

Meticulous Verification

Meticulous verification, the last of the four societal themes of Vision 20/20, helps to assure that an organization's process safety management program is reliable. Companies in the process industries use various verification, assessment, and auditing techniques to guarantee that their process safety management systems are working as intended. These evaluations are generally conducted internally. However, the need for objective review has resulted in demand for competent third-party assessment organizations to help companies identify shortcomings.

The integrity of a management program is strongly dependent on the discipline of those responsible for it. Meticulous verification calls for collaboration between companies and third-party entities to ensure comprehensive and ongoing assessment of the effectiveness of process safety management programs. In Vision 20/20, third-party auditors, which may include public or nongovernmental organizations (NGOs), help evaluate the implementation of a company's process safety program to help ensure that process safety systems are robust and functioning as intended.

What Does It Mean?

- Companies use various assessment techniques to ensure that their process safety management systems are working as intended.
- It is standard practice for companies to supplement internal audits with competent third-party verification of their engineered systems and process safety management systems.
- Third-party technical experts verify specific technical details and pinpoint problems that internal staffers may miss during their evaluation.
- Public entities and NGOs evaluate the implementation of company process safety programs.

What Is the Value?

- Third-party assessments may identify additional opportunities for improvement in a company's process safety management systems, and can enhance stakeholder relationships.
- Meticulous verification supports the development of partnerships to challenge others to deliver great process safety performance.



What Can I Do?

- Identify opportunities where third-party verification could add value.
- Personally support external verification in your area when it occurs.

What Does It Look Like?

Perform verifications during the engineering design stage. This evaluation does not need to be performed by an expert. An

entry-level engineer can compare the designs to relevant standards to verify whether or not they are the same, document any differences, and review inconsistencies with more senior engineers. This approach confirms that engineering designs adhere to standards, while giving newer engineers an opportunity to learn standards, initiate changes, and become more detail-oriented.

Verify that the correct materials are used in designs.

Confirming that designs and specifications, as well as procurement, delivery, and construction plans are correct is an important aspect of meticulous verification during the engineering design stage. Personnel should be dedicated to confirming that the proper materials are ordered and delivered. Pay close attention to similar materials or parts. Installing the wrong material can create a condition that may be hidden from operational personnel but that could cause a process safety event in the future.

Operators should implement periodic routine checks of operating equipment. These routine checks should be planned to verify that equipment is being operated according to the standards established by the equipment manufacturer. Examples include checking lubricant levels in rotating equipment reservoirs, vibration readings, and temperature readings. The checks should include periodic verification of the function of instrumentation, with supervisory confirmation that the checks have been performed.

Each verification activity should be mapped to the hazards that it mitigates. Verification activities have been a component of process safety systems for years. Mapping verification activities can help locate any gaps that may exist in the company's verification system. This process helps staff understand which verification activities are currently in place at the facility, and is the first step in closing any gaps. Meticulous internal verification can then be supplemented by a targeted third-party verification that involves experts in a particular risk area.

CEP