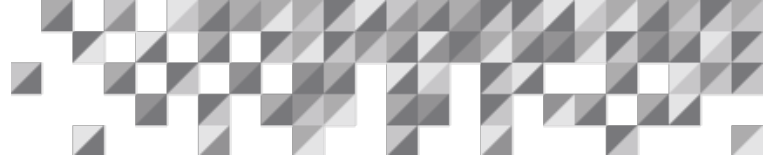


Effectively Manage Employee Participation using Process Safety Enterprise[®]

An ioMosaic White Paper

Date: July 1, 2024



Overview

Process Safety Enterprise® (PSE), a cloud-based platform, helps manage employee participation, ensuring compliance with OSHA's PSM standard. This white paper details the key features of PSE, including:

- Document Control System: Easily stores and retrieves documents
- Intelligent Form Builder: Creates customizable forms
- Action Tracking System: Manages all tasks related to the workflow
- Reporting and Dashboard/KPI: Provides real-time insights into activities
- Employee Participation Workflow: Guides users through the workflow for training employees on the PSE workflow, notifying employees of PSM activity results, and tracking participation in creating, reviewing, or updating PSM documents.

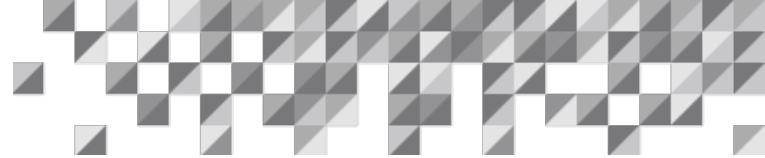
A case study highlights how PSE and an Employee Participation workflow could have helped to prevent this disaster by implementing an effective near-miss reporting system with active employee participation.

Introduction

Employee participation is a critical part of the Occupational Health and Safety Administration (OSHA) Process Safety Management (PSM) 29 CFR 1910.119(c) standard. This element ensures that employees are engaged and informed about the PSM elements and activities that impact their ability to work safely.

Businesses often encounter challenges in including employees in the PSM process, as it involves the intricacies of documenting and implementing these practices. Results from PSM activities such as PHAs or incident investigations must be reviewed with impacted employees. Tracking the participation in creating, reviewing, and updating PSM procedures must also be documented to show that these activities occurred. Overlooking these responsibilities risks the safety of employees, plant assets, the community, and the environment. Moreover, the lack of employee engagement can lead to accidents that cause production interruptions.

An effective Employee Participation workflow should include an easy process for training employees on the documentation process, notifying employees of PSM activity results, and capturing the names of people who create, review, or update PSM documents. A document management system is needed to create and store the original and completed documents, including the written plan for employee participation.

