SOAR+ AND SOAR APP

Combined, SOAR+ AND SOAR APP represent a breakthrough in safety of operations auditing, risk assessment, safety assurance, flight data monitoring, flight training and asset protection. To facilitate executive-friendly reporting, response and return on safety investment analysis, the risk-ranked safety assurance/auditing and flight data monitoring (FDM)-based risk management modules share identical resolution of safety issues processes. Combined, they optimize practical tactics for the art and best practice of aviation.

FOUNDATIONAL PRINCIPALS

Principal questions driving the creation of SOAR+ and SOAR AAP were,

- When evaluating and operation how best can we assess corresponding levels of risk as they relate to the standards under review.
- Having identified "Non-conformities" ("Findings:" process errors/opportunities for improvement), how best to prioritize action plans, next steps, and to communicate to executives, investors, and decision- makers?
- How do safety centric action plans correlate to the prioritization of production and operations activities?
- What is the best means to monitor the development, documentation and implementation of complete and permanent corrective actions?
- What other practical factors can be encompassed in the resolution of safety issues process?
- How do we render safety assurance a valuable, viable, practical and sustainable component of the enterprise optimization process?

NEXT GENERATION SMS

The SOAR+ Safety of Operations Audit, Risk Assessment and Resolution of Safety Issues (ROSI) utility supports any completion of any standards-based audit protocol including the International Air Transport Association's (IATA's) Operational Safety Audit (IOSA)…(ideal for demonstrating compliance with the new "Enhanced IOSA" requirements), Department of Defense (DoD) Flight Operations or Maintenance Standards, SAE International's Aerospace Standard (AS), Coordinating Agency for Supplier Evaluation (CASE), or the Federal Aviation Administration (FAA) International Air Safety Audit (IASA), Safety Attribute Inspections (SAIs), Element Performance Inspections (EPIs), and the Code of Federal Regulations (CFRs: the CFR piece can accommodate a proprietary letter of compliance and interface matrix [LOCIM]); it can be customized for unique applications; or adapted to support our own Flight Data Monitoring (FDM)-

based Safety of Operations Assurance, Risk Management, Airmanship Enhancement and Asset Protection services (SOAR AAP).

SOAR+ distinguishing attributes-

- Each audit question is risk-ranked prior to the audit.
- Audit questions can be uniquely created, extracted from other audits, or combined from several existing audit formularies.
- Operators are given the opportunity to self-assess, before the actual audit, to make corrections if possible, and to attach documentation demonstrating conformity with audit standards.
- Reports depict scored results normalized to 100%. This supports -
    - An expedient frame of reference for non-technical personnel, and
    - Establishes an empirical means for quantifying return on investment: safety, financial, or otherwise.
- The prioritization, root-cause, risk assessment, and corrective actions validation/refinement processes constitute a best-practices ICAO-conforming means to close vital gaps in most SMS and quality assurance programs:
- SOAR+ includes mechanisms for verifying the creation and implementation of complete and permanent corrective actions…starting with prioritization and root-cause analyses and culminating with process-enhancement subroutines. And,
- Provides a means to assure that operators are not simply solving symptomatic impacts of deeply rooted systemic issues: that they are, in fact, addressing and correcting problems at their core: solving the causes, not merely their effects.

SOAR AAP

A unique application of flight data monitoring (FDM) technologies providing means for -

- Leadership to routinely confirm compliance with standard operations procedures (SOPs) on the ground and in the air, whenever the aircraft is operating.
- Pilots to review and critique their own flights, and
- Flight instructors to inform pilot training activities in support of airmanship assurance/enhancement programs as they relate to the specific attributes of individual pilots.
- SOAR AAP includes pilot assessment and training subroutines as the foundation for the development of career-spanning training programs…and can even encompass pay-for-performance salary administration plans.
- Effective implementation of SOAR APP could persuade underwriters to reduce air operator/lessor insurance premiums to minimum practicable rates.

Asset Protection

Equally as importantly for air operator, aircraft leasing companies, and investors, SOAR AAP can support operational surveillance to demonstrate compliance with lease obligations … potentially saving millions of dollars in litigation expense encountered at lease termination, to counter claims to the DOT and to optimally inform a fully functioning FAA sponsored Air Safety Action Program (ASAP).

For example, instead of air operators submitting periodic engine condition monitoring (ECM) reports, SOAP APP can provide investors, lessors and airlines with chock-to-block operational data spanning each and every flight. Internally, airlines, investors and lessors could access computer analyzed data to identify potential issues ranked as Level 1, Level 2 and Level 3 "Events." (Level 3 Events are evaluated by flight data analysis experts who confirm the severity of each event by assessing and highlighting corresponding information at the inception of the SOAR AAP resolution of safety issues process). SOAR AAP is FDM liberated from the constraints of flight operations quality assurance (FOQA) programs which deprive the operator, lessor and investors of information essential to flight safety and the mechanical well-being of company aircraft. SOAR AAP is an optimized application of FDM technology to promote the art and best-practice of commercial aviation.

Airmanship Assurance

Through SOAR AAP, air operators capture empirically derived flight operations data shortly after the conclusion of each flight. Thereafter, it is used to identify, address and correct flight training and operational concerns, real-time, as opposed to correcting them only forensically, long after the fact, if ever.

