or, it could be that management reasonably determines that a virtual audit is all that's

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[2] The IIA April 2020 Knowledge Brief, "Remote Auditing for COVID-19 and Beyond – Short Term and Long Term Implications," also identified advantages and disadvantages of remote audits, based on the authors' experiences and three current case studies.

needed for the time being, based on an objective evaluation of operational and inherent risk and a facility's past performance.

The sophistication and reliability of communication technologies and advancements in data collection and analytics make virtual audits more feasible today than even a few years ago. Advanced videoconferencing; wearable, high-fidelity non-intrusive cameras; live-streaming smart glasses; remote sensing; drones; real-time continuous emissions/discharge monitoring – all readily available and potentially already in use at your company. And there are good cultural reasons for adopting these tools into our practices; for young professionals who grew up with tech, using technology in a smart new way in your audit practice can get them more engaged with the EHS audit program and the EHS performance metrics it has to offer. And there is an EHS capacity building advantage also – if you can supplement site visit audits that happen every five years or so with more frequent and nimble virtual audits, then that increased cadence can have a beneficial and reinforcing effect on the participating staff – they learn better through more frequent contact what performance they should be aspiring to. Not only high tech, but also 'high touch' with the site experiencing more engagement from the EHS corporate team.

EHS leaders identified the following responsibilities as a snapshot of the new activities EHS functions have been performing from April – May 2020.

- Track Employee Health
- Coordinate procurement and sharing of supplies
- Conduct screening for COVID-19
- Track changing regulations at the local, state, national and international level
- Develop and communicate policies to workforce
- Develop return to work plan for remote employees

- Upgrade facilities for re-entry on workers
- Set and communicate policies for social distancing
- Screen employees for symptoms of infections
- Determine phases of reentry for workers
- Sanitize facilities after exposure incidents
- Business continuity planning
- Dedensify office space

Layer onto these factors the new reality of the pandemic. Many EHS managers are working remotely and sorely need visibility into the essential operations continuing at their company sites. Corporate EHS auditors that, until late February or March, had planned to travel the world to lead corporate EHS audits are grounded, but the need to evaluate EHS performance remains. In April and May of 2020, the National Association of EHS&S Managers (NAEM) conducted a survey to better understand how the pandemic was impacting corporate EHS leaders. From the 76 responses we learned that 41% of the EHS Departments are leading their firm's COVID-19 task force and, as a result, the EHS teams have many additional tasks related to managing operations during the pandemic.[3] Given the press of new responsibilities, the underlying EHS program may be vulnerable to inadvertent backsliding which may go undetected without some kind of audit function in place.

But there are concerns also. Virtual audits by definition will present limitations on the ability to make observations and visually inspect the facility. The virtual audit contact time between auditors and auditees is usually more limited as the electronic communications and information transfers are more intense and taxing than during a site visit audit, which is one reason the audit

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[3] Lever, Callum, NAEM Operational Excellence Conference, May 21, 2020, "A First Look at How EHS Functions Are Managing COVID-19."

duration may be extended beyond the typical site visit duration. Facility inspections and observations could be somewhat constrained by the person carrying the camera or recording device and there are also the potential limitations of the devices themselves. Even when videography is at its best, there will be a loss of fidelity compared with the information a lead auditor can perceive when being 'there.'

The overall thoroughness of a virtual audit in a direct comparison with the equivalent site visit audit is yet to be rigorously evaluated over multiple sites.[4] That said, it is logical to assume that the ability to identify issues that lead to findings is narrowed by the limitations of being remote. Auditors are hindered in making themselves fully 'present' to facility operations and have fewer avenues for incidental observations and contacts that typically occur during a site visit audit. It is structurally less thorough. However, based on our experience, this limitation on thoroughness should have no bearing on the veracity of findings. If conducted in accordance with audit standards, virtual audit findings should be just as well developed, defensible, and valuable as a finding from a site visit audit.