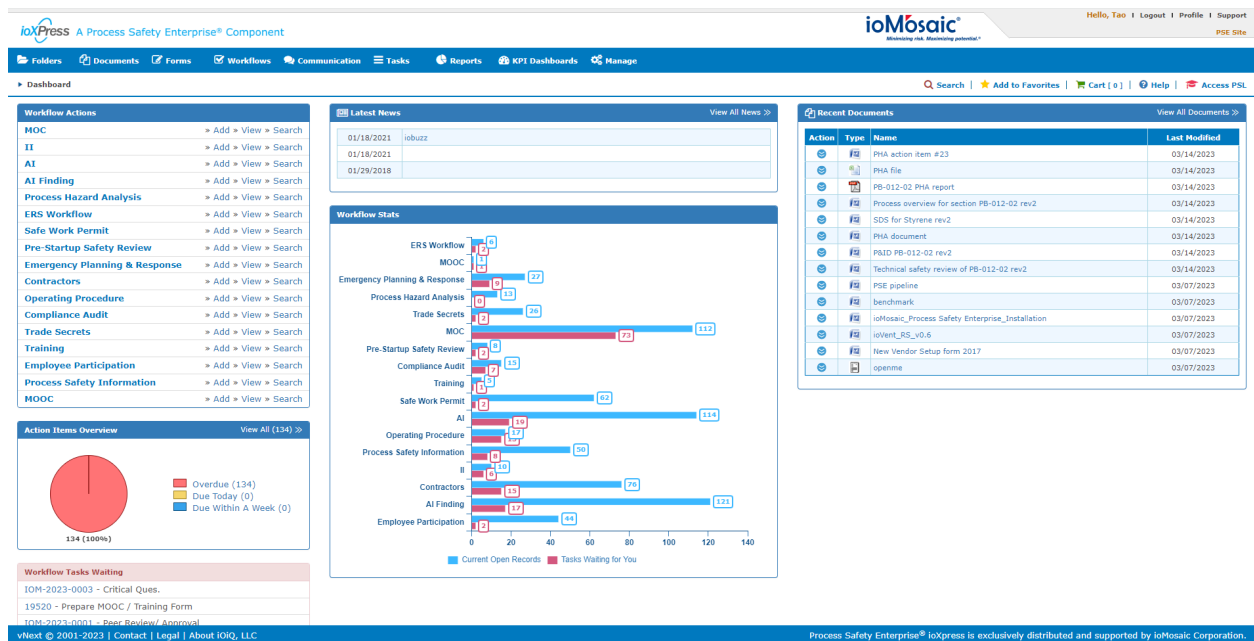


Effective employee participation systems help companies document, plan, execute, and store required activities and training for this element. This workflow can help companies comply with the PSM requirements of the 29 CFR 1910.119 standard.

For businesses serious about implementing a comprehensive PSM compliance system, ioMosaic offers the Process Safety Enterprise® (PSE) (Figure 1). PSE is a cloud-based platform enabling easy ongoing management of process safety data, helping businesses achieve compliance, manage risk, and remain competitive. Unlike any other system available in the market today, PSE is a centralized web-based application that integrates all PSM elements and workflows, making it THE ultimate solution for managing employee participation effectively. This white paper will delve into the key features of the Employee Participation workflow and how it benefits companies seeking to improve and elevate their systems to establish, implement, and maintain the PSM program with the help of qualified employees.

To help you better understand the requirements of the PSM standard, we recommend a [PSM Essentials eLearning course like the one offered by Process Safety Learning®](#).

Figure 1. Process Safety Enterprise® (PSE)