Flexibility

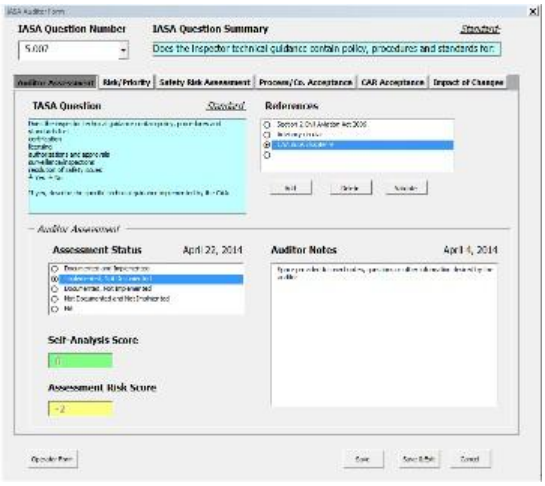
SOAR+ and SOAR AAP works with fixed-wing and helicopter flight operations, AMOs, MROs and flight training centers, indeed, in any environment where quality, safety assurance, and return on investment is an important consideration including medical environments, railways, bus companies, metro-transport concerns, and more.

APPLICABILITY

Using this technology, SOAR+ has been developed into a proprietary sequential guide that can lead air operators through the succession of events required to meet the requirements of IOSA, to attain IATA registration, to satisfy the new requirements for “Enhanced IOSA,” and to satisfy airline operations requirements of the US Department of Defense, CASE, Specific Regulatory Requirements (SRRs), Safety Attribute Inspection Items (SAIs), Element Performance Inspection Items (EPIs), and more.

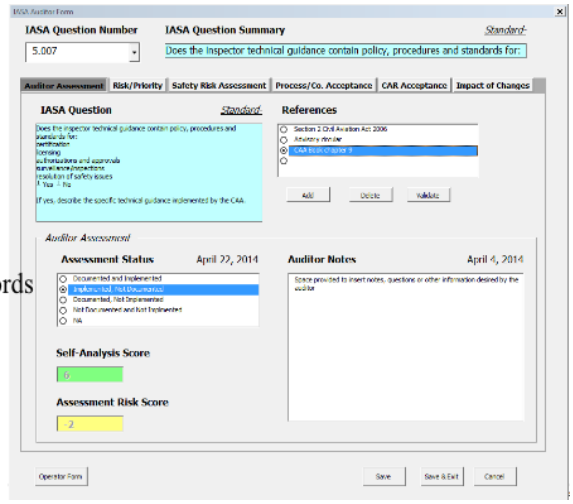
IASA Audit Solutions

- ✓ Total Control of Audit Process
- ✓ Encourages Audit Group Collaboration
- ✓ Quantitative Safety Risk Assessment
- ✓ Corrective Action Resolution
- ✓ Digital Signoff



