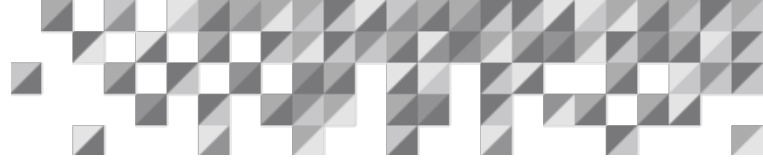


Effectively Manage Key Performance Indicators (KPIs) using Process Safety Enterprise®

An ioMosaic White Paper

Date: August 10, 2026



Overview

Process Safety Enterprise® (PSE), a cloud-based platform, helps manage Key Performance Indicators (KPIs), ensuring compliance with OSHA's PSM standard. This white paper details the key KPI features within PSE, including:

- The importance of Key Performance Indicators (KPIs)
- KPI options and features within PSE
- Dashboards to review KPIs and address issues

Introduction

Creating, reviewing, and managing KPIs is vital to continuously improving a site's Process Safety Management (PSM) program based on the Occupational Health and Safety Administration (OSHA) PSM 29 CFR 1910.119 standard.

Businesses often encounter challenges in improving their PSM program, as it involves the intricacies of developing and maintaining KPIs for each element. The process includes identifying what KPIs need to be tracked, creating the graphics, updating them, and reacting to issues—all of which demand considerable time and resources. Omitting the creation and use of KPIs can lead to unresolved PSM issues that might risk the safety of employees, plant assets, the community, and the environment. Moreover, an accident could lead to production interruptions.

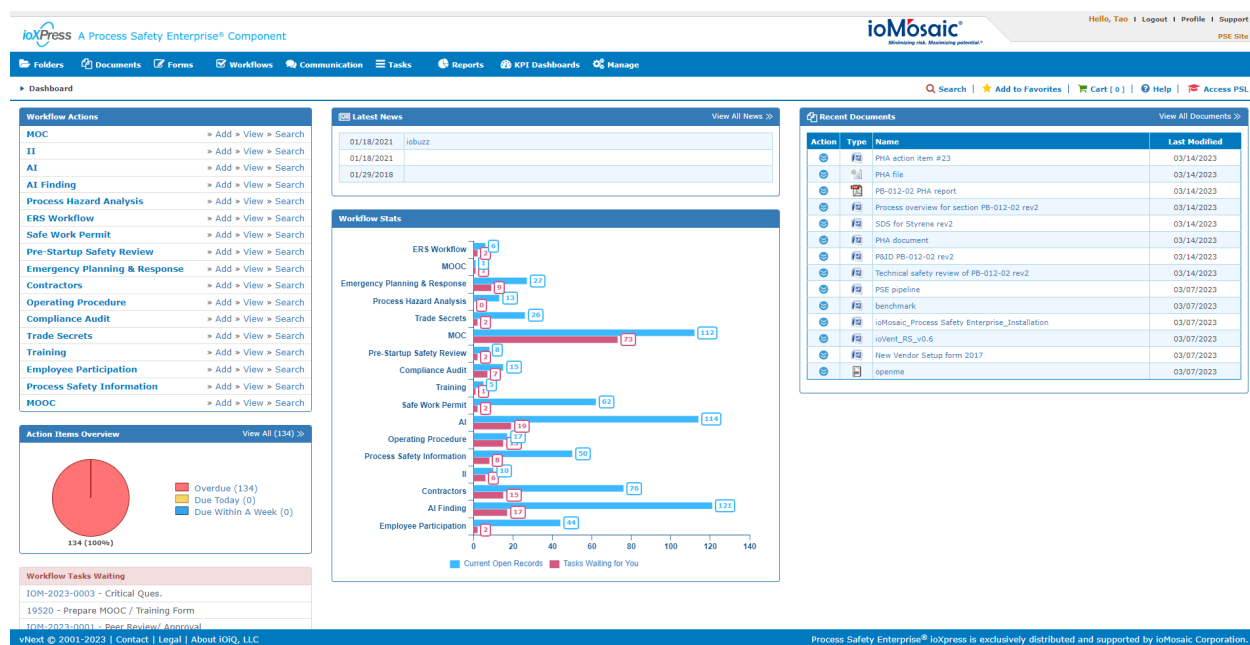
An effective PSM program should include identifying the key KPIs for each PSM element. A system that automatically updates the KPIs, creates dashboards, and allows drill-downs into the data can save time and resources. Those resources can then be used to investigate the KPI issues and improve the PSM program. This PSE feature 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 PSM effectively. This white paper delves into the key features of the KPI functionality and how it benefits companies seeking to improve and elevate their systems to manage the hazards within their covered processes.



