Operational Excellence Services

Health・Safety・Environment (HSE)

CoreSafety®

Application for Risk-Based Process Safety

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CoreSafety®-Risk-Based Process Safety Application

Do you have any of these issues?

- **Only limited persons know where PHA(*) data such as HAZID, HAZOP, LOPA(**) is stored**
- **PHA data is not actively used for optimization of asset management program**
- **Risk profile of facilities is not shared in organization**

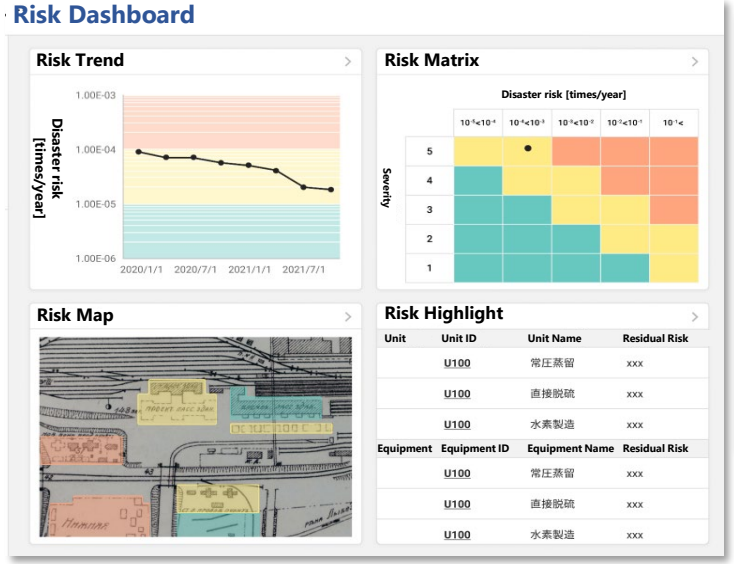
(*)PHA : Process Hazard Analysis

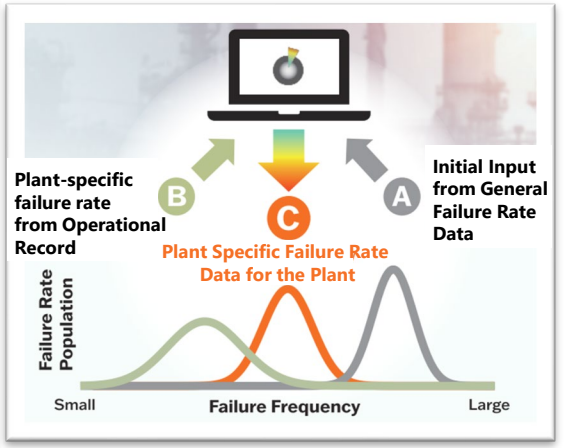
(**) HAZID : Hazard Identification Study
HAZOP : Hazard and Operability Studies
LOPA : Layer of Protection Analysis

Functional Features

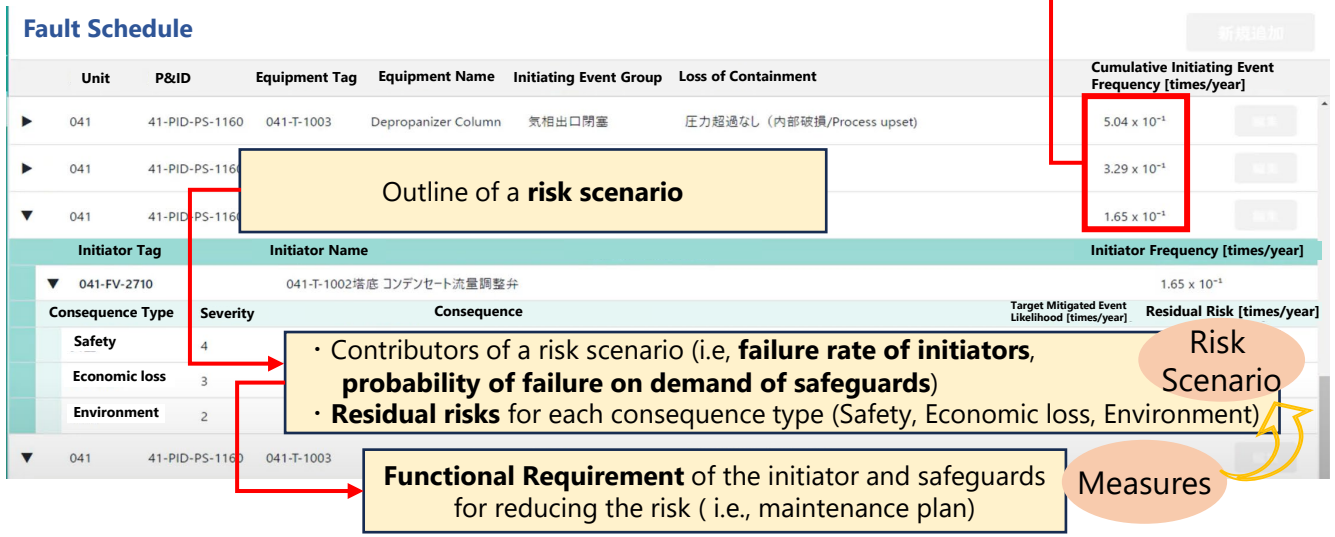
CoreSafety®, one of JGC in-house application, can summarize and register PHA results to visualize Risk Profile, and easily accessed through a web browser