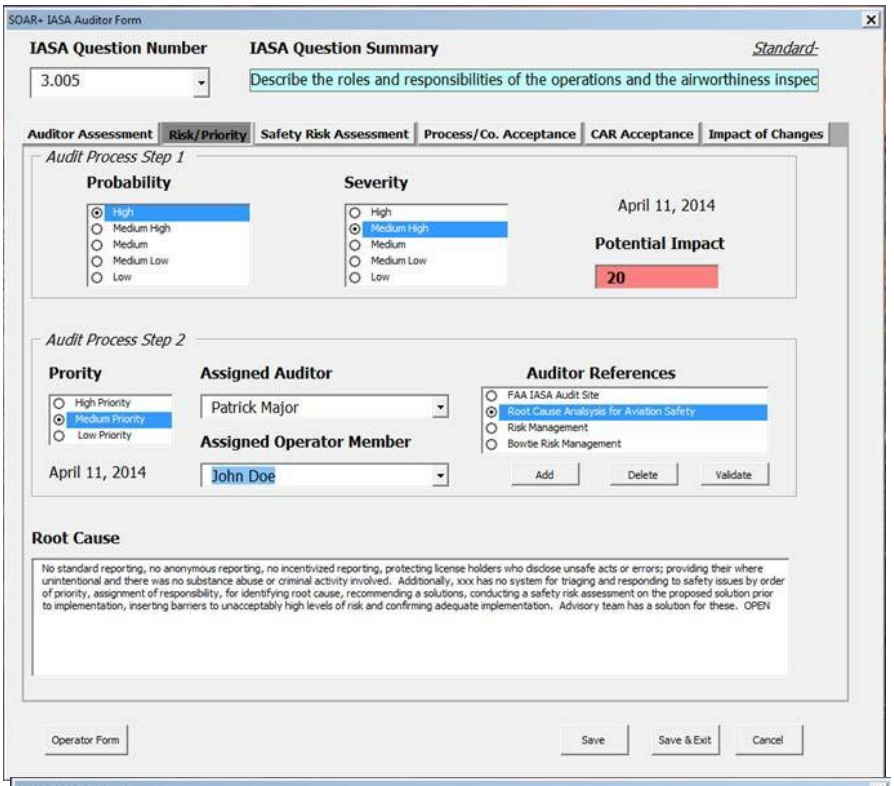
IASA Audit Solutions

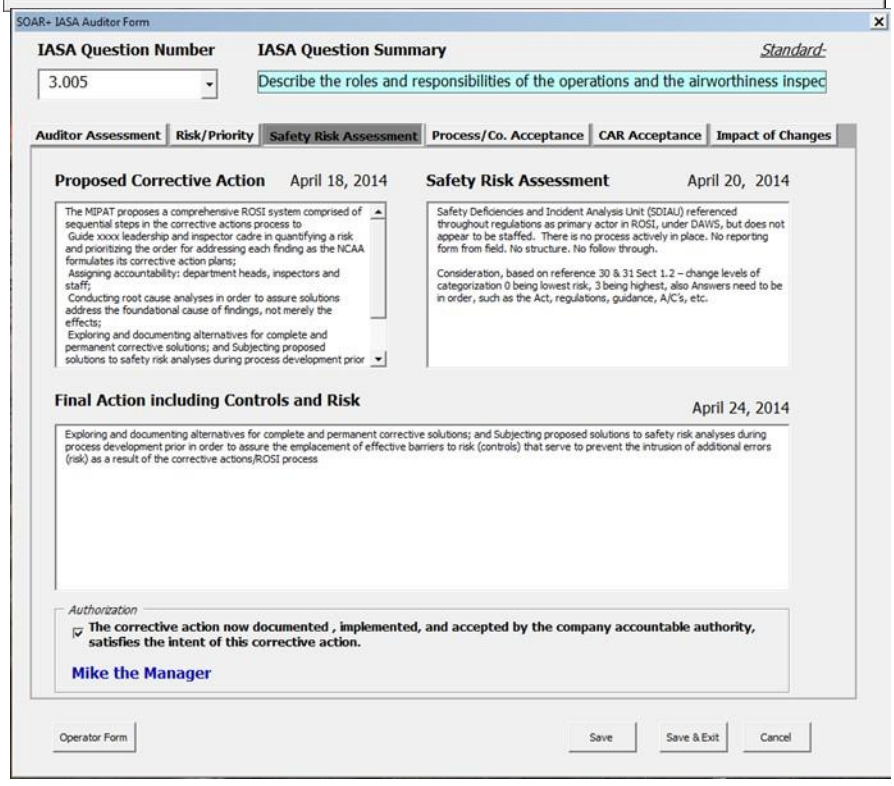
- ✓ IASA Audit Compliance Tracking Solution
- ✓ Self and Auditor Assessment Tracking
- ✓ Quantitative Safety Risk Assessment
- ✓ Root Cause Analysis
- ✓ Corrective Actions Validation/Refinement
- ✓ Interlinking of Support Documentation and Records
- ✓ Digital Signoff at Different Levels
- ✓ Secure User Login