All of our auditing standards tell us that the success and effectiveness of audits depend on having an auditor who is both objective and independent of the organization being audited. What happens when the objective and independent auditor is remote to the site being audited? Without an independent or quasi-independent presence on site, you may meet with resistance when probing issues, or at worst, the overall audit results may be swayed more easily than if the auditor was onsite. This may be one reason why our experience has shown that virtual audits work best where there is a level of trust among organizational levels and where the organization is high functioning and transparent within. Another recent case study supported this, finding that it was better if the facility being audited had a demonstrated history of understanding applicable regulations and site-specific requirements; and facility personnel had a good understanding of their roles and responsibilities.[5] While there may be some risk in interpreting the overall audit results, remember that the actual findings that do come out of the audit will still be legitimate findings.
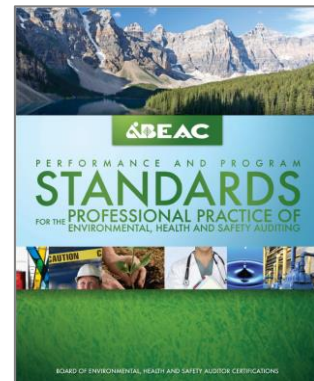
Finally, there often tends to be an assumption that virtual audits will be simpler than onsite audits and therefore will take less time and resources of both auditors and auditees. Managers typically underestimate the necessary resources and effort involved, especially as the organization undertakes its first few virtual audits, leading to dissatisfaction among auditors and auditees. In addition to technology decisions and time needed to gather and provide electronic documentation, there are additional significant roles to assign to personnel to assure the success of the virtual audit, as highlighted in a recent case study presented by Lockheed Martin.[6] For example, the

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[4] One study has been conducted by Brian Cook in the National Park Service using one facility audited both virtually and with a site visit audit within a short span of time and employing different audit teams from different companies. The audit results were similar with regard to the topics in which findings were identified; however, the site visit audit identified a solid waste finding that was not discovered during the virtual audit, and the virtual audit team identified an environmental purchasing finding that was not discovered during the site visit audit.

[5] Litzenberg, Roy, CPEA, and Ramirez, Carrie F., CIA, CHMM, CDGP, April 2020, p. 6.

[6] Anderson, Casey, Lockheed Martin, presented at the NAEM Operational Excellence Conference, May 21, 2020, "Pivoting Your Auditing Program During Times of Extreme Business Interruptions."

case study highlighted new roles including a technology administrator (to include corporate security considerations) and a records administrator. Underestimating the need for adequate resourcing and preparation can initially get the virtual audit program off to a bumpy start and give managers the impression that it is not worth it before the program's value can be fully understood. This is why it is so important to take time to establish a corporate policy and procedure for virtual audits and engage in careful planning, even if under pressure to launch quickly.

After considering these factors, if your organization decides to move ahead with virtual audits, what are the next steps? Our recommendation is to seriously consider your virtual audit PLAN, and importantly to allow time to plan ahead.

PLANNING for Virtual Audits

To make sure virtual audits are successful and consistently carried out, invest time in some advance planning. Consider who might be impacted by launching a virtual audit program and assemble a small steering team to determine objectives, set expectations, and serve as your sounding board during the planning process. Ideally, the steering team would be cross-organizational and with audit leadership, management, and sites represented. The following steps are recommended to quickly work through the planning process.

1. **Set clear objectives and manage expectations for the virtual audit program.**

Setting objectives establishes the parameters for all the other planning steps and provides insight into the correct level of effort. Some guiding questions for setting objectives might be:

- Is the virtual audit program a potential long-term change or a stop gap measure to meet this year's auditing requirement under the challenges posed by the pandemic?
- Are virtual audits intended to achieve parity with site visit audits or to be more of a performance check in between site visit audits?
- Will there be restrictions on topics addressed or limitations to the physical scope of the audit or are they intended to remain the same?
- If yours is a "learning organization" and considerable education and compliance assistance typically occurs during site visit audits, is the intention that this will occur during virtual audits as well?