- **Risk Dashboard**
- **Up-to-date risk by Bayesian Update(***)**
- **Fault Schedule (i.e., hazard register)**
- **Functional Requirements' management tied with risk scenario**
- **Safety Performance KPI monitoring**





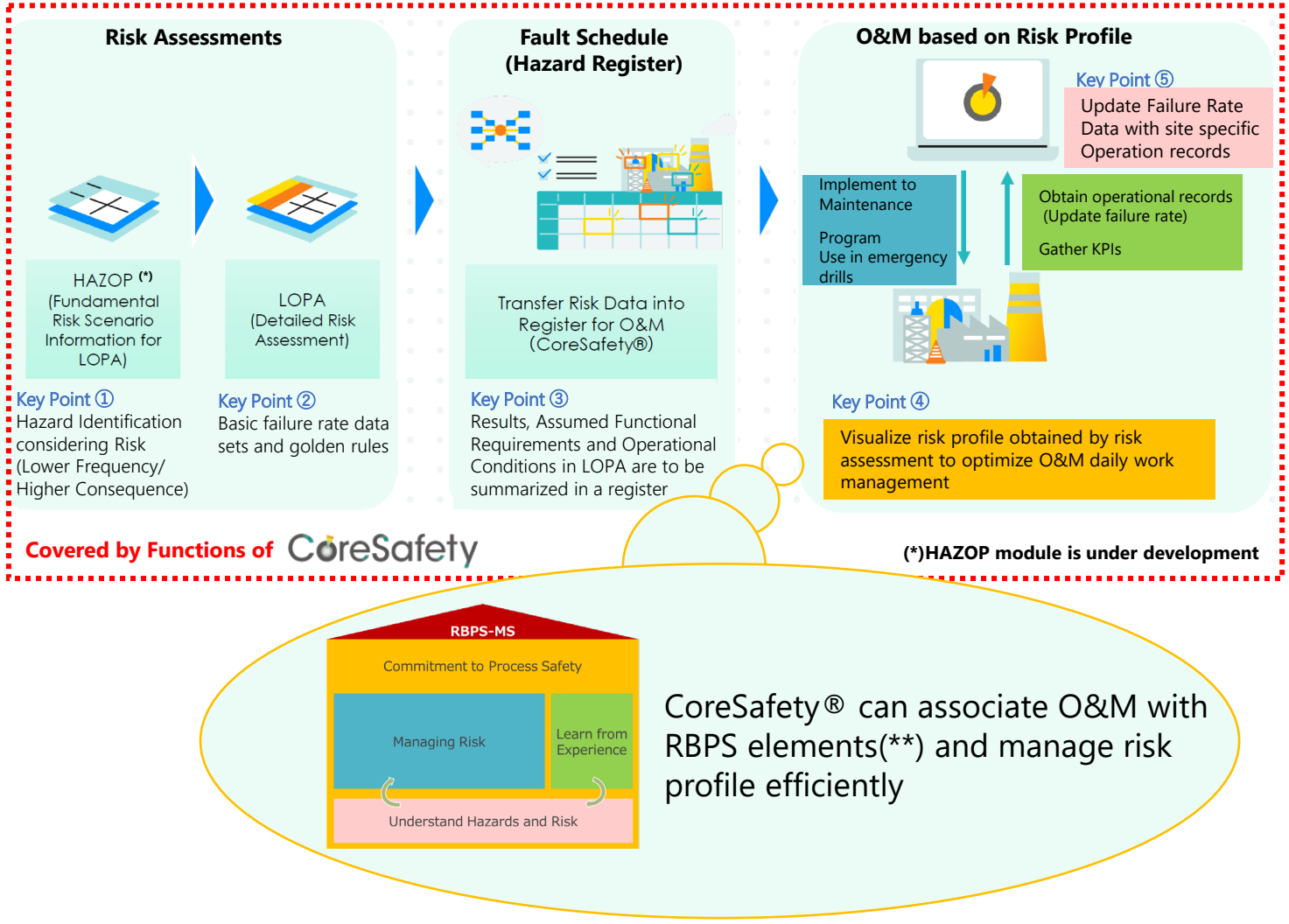
Bayesian Update



(***) A statistical method that updates the probability for a hypothesis as more evidence or information becomes available.