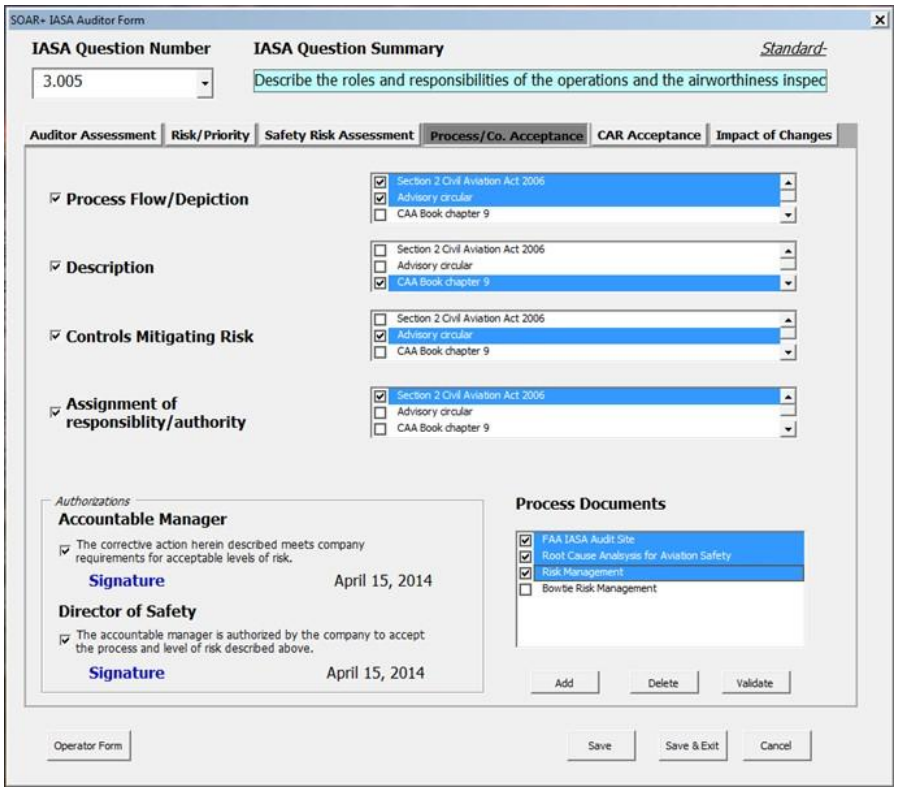


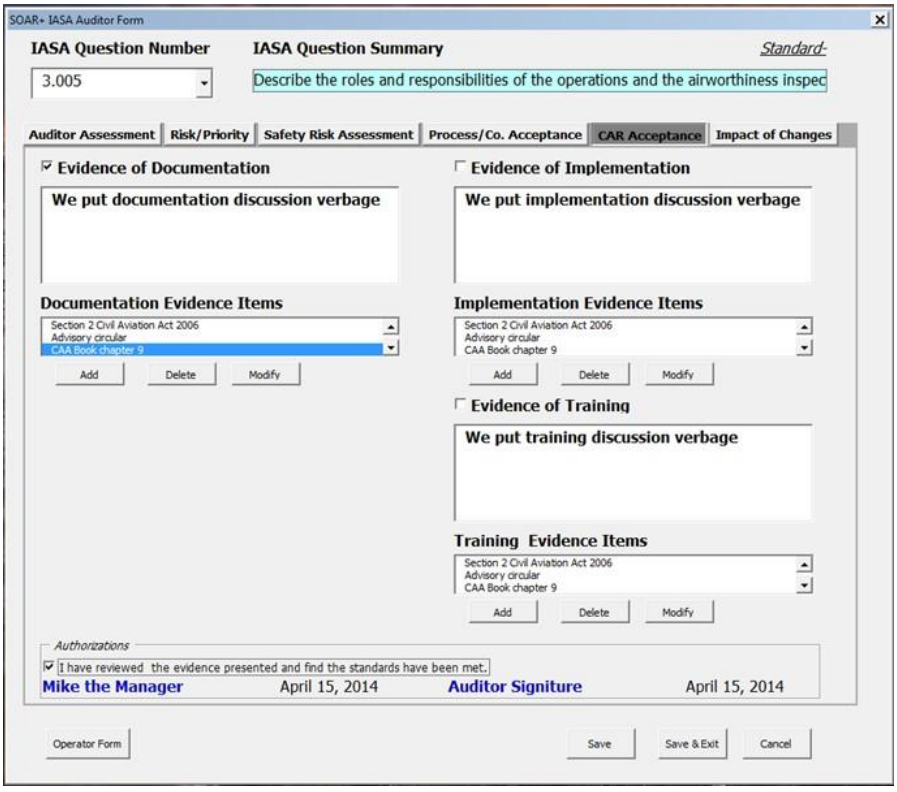
ATTRIBUTES

Elements of the SOAR+/SOAR AAP resolution of safety issues process.






SOAR+ IASA Auditor Form
IASA Question Number
IASA Question Summary
Standard-
3.005
Describe the roles and responsibilities of the operations and the airworthiness inspec
Auditor Assessment
Risk/Priority
Safety Risk Assessment
Process/Co. Acceptance
CAR Acceptance
Impact of Changes
Process Flow/Depiction
Description
Controls Mitigating Risk
Assignment of responsiblity/authority
Section 2 Civil Aviation Act 2006
Advisory circular
CAA Book chapter 9
Authorizations
Accountable Manager
The corrective action herein described meets company requirements for acceptable levels of risk.
Signature
April 15, 2014
Director of Safety
The accountable manager is authorized by the company to accept the process and level of risk described above.
Signature
April 15, 2014
Process Documents
FAA IASA Audit Site
Root Cause Analysis for Aviation Safety
Risk Management
Bowtie Risk Management
Add
Delete
Validate
Operator Form
Save
Save & Exit
Cancel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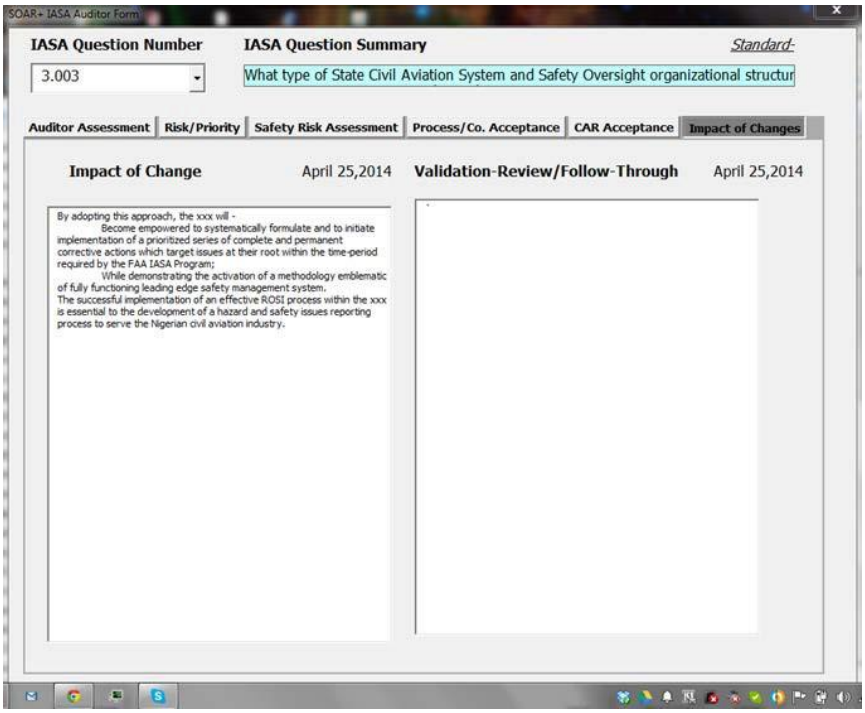
Describe the roles and responsibilities of the operations and the airworthiness inspec
Auditor Assessment
Risk/Priority
Safety Risk Assessment
Process/Co. Acceptance
CAR Acceptance
Impact of Changes
Evidence of Documentation
We put documentation discussion verbage
Documentation Evidence Items
Section 2 Civil Aviation Act 2006
Advisory circular
CAA Book chapter 9
Add
Delete
Modify
Evidence of Implementation
We put implementation discussion verbage
Implementation Evidence Items
Evidence of Training
We put training discussion verbage
Training Evidence Items
Authorizations
I have reviewed the evidence presented and find the standards have been met.
Mike the Manager
April 15, 2014
Auditor Signiture
April 15, 2014
Operator Form
Save
Save & Exit
Cancel



HOSTING

SOAR+ and SOAR APP is intended to be hosted on the cloud, licensed on enterprise platforms, or set up SOAR+ subject matter experts (SMEs) can manage the program on behalf of clients.