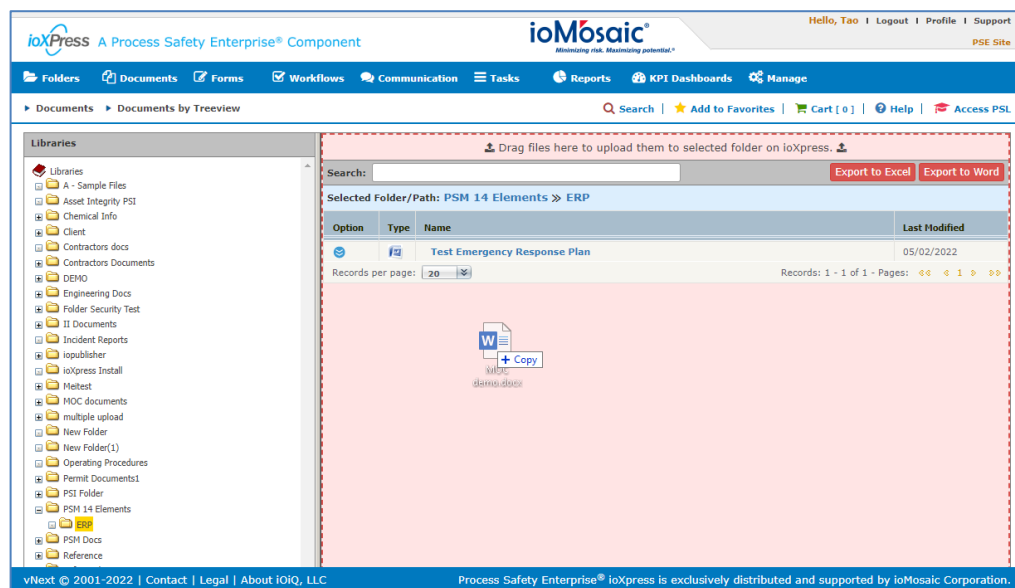
Source: ioMosaic Corporation – PSE



Document Control System

The document control system of PSE's platform is a key component for facilitating easy access to all critical process safety data. It allows users to easily access and add documents using a simple drag-and-drop (Figure 2) feature. This action quickly organizes documents into folders for easy retrieval. Its advanced search function indexes all documents with full text, allowing users to find necessary information quickly. An embedded document viewer feature not only enhances accessibility but also bolsters security measures. By granting users view-only permissions, they can view documents as images, preventing unauthorized downloads and eliminating the need to log into their computers for access. This document control component is an effective tool for managing various types of data, including but not limited to current PSM procedures, safety team minutes, engineering data, process safety information (PSI), equipment forms, records, pictures, videos, animation, and reports. This component further ensures that all stakeholders have easy access to vital information related to employee participation stored in a centralized location.

Figure 2. Drag and drop feature to add document(s)



Source: ioMosaic Corporation – PSE

Intelligent Form Builder

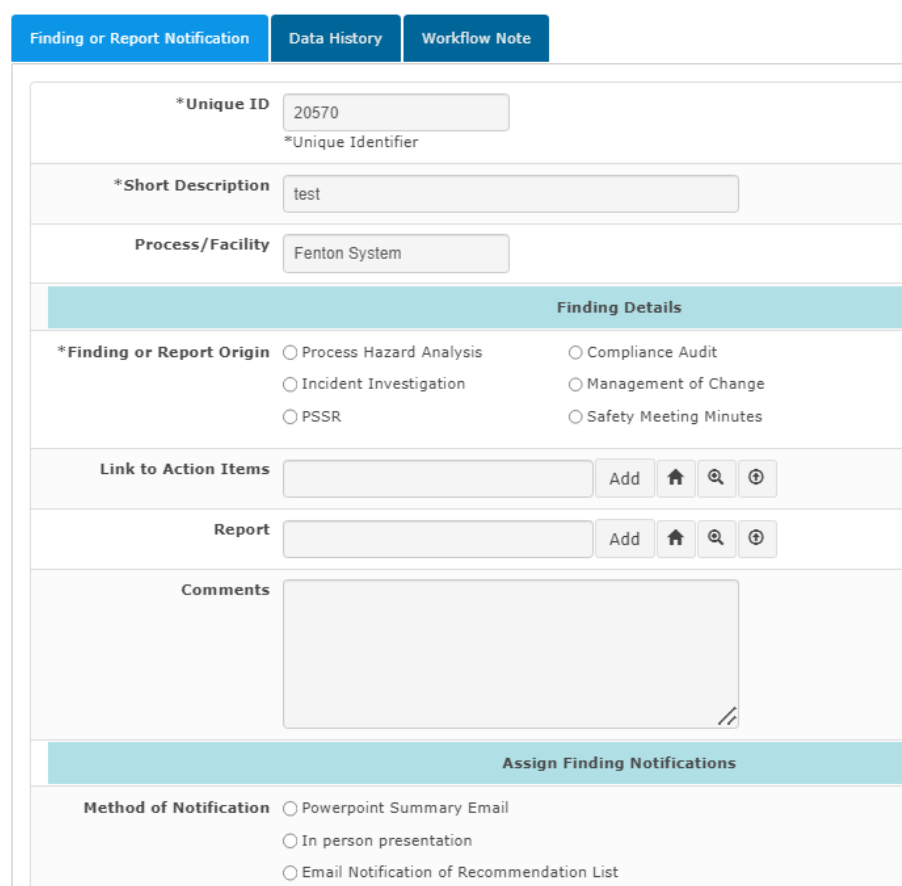
PSE also includes an intelligent form builder for efficient data capture and linking to documents in a central digital library. This dynamic form builder enables users to create practical, customizable forms that reflect unique work employee participation activities.