Once objectives are set, then, it is important to manage expectations for the results of virtual audits in comparison to site visit-based audits. Remind managers that the thoroughness and depth of the virtual audit could be constrained, but that the findings will be as well substantiated and developed as during a site visit audit.

2. **Determine the best allowable operational approach(es) to conducting the virtual audit program.**

The program objectives will help determine the correct operational approach to real time physical inspections and observations during the virtual audit. There are at least three operational variations:

Real-time physical inspections and observations…	1. …are not made directly by the auditor but supplemented by requested photos or status checks taken by a trusted individual at the site. [Trusted Actor]
	2. …are made directly and remotely by the auditor using tech tools (i.e., live video-stream, drone-enabled data gathering). [Tech Enabled]
	3. …are made by a skilled local surrogate, usually a professional auditor from outside the organization, who coordinates closely with the remote audit team. [Local Auditor]

The three approaches may be combined, even within the same audit. For example, technology may not function in various parts of the facility, so the audit plan may fall back to the Trusted Actor approach for those portions of the facility. Or, a Local Auditor may be Tech Enabled to allow the remote auditors to participate virtually. To navigate these decisions, consider some of the advantages and disadvantages of each approach:

Approach	Advantages	Disadvantages
Trusted Actor	▪ Low cost ▪ Familiarity with facility layout and operations ▪ Good facility access and coverage	▪ Observer likely not independent and can have difficulty being objective ▪ Familiarity with the landscape can lead to unintentional oversights ▪ May not be audit experienced or audit terminology literate
Tech Enabled	▪ Remote auditor can observe directly, in real time ▪ If recorded, footage can be reviewed after the real time observation ▪ Snapshots and video clips can be derived from the video recording to illustrate observations ▪ Can be synched with other GIS data, such as layered site maps or topographic maps	▪ Costly if not already in place as a corporate asset ▪ Coverage may be limited by bandwidth or cellular signal ▪ Can be complex with a steep learning curve, which may cause distractions or delays ▪ Can give a false sense of assurance about the thoroughness of the audit
Local Auditor	▪ Objective, independent auditor present onsite ▪ "Fresh pair of eyes" on the operation, if the local auditor is new to the facility ▪ Ready knowledge of local and country legislation ▪ Conversant in local language	▪ Additional cost if third-party ▪ Facility access and coverage will need to be negotiated and navigated ▪ Remote auditors are dependent on the local auditor's observation, communication, and auditing skills

The best approach for one site may not be workable at another site. The virtual audit policy/procedure should set broad parameters for what options are allowable (including technology selections) and then, within those parameters, the best approach for each facility should be considered during pre-audit planning.

3. Investigate and decide which tech tools to use.

Investigate and decide what tech tools will aid the remote auditors. Begin with what is readily available within your organization. Commercial off-the-shelf (COTS) technology is readily available to support visualization of the site conditions; however, security of live-streamed information is a significant issue that must be resolved consistent with corporate IT security requirements. If you intend to acquire technology to enable the virtual audit, get your IT department involved at the beginning – chances are, someone in the company has already used remote videography. If your organization is open to investing in new technology to enable auditing (COTS or as a service), don't rush into a decision and fully evaluate the rapidly evolving marketplace before you invest.

4. Establish a policy/procedure for virtual audits. Keep it simple.

Even if the virtual audit program is temporary, to achieve a consistent approach and meaningful results, establish a specific audit procedure. It is easiest to start with your existing EHS audit procedure and adapt it to the virtual audit. At its most streamlined, the virtual audit procedure can be an addendum that references the corporate EHS audit procedure and then simply identifies and describes where it differs. Here are some common potential differences that we have encountered with virtual audits that should be addressed in the procedure:

Element	Differences
Authorization	Initially, virtual audits may be undertaken as a pilot program or feasibility study. The procedure should state whether this is the case and under what corporate authorization it is being carried out. If it falls under the existing authorization for the corporate auditing program, then say so.
Approach and Technology	Briefly describe what approaches will be permitted under the virtual auditing procedure (among the three described above). Specify what technology may be utilized.
Roles and responsibilities	Consider what additional roles will be necessary for the virtual audit approach to be successful. Let's consider some examples: ▪ Consider appointing a **Lead Auditor Proxy** (the trusted actor) to coordinate audit activities at the site being audited under the direction of the remote lead auditor and to help use people and time most efficiently at the site. Ideally, this individual would be familiar with the EHS audit process and have a sufficient span of control at the site to coordinate across divisions and functions. ▪ As mentioned above, it is common to appoint a **Technology Coordinator** to make sure the tools are in place and to test them prior to the audit and, if necessary, to train users on their use. ▪ Virtual audits generally necessitate many more meetings during the pre-audit phase as iterations of documents and records are requested and assembled and to make decisions about technology, list of interviewees, and other pieces of the audit preparation. So, consider appointing a **Scheduling and Logistics Coordinator** to help ease the auditors' direct involvement with these tasks. ▪ As mentioned above, a **Records Coordinator** should also be assigned responsibility for locating and uploading requested documents to the document repository and being accountable for keeping the team informed of how documents are organized there. An individual may be able to act in more than one of these roles. Note that each of these roles will likely have a corporate and a site counterpart. One or the other should be assigned the lead as appropriate to your organization with their counterpart expected to support them.

Element	Differences
Pre-audit	The pre-audit process will be longer and is likely to require more meetings to achieve certain milestones. These might include: Introduction to virtual auditing procedure including differences from a site visit audit; assignment of roles and responsibilities; technology selection and validation; initial document call and one or two follow-up calls; pre-audit planning; pre-audit site orientation; logistics planning and meeting/interview scheduling.
Document and Information Management	The success of the virtual audit will be greatly swayed by the ease and utility of the document platform. The protocol should identify allowable technology (e.g., TEAMS, SharePoint, corporate VPN) for storing gathered documents and visual evidence and how documents will be gathered there. If the approach includes video recordings of key processes, then the data storage capacity of the document repository will be significant. The procedure should address the permissions needed for recording as well as transmitting and storing images or videos of business processes and employees and whether the usual audit document retention policy will be followed.
Audit	Consider the duration of the audit. Since the exercise of gathering data or conducting physical inspections is no longer constrained to the boundaries of a site visit, specify what will be an acceptable time period in which to conduct physical inspections and interviews. Experience is showing that it is okay to stretch the audit beyond the typical three to five day time period typically allowed for a site visit; however, it is important to establish a firm starting date and ending date for the data collection period, or the virtual audit could get caught up in ongoing iterations of data collection in an attempt to make the audit as thorough as a site visit audit.
Reporting and Audit Data Management	Identify differences, if any, in how audit findings will be developed, reviewed, finalized, and reported. Explain how data from virtual audits will be maintained. Reinforce that the quality of audit observations is expected to be the same as for site visit audits. As such, there should be no issue with compiling audit data together with that from site visit audits. It is recommended that data records (findings and observations) be clearly identified as associated with virtual audits in case there is a need to break them out separately for analysis when evaluating the virtual audit program later.
Feedback and Continuous Improvement	Expand on the usual procedures for feedback and continuous improvement of the audit process. Since the virtual audit program will be new, there should be formal assessment of the outcomes and deliverables of the virtual audits as well as formal and informal gauging of the satisfaction of participants and management with the revised audit process.

5. Establish criteria for facility selection.

When initiating the virtual audit program, it is useful to begin with high performing facilities where participants will have the patience, openness, and stamina to work through the process, engage in the associated communications in a timely way, and provide useful and truthful feedback. The corollary of this might be to initially avoid those sites in your portfolio with a defensive culture or who are less engaged with recognizing the benefits of auditing. If the virtual audit program is planned to go beyond the testing or pilot phase, then it is worthwhile to establish objective criteria for what facilities will be eligible for a virtual audit and gain buy-in from management and the sites to be audited. Typically, facilities are selected for virtual audits based on a combination of risk and performance. That is, facilities with higher inherent or operational risk might be avoided due to the complexity of conducting a virtual audit **or** perhaps selected because of their risks for a focused virtual audit. Facilities that have performed well during site visit audits in the past may be preferred for a virtual audit with a longer time interval between site visit audits. The strength

of technology tools, and the availability of staff with the right set of skills to support the audit (including potential local independent auditors) may also be considered. As the program develops, having some transparent framework for site selection is advisable to avoid questions and second-guessing from both management and facility leaders.