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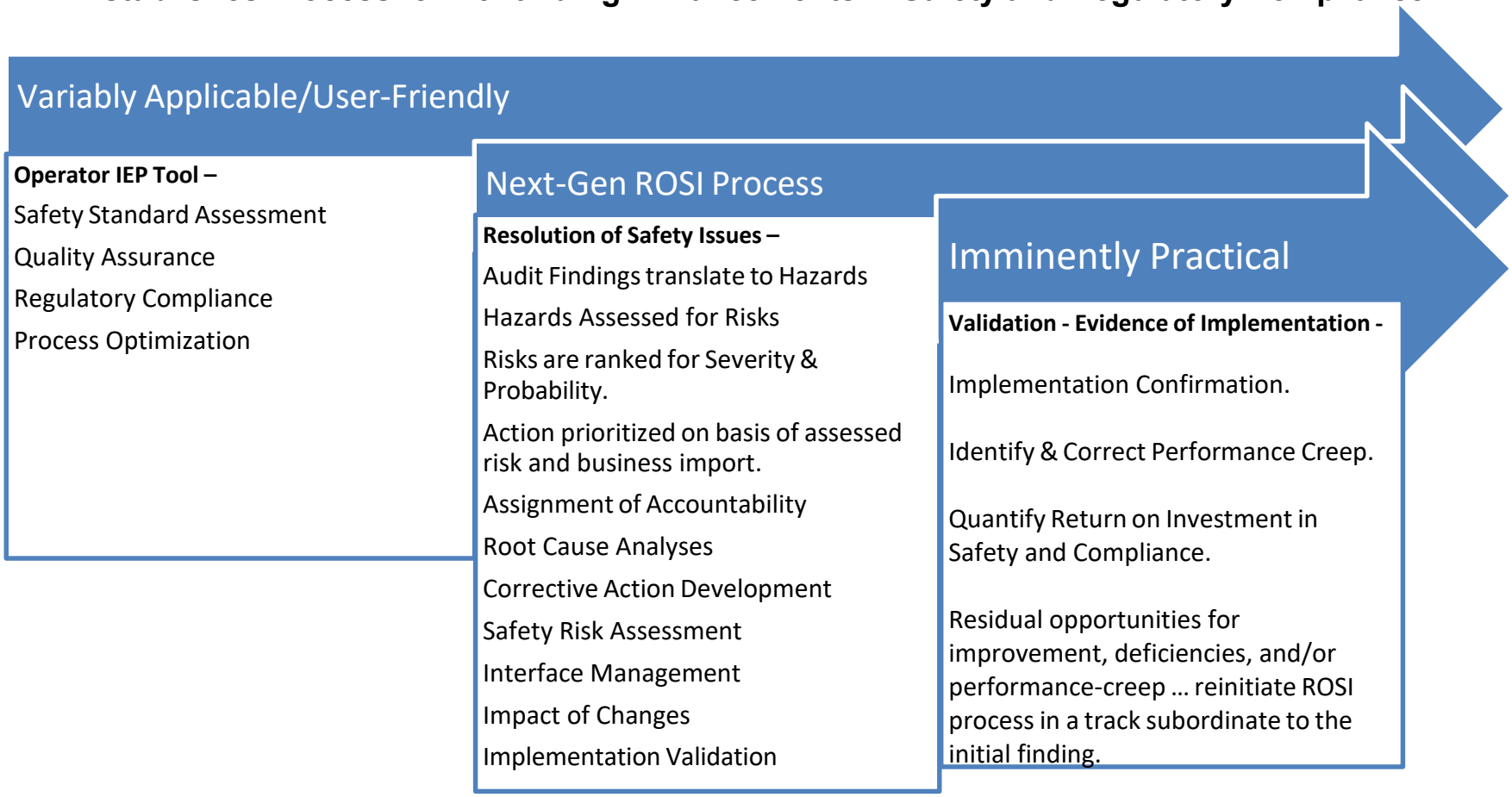
Next-Gen SMS-Leading

Safety of Operations Audit & Resolution of Safety Issues Process

SOAR+

- **Password-Protected Secure Utility Supporting Safety Audits, Regulatory Evaluations and Conformance Assessments.**
- **Means to Ensure Regulatory Compliance**
  - **Standards Conformance**
- **Includes - Resolution of Safety Issues Process-**
  - **Captures Root Cause Analysis**
  - **Documents Safety Risk Assessment**
  - **Validates Implementation**
  - **Means to Monitor/Prevent Process Creep, and**
  - **Supports On-Going Continuing Enhancements in Safety and Regulatory Compliance**

Ensures Regulatory and/or Standards Conformance
Validates Implementation
Monitors Process Creep
Establishes Process for Continuing Enhancements in Safety and Regulatory Compliance



Key Attributes

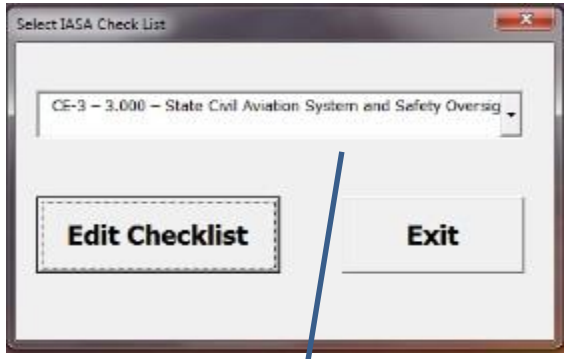
- Captures Specific Regulatory Requirements and Audit/Assessment Standards
  - IASA
  - ICAO
  - AOC Certification Process
  - Regulatory Requirements
  - IOSA
  - Virtually any standards from any source.
- Standards/Requirements are Safety-Risk-Ranked.
  - Results are mathematically manipulated to present safety-risk-ranked prioritization of corrective actions.
  - Thereafter, to quantify returns on investment in safety, regulatory compliance, and standards conformance.