CoreSafety®-Risk-Based Process Safety Application

Implementation of Smart RBPS (Risk Based Process Safety)



(**)RBPS Elements are suggested by AIChE CCPS (American Institute of Chemical Engineers Center for Chemical Process Safety)

Advantages of CoreSafety®

- **Assured by Collaborative Research Projects:**
  Smart RBPS methodology taken in CoreSafety is assured by a collaborative research project involving academia, regulatory bodies, and industry in Japan.
- **Risk Profile Library:**
  1. **Based on our experience**
     Be built on extensive Process Safety Management (PSM) and Process Hazard Analysis (PHA) experience in global Oil & Gas, Chemical, and Nuclear industry projects.
  2. **Standardized Profiles**
     Provides standardized risk profiles for various equipment types (e.g., pumps, fractionation columns, drums).
  3. **Efficient Assessment**
     Enables efficient risk assessments without needing detailed design information.

e.g.) Two Phase Separator
Standardized **P&ID** and **Risk Scenario** are available for risk assessments

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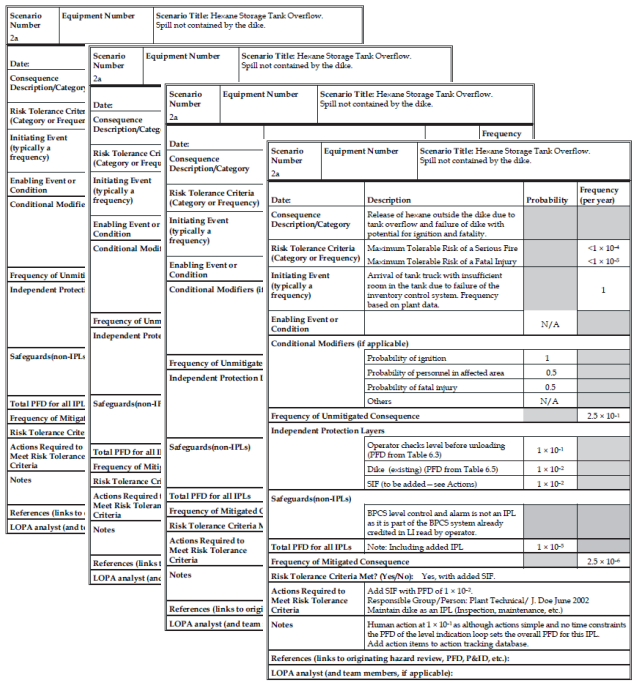
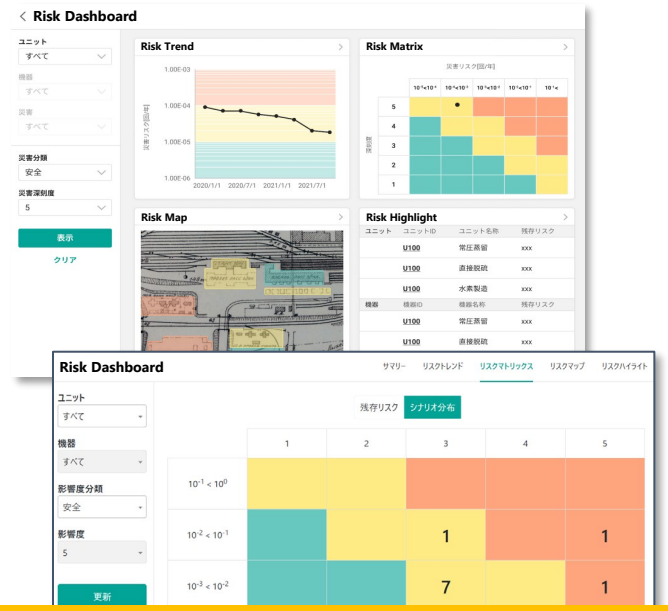
Return to HSE menu

User Benefits

BEFORE PHA by Excel/Paper



Implementation CoreSafety



- Visualizes Risk and Optimizes O&M Tasks
- Brings “Risk Data” to the center of RBPS Management System.

AFTER RBPS’s cycle is improving

Actual Benefits of adopting CoreSafety®

Achievement of ALARP(*) Decision for Higher Risk Items

(*)ALARP : As Low As Reasonably Practicable

Improved Response and Procedure for Safety Critical Alarms by efficient training utilizing CoreSafety®

High Integrity and Reliability of Equipment and Safety Systems

Enhanced Risk Management at MOC and PTW (**)

(**)MOC : Management Of Change, PTW : Permit To Work

Sophisticated Emergency Planning for Designated Process Incidents