The ability to customize forms for unique employee participation activities ensures that all necessary data is captured accurately and consistently. Moreover, this feature allows for easy export of data to an Excel format, making data analysis and sharing even more seamless. Implementing a customizable form builder like the one in PSE streamlines employee participation by capturing data accurately and efficiently.

Figure 3 illustrates a form for sharing PSM activity results, such as Management of Change (MOC), compliance audits, and safety team minutes.

Figure 3. Example of Employee Participation Form – Sharing results



The form is titled "Employee Participation Form – Sharing results" and is divided into three tabs: "Finding or Report Notification" (selected), "Data History", and "Workflow Note".

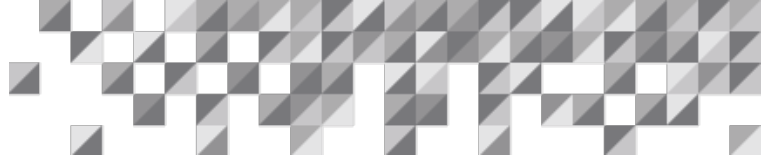
Fields include:

- *Unique ID:** 20570 (Unique Identifier)
- *Short Description:** test
- Process/Facility:** Fenton System
- Finding Details:**
 - *Finding or Report Origin:
 - Process Hazard Analysis
 - Compliance Audit
 - Incident Investigation
 - Management of Change
 - PSSR
 - Safety Meeting Minutes
- Link to Action Items:** [Text Field] [Add] [Home] [Search] [Refresh]
- Report:** [Text Field] [Add] [Home] [Search] [Refresh]
- Comments:** [Text Area]
- Assign Finding Notifications:**
 - Method of Notification:
 - Powerpoint Summary Email
 - In person presentation
 - Email Notification of Recommendation List

Source: ioMosaic Corporation – PSE

Employee Participation Workflow

PSE is the only process safety platform that integrates all of OSHA's Process Safety Management (PSM) elements using visual workflows in a single enterprise system. This workflow includes PSM's 14 elements using workflows, action tracking modules, and document control. The



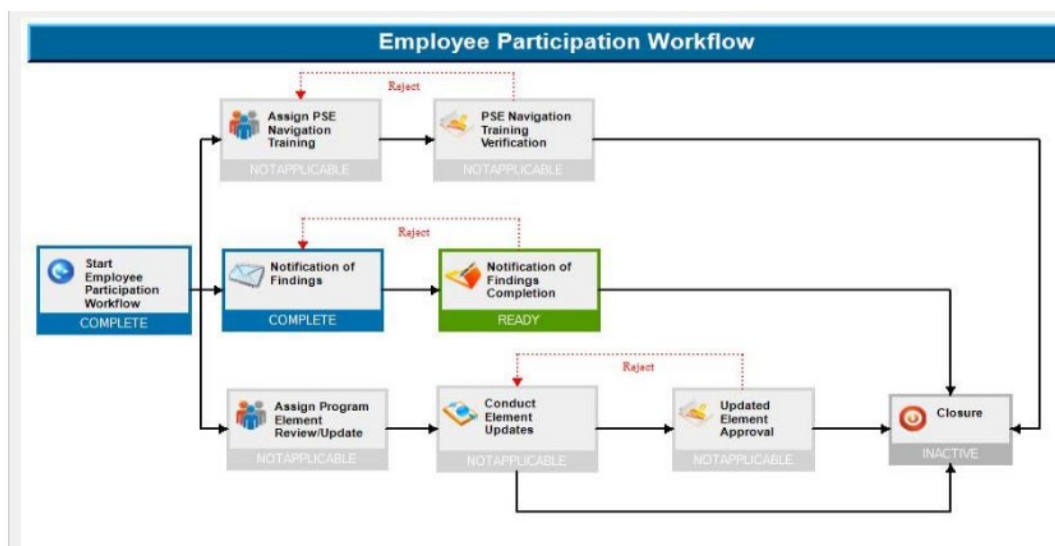
Training workflow can be used to require and track training for employee participation. The Employee Participation workflow allows companies to share and document the results of PSM activities and record who assisted with creating, reviewing, and updating PSM documents.