Key Attributes, Continued

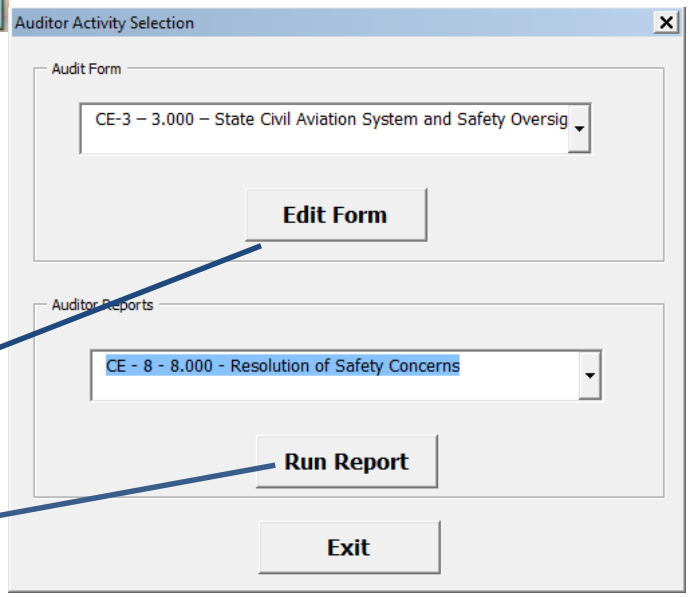
- Intuitive, sequential process.
- Captures relevant assessment comments, evaluator insights and analyses.
- Hyperlinks process documents and implementation-validation records for rapid access, retrieval and presentation.
- Each edit is date-stamped for archival along-with corresponding user login.
- Digital Signatures attest to Risk and/or Compliance Acceptance & Authorization.
- Lifecycle support and trend analyses.

