

CHOOSING A HIGH-QUALITY PHA FACILITATOR

White Paper

RETA National Conference

November 11-17, 2023, Jacksonville, Florida

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*Presented at RETA 2023 National Conference
November 11-17, 2023 – Jacksonville, Florida*

Understanding the hazards of working with and around natural refrigerants is foundational to any effort to establish safety culture. For this reason, it is unsurprising the agencies responsible for enforcing safety regulations, namely the United States Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA), provide tools like the Hazard Assessment and Process Hazard Analysis (PHA) as a starting point for the development of safety management systems like the Risk Management Plan (40 CFR 68 Section 68.67) and Process Safety Management Program (29 CFR 1910.119(e)). Not forgetting the importance of the Hazard Assessment, this paper will focus on one of the most critical factors in developing a high-quality PHA; selecting an equally high-quality facilitator.

While the need for contract facilitation support is not a requirement under the current regulatory framework, securing a seasoned, well-trained facilitator can be challenging. How does one determine a facilitator has the necessary qualities to conduct a PHA, particularly if one is not well-versed in PHA methodology? For this writer, this situation seems akin to the anxiety one feels in utilizing a mechanic for car repair when one is not particularly familiar with auto mechanics. Can the recommendations they provide be trusted? Is this person gouging me; trying to boost part sales? Have they assessed my vehicle properly?



“Matilda” Sony Pictures, 1996

This paper will seek to provide practical guidance to help readers select PHA facilitators with confidence. However, not to give away the ending, but instead of finding a one-size-fits-all recommendation for selecting a facilitator, it turns out the answer to finding good support is “it depends.” Therefore, this paper will outline a thought process to aid readers in evaluating what *they* need in a good facilitator.

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Practical Elements for PHA facilitation

To begin, let's be clear. A PHA is a systematic effort to identify risks within a system and assess the likelihood and severity of those risks. This definition is a high-level summary of the nearly 600-page "Guideline for Hazard Evaluation Procedures" published by the Center for Chemical Process Safety (CCPS). Although other materials on this topic are available, including training materials provided by the International Institute of Ammonia Refrigeration (IIAR), it is this author's opinion that CCPS is the gold standard for a full understanding of the concept relating to completing a PHA. However, referring to it is like referring to the Encyclopedia Britannica; it's exhaustive. The following are a few basic concepts any facilitator should be familiar with and be able to speak without preparation.

- Risk Matrices: A matrix that assessed the relationship between severity and likelihood to indicate risk.
- Nodes: Sections of the process; grouped to allow the team to assess the system in manageable pieces.
- Safeguards: A measure that will prevent or mitigate a hazardous consequence.
- Causes/Consequences: Causes refer to deviations in the design or operational intent of the system, while the consequences describe the inevitable outcome given the system deviation.

Beyond the methodology, a knowledge of the system is essential. However, as we'll discuss later in this paper, the required depth of knowledge may vary. That said, all facilitators require a basic understanding of the refrigeration cycle and the major equipment used in the system listed below..

- High Pressure Receiver: A vessel which provides the main source of liquid refrigerant. Sometimes designed to hold the entire system charge, the vessel may also be used to minimize the effect of system transients.



- Compressor: A mechanical device which increases pressure of a gas by reducing its volume. The heart of a refrigeration system, the compressor increases the pressure and temperature of the vaporized refrigerant.
- Evaporator: As the cooling component of the system, it absorbs heat and moves it away leaving areas cool. In warehouse applications, the evaporators are found in refrigerated rooms and are responsible for removing heat from the storage area.
- Condensers: System component that removes heat from high pressure vapor and releases heat to the atmosphere leaving refrigerant cooler, denser, and relatively low pressure.

Abstract Elements for PHA facilitation

As part of the preparation for this paper, a survey was released and more than 20 interviews were conducted with industry professionals and, along with technical knowledge, there was a pattern for several “soft skill” qualities thought to be required for successful PHA facilitation. Although individual responses varied, the following are common themes of interpersonal skills which were inferred as “necessary” for a successful facilitator.

- Communication Skills: Clear, easy-to-understand layman-style speech. Excellent command of the language of the study.
- Listening Skills: Adept at understanding different points of view and the ability to absorb concepts provided by the team.
- Leadership Capability: Self-Confident, able to keep the group on track and identify when discussions are no longer profitable for the current study.
- Diplomacy: “People Skills,” the ability to deal with people in a sensitive and effective way.
- Adaptability: Ability to respond quickly, particularly when presented with unusual situations. (i.e., system drawings fail to include equipment, system renovations are undocumented prior to the meeting, etc.)



A Recipe for the Ideal Facilitator

So, does the ideal facilitator encompass all the elements listed above? What's more important; hard skills or soft skills? When setting out to write this paper, I thought these questions would be answerable, but the truth is; it depends. Based on interviews and personal experience, it is safe to say that all studies are different. Each team works differently, and every system has its own challenges. In looking to secure a facilitator, one must assess the needs of their own study, team, and situation.

During a recent study, one interviewee recounted, all system drawings provided prior to the study were incorrect. The facilitator had to work "on the fly" to maintain the project schedule. In that instance, adaptability was critical. Another interviewee described a team that did not believe the young facilitator had the proverbial chops to handle the complicated system. In that case, demonstration of understanding of system fundamentals was critical to keeping the team engaged in the project. Several stories shared by interviewees included reluctant management that needed recommendations to legally drive and improve safety culture and a strongminded facilitator. Others included team members who couldn't be less interested in the study and simply wanted to avoid regulatory scrutiny, so any facilitator would do. As a result, this paper had to conclude that when identifying the characteristics of the ideal facilitator; it depends.

When hiring a facilitator, the following is a partial list of some of the elements to consider:

- How complicated is my system? Will I require someone with any special background to assess my system?
- Will the PHA team for my facility include "strong personalities" that will require a strong hand to produce high-quality output?
- Should the facilitator be able to perform well under pressure? What sort of resistance are they likely to meet from my team?

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- How well do prospective facilitators present themselves in interviews? Can they clearly articulate their background and understanding of the system?

Tools for Facilitator Selection and Evaluation

This author is no expert on the subject of recruiting. The alchemy of finding the space between empirical demonstrations of experience and subjective assessments of perceived personality traits to select individuals that will thrive within the company environment is a skill still being honed. However, based on years spent securing new hires, the following are a few things to look for when considering applicants for facilitator positions.

- Attention to detail: Leave a small, but direct request at the end of your advertisement to test whether or not they read instructions carefully. Our advertisements require applicants to title their email responses “Honesty and Integrity are the building blocks of any successful business.” Any applicant without this title is not, generally, considered as they have demonstrated they have not paid sufficient attention to detail.
- Consider alternate examples of group leadership and a transferable skill. For example, DJs, teachers, Club/religious group leadership, toast masters, etc.
- If appropriate, provide a small test to see if the facilitator can assess system drawings well.
- Consider familial attachments/extracurriculars if your position requires frequent travel.
- Assess educational requirements and weigh them against actual experience. Avoid blindly relying on years of experience. A professional who has completed one study a year for ten years does not have the same experience and someone who has completed one study a month for five years.
- Ask questions about how they lead a study? Assess whether they speak in generalities or if they’ve used any of the language from the first section of this paper. Did they struggle to describe their process? If so, that’s a red flag.



- Ask and consider how the interviewee prepared for the interview? Would that level of effort be sufficient if they were preparing for a study?

Through careful assessment of the needs of the team and the skillset of the interviewee, hiring managers should be able to navigate the hiring process to secure highly qualified facilitators that work well with the team and turn out high-quality assessments that support safety culture for any organization.