The Employee Participation workflow establishes three separate options, including training employees within ioMosaic's [Process Safety Learning](#)® (PSL) eLearning platform, sharing PSM activity results, and documenting the participation of creating, reviewing, or updating PSM documents. The written plan for employee participation would be saved in the document management system.

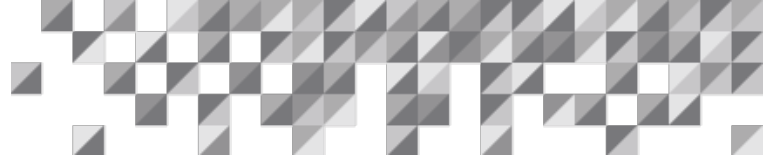
Figure 4 illustrates the Employee Participation workflow steps. Completed steps are in blue, Inactive steps in light gray, Not applicable steps in dark gray, and Ready steps are in green. The workflow can only be closed once all required steps are completed.

The Employee Participation workflow within PSE is an essential tool for ensuring the requirements of the PSM standard are met and implemented. Involving employees will ensure that people knowledgeable about the process help create and maintain accurate, current, and effective documents to manage process hazards.

Figure 4: Example of Employee Participation Workflow



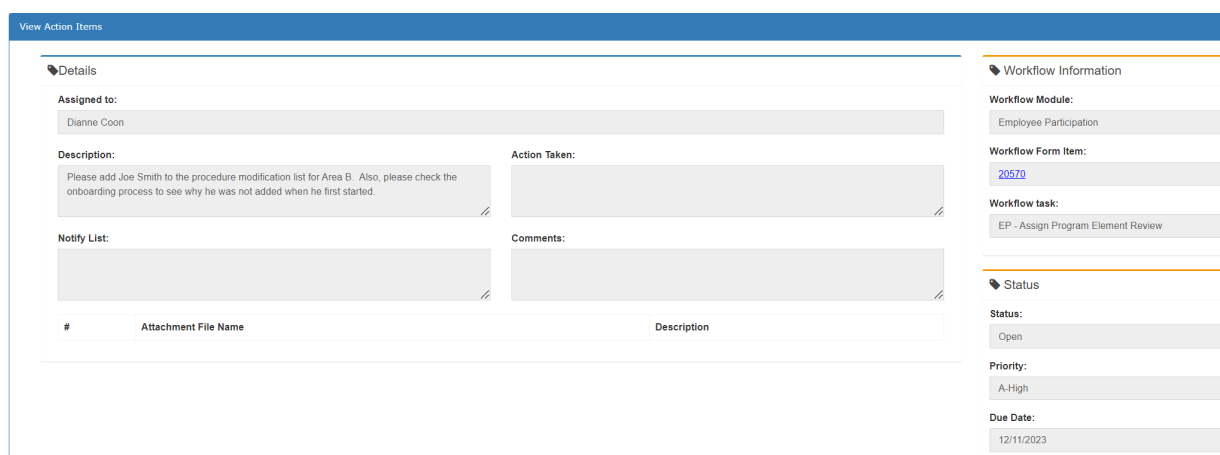
Source: ioMosaic Corporation – PSE



Action Tracking System

PSE features a comprehensive action item management system (Figure 5) that tracks all tasks related to each process safety management workflow, such as Employee Participation. This feature ensures that all action items are managed within the platform, reducing or eliminating the risk of overlooked or forgotten tasks. An additional feature, the 'Automatic Reminders,' enforces all tasks to be completed on time.

Figure 5. Employee Participation action item



The screenshot shows a web interface for viewing an action item. The main content area is titled 'View Action Items' and contains a 'Details' section with the following fields:

- Assigned to:** Dianne Coon
- Description:** Please add Joe Smith to the procedure modification list for Area B. Also, please check the onboarding process to see why he was not added when he first started.
- Action Taken:** (Empty text area)
- Notify List:** (Empty list area)
- Comments:** (Empty text area)
- Attachments:** A table with columns for '#', 'Attachment File Name', and 'Description'.