Initial Entry

USER Dropdown Selection



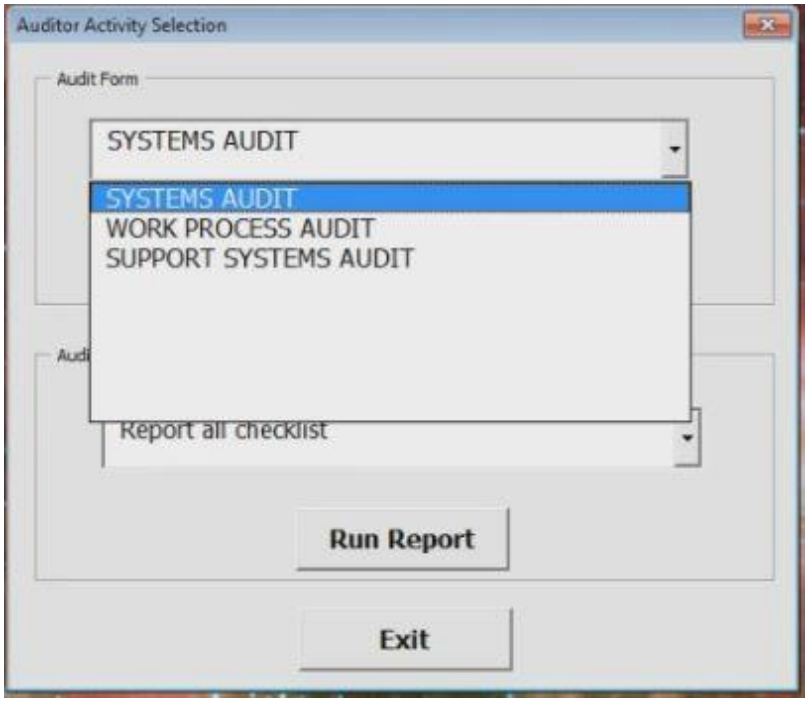
User Auditor



Dropdown Selection of Checklist To Edit

Audit Report Generation Selection

Audit Selection Menu

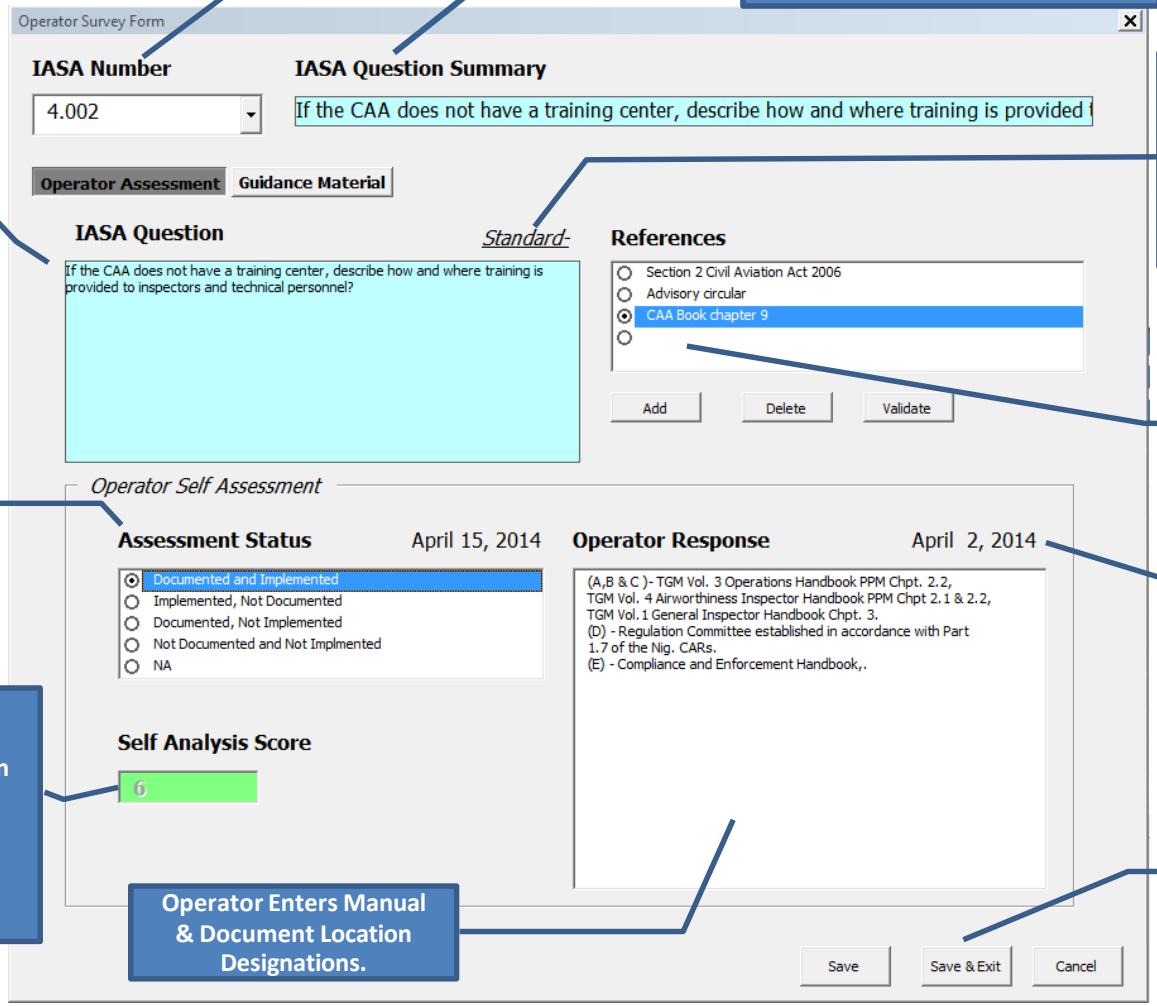


Operator Self-Assessment – Optional (recommended)

Audit questions (standards) are sequenced in numerical order or selected by ID number: short description indicated for each.

Risk Ranked Audit "Standards" establish basis for scored-reports and for quantifying returns on investment in safety.

Audit questions are differentiated as "Standards" (required) or "Recommended Practices" (Compliance-is-Recommended-but-Optional at the operator's discretion).



Operator hyperlinks references to supporting records & documents.

Operator internal evaluation.

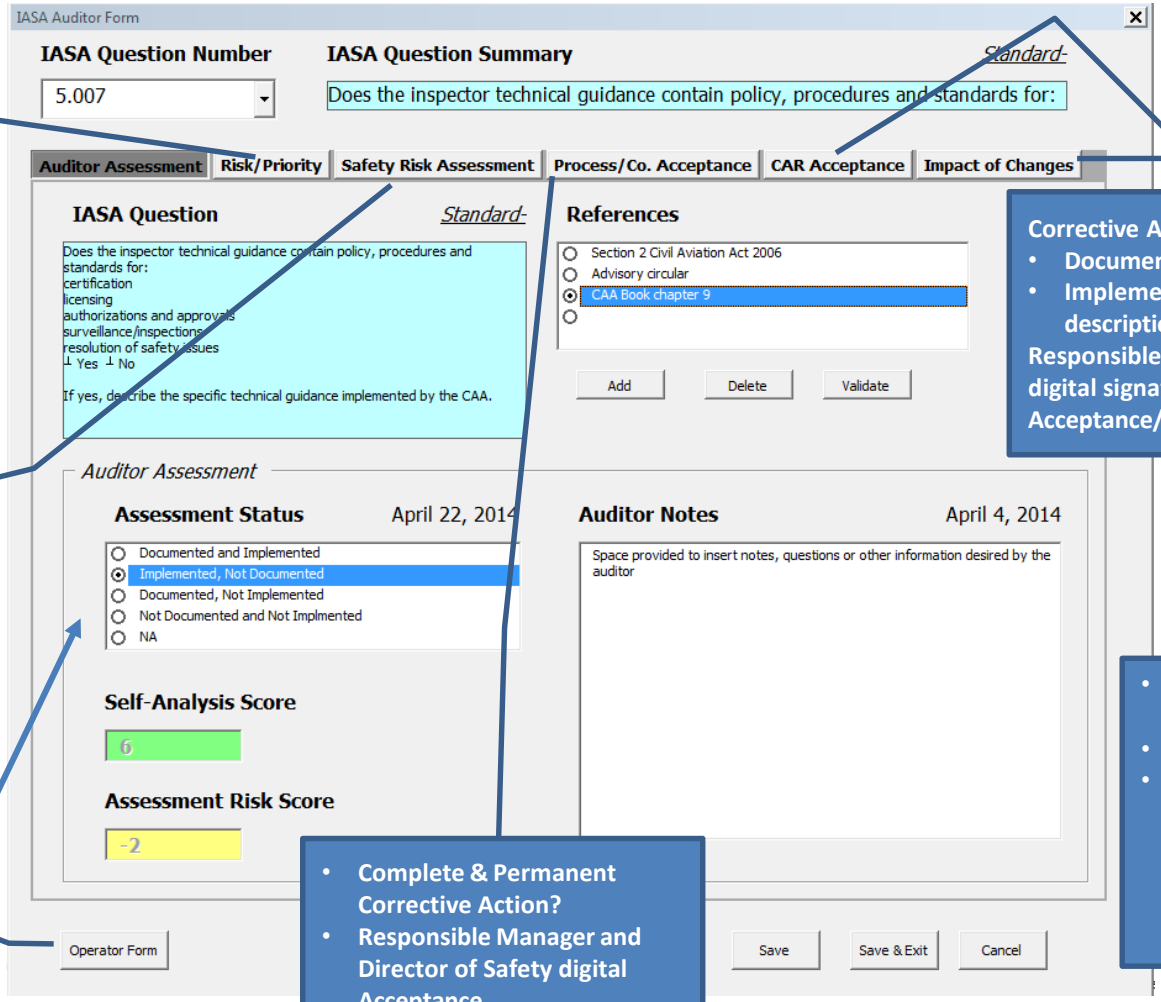
Date of most-rest edit: user name is archived.