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

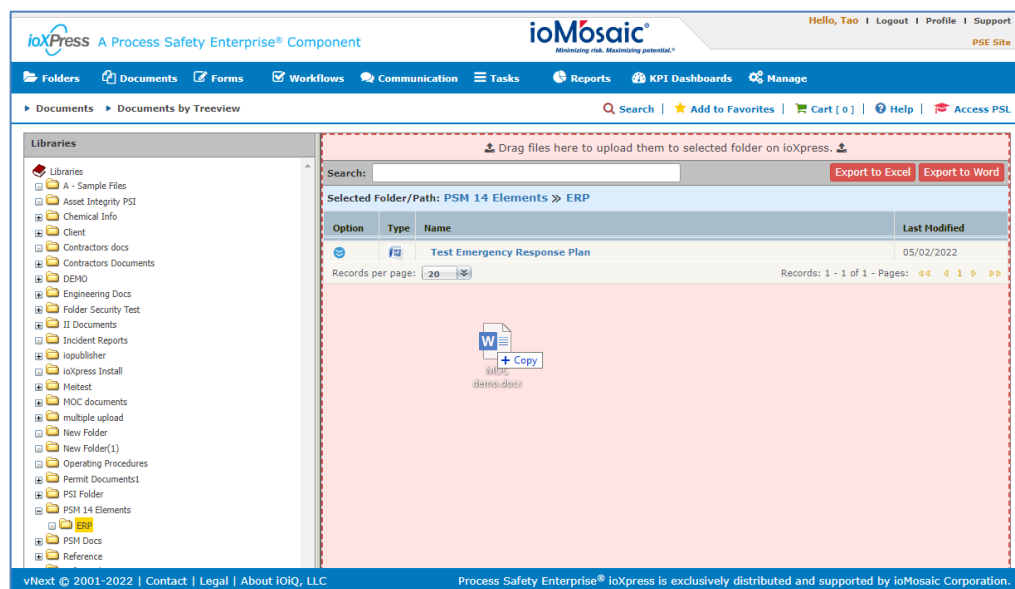
Document Control System

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 data types.

As KPIs are reviewed and issues are found, only authorized individuals can change documents, such as procedures, forms, and Process Safety information (PSI). The Management of Change workflow can be used to analyze any changes that are not replacement-in-kind before the changes are initiated. This component ensures all stakeholders can easily access vital PSM information 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 relevant to each PSM element.

The customizable forms allow the user to capture unique information needed for the KPIs and ensure 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 the creation and tracking of KPIs by capturing data accurately and efficiently.

Figures 3 and 4 show examples of two forms that can be used to track the on-time completion of Asset Integrity (AI) workflows. The due and completion dates would be compared to track on-time and overdue asset integrity activities.



Figure 3. Example of MI Workflow Form for KPIs – AI Start

AI Start Step

*AI Due Date * 3/11/2022 ▼		
Attachments	description	document
Add New Row		
*Work order generated externally? * ☐ Yes ☒ No		

Figure 4. Example of MI Workflow Form for KPIs – AI Task Complete

AI Task Complete Step

Equipment Number	R-123
Asset Number	555
Inspection Type	Formal Visual Internal
*Equipment Form *	15137 - R-123 / AI - Pressure Vessel.
AI Task Complete	
*Inspection Completed Date *	4/6/2022 ▼

Source: ioMosaic Corporation – PSE

Key Performance Indicator (KPI) Options and Features

PSE is the only process safety platform integrating all of OSHA's Process Safety Management (PSM) elements using visual workflows in a single enterprise system. This system allows the user to create and manage PSM KPIs in one place, which saves time and resources. The required data for the KPIs can be built into the customized forms and automatically feed the KPI every time a workflow is completed.

The user can generate KPIs using the "Add Widget" feature. Widgets, such as bar charts, pie graphs, and tables, can be established. The PSE dashboard can then show the chosen widgets for each KPI on the dashboard. The charts and graphs have a drill-down feature that allows the user to click on a portion of the widget and have a table pop up with the data details. The table contains hyperlinks to the workflows being investigated.



For individuals responsible for one PSM element or when one element is of most concern, the PSE landing page, which is seen first every time one logs in, can be customized to show the KPIs for that particular element.