6. Decide how and when to launch the program.

A pilot program is recommended in which the organization would undertake several virtual audits and then pause and fully evaluate how they functioned and determine how the program will be carried forward. If you have solid data on the level of effort associated with site visit audits, consider tracking similar metrics for the virtual audit. There is a common perception (since travel costs are saved) that virtual audits are more cost effective, but this has yet to be demonstrated in any formal evaluation that we are aware of, so this is an assumption that needs to be interrogated and ideally shared with the EHS community.

Given the demands of the COVID-19 pandemic, there will likely be pressure to launch the program as quickly as possible. Taking a few weeks' time to tailor the audit policy and procedure for virtual audits will provide milestones and the ability to set a realistic schedule to achieve those milestones. Given the current circumstances, however, it is understood that many corporations will be testing and piloting virtual audits even as they refine their policy and procedure for conducting them; as one of our clients said, "*I'm building the airplane while taxiing for take-off*.

EXECUTING a Virtual Audit

With the program planning in place, let's now envision what carrying out a virtual audit entails. For our purposes, since it is likely that most readers are experienced EHS auditors, the following table emphasizes the significant differences from the site visit audit rather than exhaustively describing each audit step.

Pre-audit Planning – Investment of time and attention to detail during the pre-audit phase will be rewarded during the audit when auditors are free to focus on their audit-related tasks rather than be distracted by scheduling, technology issues or failures, confusion about communication, and difficulty receiving or sharing relevant documents. The primary objectives are to fully prepare all participants to fulfill their roles, to provide remote auditors a solid understanding of facility operations and layout to help them remotely "navigate" the audit more effectively, and to put in place – and test – systems and procedures for communicating, transferring documents, conducting interviews, and accomplishing virtual facility inspections prior to the start of the audit.

Steps	Details
Make initial contact with the entity to be audited.	▪ Explain why the organization is undertaking virtual audits. ▪ Explain how auditee site selection was made. ▪ Identify new roles that the site team will need to establish to achieve an effective audit. ▪ Seek buy-in from site management to assist corporate in vetting the virtual audit procedure.
Plan and conduct an introductory meeting.	▪ Introduce the virtual audit procedure and explain differences from previous audits. ▪ Determine and activate a document repository.

Steps	Details
	▪ Identify remote auditors including their expertise, their locations, and their time zones. ▪ Identify site contacts and responsibilities including Lead Proxy Auditor (that could include a Local Auditor) and others as appropriate.
Plan and conduct pre-audit meeting(s).	▪ Review how the virtual audit will differ in process from the site visit audit. ▪ Review roles and responsibilities of all participants. ▪ Discuss how a document repository will be established, which organization will host it, and how access and security will be managed. ▪ Discuss procedures for remote interviews, including whether videoconferencing will be mandatory or voluntary. (Note: Based on interviews and our experience, recording of audit-related interviews has generally been excluded by those planning virtual audits.) ▪ Discuss the facility operations and which portions of the facility will be more amenable to video-documentation. ▪ Consider what the duration of the audit will be. Recent case studies have indicated that it is wise to extend the audit duration (say two weeks instead of one) to allow auditors to process and follow up on incoming information, proxy auditors to conduct follow up, and to spread out the interview and facility inspection schedule at sites that may already be under staffing strain due to the pandemic.
Prepare/train trusted actor/proxy auditors.	▪ Site contacts may be familiar with operations and EHS requirements, but are usually not trained auditors; consider providing an auditor basic training to those the remote audit team will be relying on to help them with discovery of evidence that determines whether or not a finding exists.
Finalize and test technology, communication, and document handling tools.	▪ To the greatest extent possible, select technology that is widespread within the organization and that participants are already familiar with. ▪ If using new technology platforms, then build user training on the new technology into the pre-audit process. ▪ Within the corporate audit procedure, create standards for each type of technology for this specific audit. For example: MS Teams or HeySpace for all videoconferencing; "X" brand of head cams for video recording of site tours; designated VPN to the document repository (no email). Allowing an array of technologies to be used without pre-planning during the same audit