On the right side, there is a 'Workflow Information' sidebar with the following details:

- Workflow Module:** Employee Participation
- Workflow Form Item:** 20570
- Workflow task:** EP - Assign Program Element Review
- Status:** Open
- Priority:** A-High
- Due Date:** 12/11/2023

Source: ioMosaic Corporation – PSE

Reporting and Dashboard/KPI

An effective dashboard (Figure 6) is an invaluable 'must-have' asset for any data-driven enterprise looking to increase performance and productivity. Well-designed dashboards featuring various widgets such as bar charts, pie charts, line charts, and tables provide a comprehensive overview of the PSM program from a single source. These dashboards allow business owners to make quick, informed decisions at a glance based on real-time data.

Moreover, the reporting and dashboard capabilities provide real-time visibility into employee participation activities, allowing organizations to identify trends and areas of concern quickly. This capability enables timely corrective action, reducing the risk of incidents and non-compliance. PSE's robust reporting and dashboard/KPIs are essential tools for any enterprise looking to optimize its operations and mitigate potential risks.

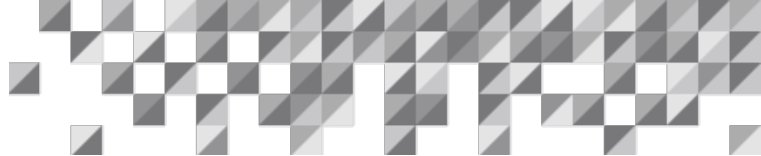
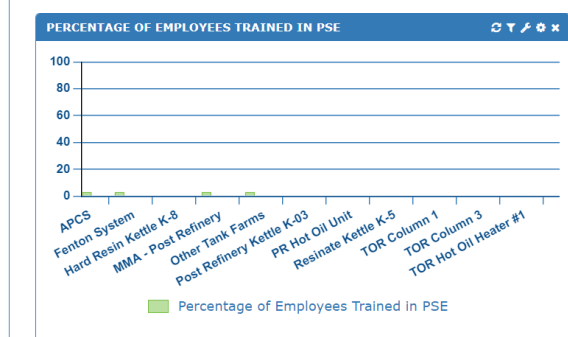


Figure 6. Dashboard/KPI



Source: ioMosaic Corporation – PSE

Case Study – The Consequences of Inadequate Employee Participation

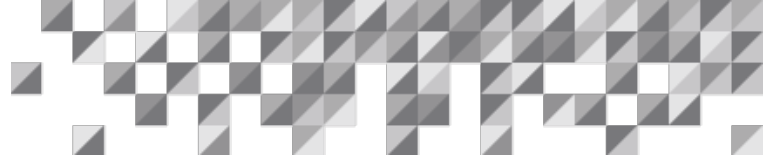
The Challenge

The US Chemical Safety and Hazard Investigation Board (USB) investigated a fatality at the Dupont Belle chemical manufacturing plant. A hose containing highly toxic phosgene ruptured on January 23, 2010, in Belle, West Virginia. An operator was exposed to phosgene when the hose failed, was taken to the hospital, and died the following day.

The investigation concluded that operators had discovered a physical defect on a phosgene hose in another area of the system shortly before the fatal incident, and maintenance staff had replaced the hose before it leaked or ruptured. The operators were concerned about their findings but only planned to tell the supervisors about the discovery on Monday morning, about 48 hours later, because supervisory staff did not work weekends. Operators said that they expected that the supervisors would conduct a full investigation. However, the defect in the hose was not investigated before the fatal incident because it occurred during the weekend.

The CSB recommended that DuPont ensure employee participation in reporting, investigating, analyzing, and recommending corrective actions as appropriate for all near-misses and disruptions of normal operations. DuPont was also encouraged to ensure that the near-miss investigation program required prompt investigations, even on weekends. The CSB report can be seen at this [link](#).