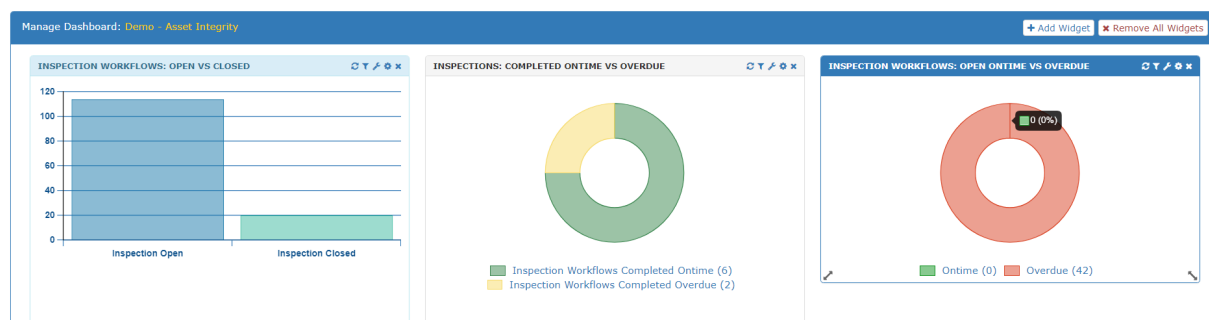
Reporting and Dashboard/KPI

An effective dashboard (Figure 5) is an invaluable 'must-have' asset for any data-driven enterprise looking to increase performance and productivity. Well-designed dashboards featuring custom KPIs 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 established KPIs, allowing organizations to identify trends and areas of concern quickly. The dashboard can also be utilized during management reviews to discuss the state of the PSM program and any potential issues that must be addressed. 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 optimizing operations and mitigating potential risks.

Figure 5. Dashboard/KPI

KPI Dashboard for the Asset Integrity Workflow with Bar Chart and Pie Graph Widgets



Source: ioMosaic Corporation – PSE

Drilldown of the "Inspection Workflows Completed Overdue" Pie Chart

Equipment Number	AI Title	Equipment Type	Inspection Type	Unit Name	Plant Name	Equipcriticality	Inspection Next Date	Inspection Complete Date
R-123	15353-Formal visual Internal for R-123	Reactor	Formal Visual Internal	B and G	Post Refinery Kettles	B- High	8/31/2020	9/17/2020
E-456	14937-test instrument form	Other	Functionality Check	CTO Plant	Hard Resin Flaker/bagger	A - Very High	8/10/2020	8/12/2020

Source: ioMosaic Corporation – PSE



Action Tracking System

PSE features a comprehensive action item management system (Figure 6). It tracks all tasks related to each process safety management workflow and continuous improvement projects that originate from a review of the KPIs. This feature ensures that all action items are managed within the platform, reducing or eliminating the risk of overlooked or forgotten tasks. Emails are sent to the task assignee, and periodic notifications can be sent to the originator to inform them of the task status. An additional feature, the 'Automatic Reminders,' enforces all tasks to be completed on time.

Figure 6. KPI Continuous Improvement Action item

Edit Action Items

Elapsed Time: 1 day(s) | Date Entered: 5/2/2024 10:02:02 AM | Date Modified: 5/2/2024 10:02:04 AM

Details

Description:
Determine why PHA action items are not being completed on time and create action plans to address the overdue items and prevent future ones.

Assigned to:
Dianne Coon

Comments:
Enter comments ...

Notify List:

Action Taken:
Enter action taken ...

Attachments:

Attachment	Description

Project Information

Project/Activity:
Continuous Improvement

Status:
Open

Priority:
A-High

Due Date:
05/24/2024

Completion Date:

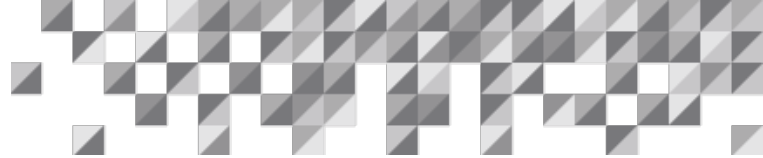
Source: ioMosaic Corporation – PSE

KPI Capabilities within PSE

Process Safety Enterprise® 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 can help minimize or eliminate PSM incidents by ensuring compliance and using KPIs to monitor and improve the PSM program.

Additionally, PSE can integrate multiple sites and various data into one uniform 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



- Standardizing search queries to ensure data quality
- Devising site-specific and corporate KPIs for each PSM element

PSE's KPI features, such as the ability to create unique widgets that track PSM performance, action item tracking for continuous improvement, document links, and email notifications, all contribute to ensuring the documentation and execution of the PSM program is properly captured, managed, accessible, and visible to employees.

The Benefits

For companies serious about their process safety compliance, PSE is a user-friendly platform with PSM workflows and KPIs that is scalable and affordable.

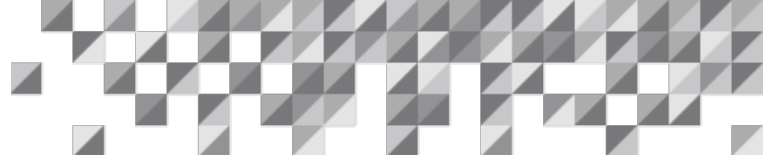
The customizable KPIs and dashboards streamline tracking and continuously improve the PSM program, which helps to identify and address deficiencies before they can cause catastrophic incidents. These KPIs can track open workflows and the percentage of open or overdue workflows or action items. KPIs are also graphed with interactive data, allowing you to drill down to the specific data.

Conclusion

Managing a PSM program 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 customizable KPIs, 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, ensuring items are addressed in a timely manner.

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](#)

Additional PSE White Papers:

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

[Effectively Manage Mechanical Integrity Using Process Safety Enterprise®](#)

[Effectively Manage Changes Using Process Safety Enterprise®](#)

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