Steps	Details
	• adds unnecessary complexity and the increases likelihood of failures and incompatibilities. • Even if confident, test the technology and create brief SOPs to help avoid failure (e.g., power supplies pre-charged and back-ups available).
Establish and populate the document repository.	• Check storage limitations to make sure the selected platform can handle the volume of data expected (especially if recorded video will be stored). • Consult and confirm that repository *and the means of document transfer to and from* is secure per corporate standards. • Make sure auditors and site's designee(s) have access and test and confirm the access with actual document transfers. • Work with the Lead Auditor to establish a file structure and instructions on where types and categories of data are to be stored.
Set a daily schedule and routine for the audit.	• Discuss when and how audit activities and communications will occur during the audit, considering the time zones of participants.
Provide remote auditors with a comprehensive site overview of site operations.	• In a few of the case studies reviewed and presented, the importance of helping the audit team to understand facility operations, processes, and layout was emphasized. The site team should work together to prepare a presentation, ideally augmented with visual aids such as site maps, images, and video clips of the facilities operations, and present this to the audit team prior to the audit.

Conducting the Audit – Work to achieve all audit steps outlined below within the planned starting and ending dates. However, within that time period, especially during the first few virtual audits, allow flexibility and space in the schedule for unanticipated interviews or ad hoc meetings. Experience and case studies are indicating that maintaining the cadence and frequency of communications is particularly challenging, especially when remote team members are in different time zones than the site. It is important to understand ahead of time whether remote team members are willing – and able – to work outside their regular working day if necessary. Cultures vary considerably on this point. It may be that once you take this into account, you have only had a limited time window each day when all participants will be readily available.

Steps	Details
Conduct the opening meeting.	• Review the virtual audit process, including the selected and permitted technology that will be employed. • Introduce all participants (on site and remote) including their specific role in the audit. • Explain how any urgent communications will be handled; for example, in the event that a remote

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Steps	Details
	auditor identifies a condition that could be an imminent danger to life safety or the environment.
Maintain regular communications, choosing times that allow for time zone differences.	▪ Provide for daily Lead Auditor coordination with the Lead Proxy Auditor on site. ▪ Hold timely daily debriefs, within the time window when all are available. ▪ Review the scheduled activities for the next day and confirm participation of all during the daily debrief. ▪ Work through any issues/problems encountered due to specific virtual audit challenges.
Conduct interviews and real-time facility inspections timely.	▪ Strive to stick to the planned schedule for these events. If the schedule slips, regroup and reschedule rather than press on. ▪ Keep interviews to no more than a half-hour without a break to prevent multi-tasking and screen fatigue.
Conclude data gathering by the planned end point.	▪ Allow adequate time for auditors to review data; in particular video recordings and photographs including the opportunity for follow up. ▪ Provide for the audit team to confer at length on findings and conclusions in advance of the closing meeting.
Conduct the closing meeting.	▪ Briefly review the virtual audit procedure before discussing audit results. ▪ Explain any differences in audit reporting procedures (see below). ▪ If time allows, take the opportunity to gather some early, informal feedback on the virtual audit procedure (perhaps a quick +/Δ or pros/cons exercise). ▪ Thank all participants for supporting the new procedure and explain how it will be formally evaluated at the corporate level.