An effective near-miss reporting system with active employee participation could have averted this tragic accident. Creating a documented program that relies on an electronic platform for employee participation and near-miss reporting and investigation can improve process safety



oversight and employee and contractor safety. An electronic program can also reduce the risk of worker fatalities and injuries by encouraging employee near-miss reporting and tracking the investigations.

Our Approach

The Process Safety Enterprise® Employee Participation Workflow is a cloud-based platform that provides a centralized database accessible and visible to all employees and contains a step-by-step guided workflow. This workflow could have minimized or eliminated the Belle incident referenced in the case study.

Additionally, PSE can integrate multiple sites and various data into one uniform system (which would have further minimized the incident) by:

- Developing a unique ID system to differentiate facilities and areas
- Setting up sign-on access for users at all facility sites
- Identifying and developing consistent data definitions and Key Performance Indicators (KPIs)
- Standardizing search queries to ensure data quality
- Devising site-specific and corporate reporting capabilities

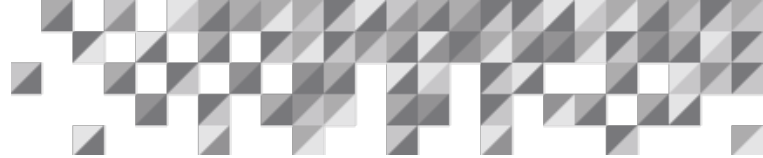
PSE offers customizable workflows that can assist with creating unique employee participation forms that embrace all employee participation activities. PSE has a separate workflow for near-miss and accident reporting and investigation.

PSE's built-in features, such as the automatic assignment of approvals, action item tracking, document linking, and email notifications, all contribute to ensuring the documentation and execution of employee participation are properly captured, accessible, and visible to employees.

The Benefits

For companies serious about their process safety compliance and employee participation process, PSE is a user-friendly platform with workflows for document control that is scalable and affordable.

The three options within the employee participation workflow streamline PSE training, reporting PSM activity results, and tracking the employees who assist with creating, reviewing, and updating PSM documents.



Finally, the PSE workflows have KPIs that track open workflows and the percentage of open or overdue workflows. The KPIs are graphed with interactive data, allowing you to drill down to the specific data. Reports can also be generated to view the status of all workflows.

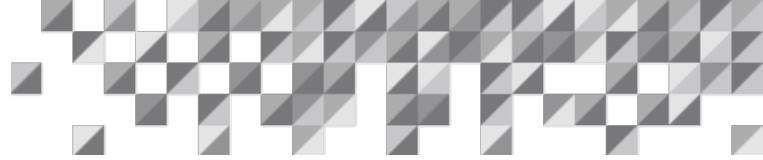
Conclusion

Managing employee participation effectively and consistently can be challenging; fortunately, Process Safety Enterprise® (PSE) provides an integrated solution that makes the process more efficient and effective. With its dynamic form builder, action tracking feature, and integrated workflow to standardize the process, companies reduce the risk of incidents and non-compliance.

PSE offers additional benefits, including enhanced collaboration, improved data management, and increased compliance with process safety regulations. With the reporting and dashboard capabilities, organizations can easily identify trends and potential areas of concern, gaining real-time visibility into all process safety-related activities. The automatic notification system sends reminders and alerts to stakeholders, ensuring items are addressed in a timely manner.

PSE's customizable Employee Participation workflow module includes PSE training, reporting PSM results, and tracking those who modify PSM documents. This process ensures that all necessary information is captured in one centrally located platform.

PSE is the only product of its kind in the market today that provides an all-inclusive process safety compliance platform that makes compliance easy.



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Useful Links

PSE [link](#) to software demo requests

PSE [link](#) to PSE overview

PSM Essentials Training [link](#)

Process Safety Learning® [link](#)

CSB Dupont Belle Plant investigation download [link](#)

Additional PSE White Papers:

[PSM Compliance Made Easy with Process Safety Enterprise®](#)

[Effectively Manage Mechanical Integrity with PSE](#)

[Effectively Manage Processes Chemicals Equipment and Personnel with PSE](#)

[Process Safety Enterprise® Asset Integrity Management Service \(AIMS\) and KPI Dashboard](#)