Preparing the Report – If the audit went accordingly to plan, then the reporting should follow very much according to the usual procedure for site visit audits. In the unlikely event that the audit did not go according to plan and the audit results are questionable, then first take a step back and decide the best way to represent the results and how to learn from and improve the virtual audit process. Otherwise, consider the following differences in developing the audit report for the virtual audit.

Steps	Details
Compile the observations.	▪ If the corporate audit team is dispersed, the Lead Auditor should confirm that all potential findings have been submitted by participating audit team members. ▪ It is recommended to convene the group in a video conference to share and confirm the

Steps	Details
	compiled list of findings before finalizing the report.
Conduct quality review.	▪ Apply quality review to all observations and findings; make sure all meet corporate standards for evidence. ▪ If audit results are very different from past site visit audits, investigate why before accepting them as final.
Present qualifications, caveats, and recommendations related to the limitations of the virtual audit in the executive summary.	▪ Identify that the audit was conducted virtually, and briefly explain what technology was employed to provide audit information to the remote auditors. ▪ Highlight any weaknesses or exceptions in the virtual audit approach, including areas where indications of findings could not be confirmed due to the limitations of the virtual audit. ▪ Recommend focal points and follow-up items to address during a future site visit audit.
Consider data storage and later analysis.	▪ As mentioned previously, consider identifying ("ear marking") final findings as being from a virtual audit and observations so they can be segregated for later analysis.

Evaluate and Adjust – Don't miss the opportunity to assess the virtual audit procedure and harvest the lessons learned for future improvement. Here are some suggestions:

- The virtual audit procedure itself should provide for feedback and continuous improvement – make sure these steps are followed according to procedure.
- In addition to EHS audit results, consider other measures of performance such as level of effort, cost, and degree of disruption or integration with business processes.
- Survey participants about the audit experience against expectations.
- Make adjustments to the virtual audit procedure accordingly.

It is our belief that the technique of virtual auditing will play a significant role in the future landscape of EHS performance review. It appears highly likely that any organization engaged in evaluating and improving EHS management will need to address the concept of virtual audit in one shape or another. Even once we emerge from the current pandemic, the case for developing and using virtual audits - that was gaining traction in our community anyway - will have been significantly enhanced, and become an accepted methodology to contribute to the management of local and global EHS risks.

What's Next?
This paper has been prepared by *convergence consulting* in an effort so assist our clients and as a contribution to the corporate EHS community at large. This paper is not intended to be all-inclusive treatise on the subject, but rather a presentation of our current understanding and views. We are receptive to your comments and feedback and will continue to refine and deepen this

guidance based on our own experience with our clients as well as additional case studies, presentations, and roundtables we participate in. We also plan to develop written case studies and additional guidance related to virtual auditing in the near future. Please address your comments and feedback to:

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For over 18 years, Leigh has served as a management consultant with an emphasis on data-driven, team-based environmental, health and safety (EHS) and sustainability performance management. Her expertise includes compliance verification and management, environmental management system (EMS) fulfillment (ISO 14001:2015), and emergency preparedness/resiliency. Leigh is a Certified Professional Environmental Auditor (CPEA) accredited through the Board of Environmental, Health and Safety Auditor Certification (BEAC). In her consulting career Leigh has served clients at biopharmaceutical and other commercial companies; universities and medical schools; and science-based federal agencies including the U.S. Environmental Protection Agency (EPA). Leigh has conducted over 120 EHS audits, some involving disclosure to EPA, and performed EHS-related work in 44 states and the U.S. Virgin Islands. Leigh holds a Bachelor's degree in Biology from Oberlin College and a Master's degree in Urban and Regional Planning from the University of Wisconsin-Madison.

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About convergence consulting LLC

convergence consulting LLC is an environmental, health, safety and social management consultancy that specializes in multi-country (international) projects and programs. We are able to meet our clients' needs on a global scale while recognizing the important regional differences that our clients face in conducting business. We have the skill set required to conduct international projects, and the infrastructure to ensure efficiency, consistency and seamless delivery. *convergence* is a market leader in international auditing for the manufacturing, pharmaceutical, chemical, technology, retail and several other sectors.

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