- "Operator Self-Assessment" score can be compared to "Auditor's Assessment" (next slides).

Operator Enters Manual & Document Location Designations.

Save, Exit or Cancel updates

Auditor Assessment



- Hazard/Risks Worksheet.
- Prioritization.
- ROSI Action Team assignments.

- Proposed Corrective Action
- Safety Risk Assessment
- SRA-Revised Intended Action.
- Responsible Manager acceptance/digital signature.

- References transfer to Auditor Assessment. Auditor can choose to view Operator "Self-Assessment" screen simultaneously.

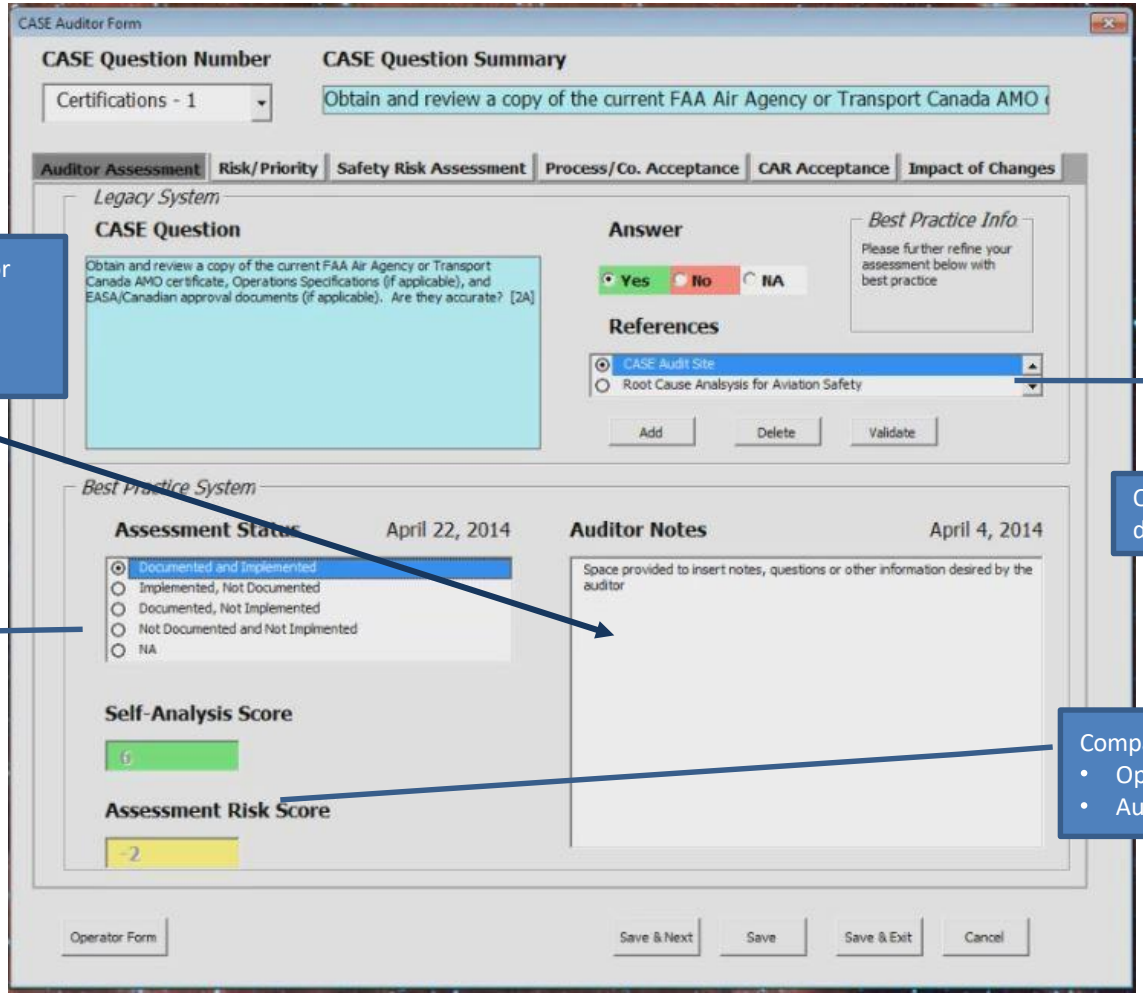
- Complete & Permanent Corrective Action?
- Responsible Manager and Director of Safety digital Acceptance.

Corrective Action
- Documentation
- Implementation process description.

Responsible Manager and Auditor digital signatures for CAR Acceptance/Comments.

- Implementation-Validation records.
- Impact of Changes review.
- Results may warrant sub-finding(s) and recommencement of the ROSI process at "Hazard/Risks" Risk/Priority screen.

Auditor Assessment, Continued…

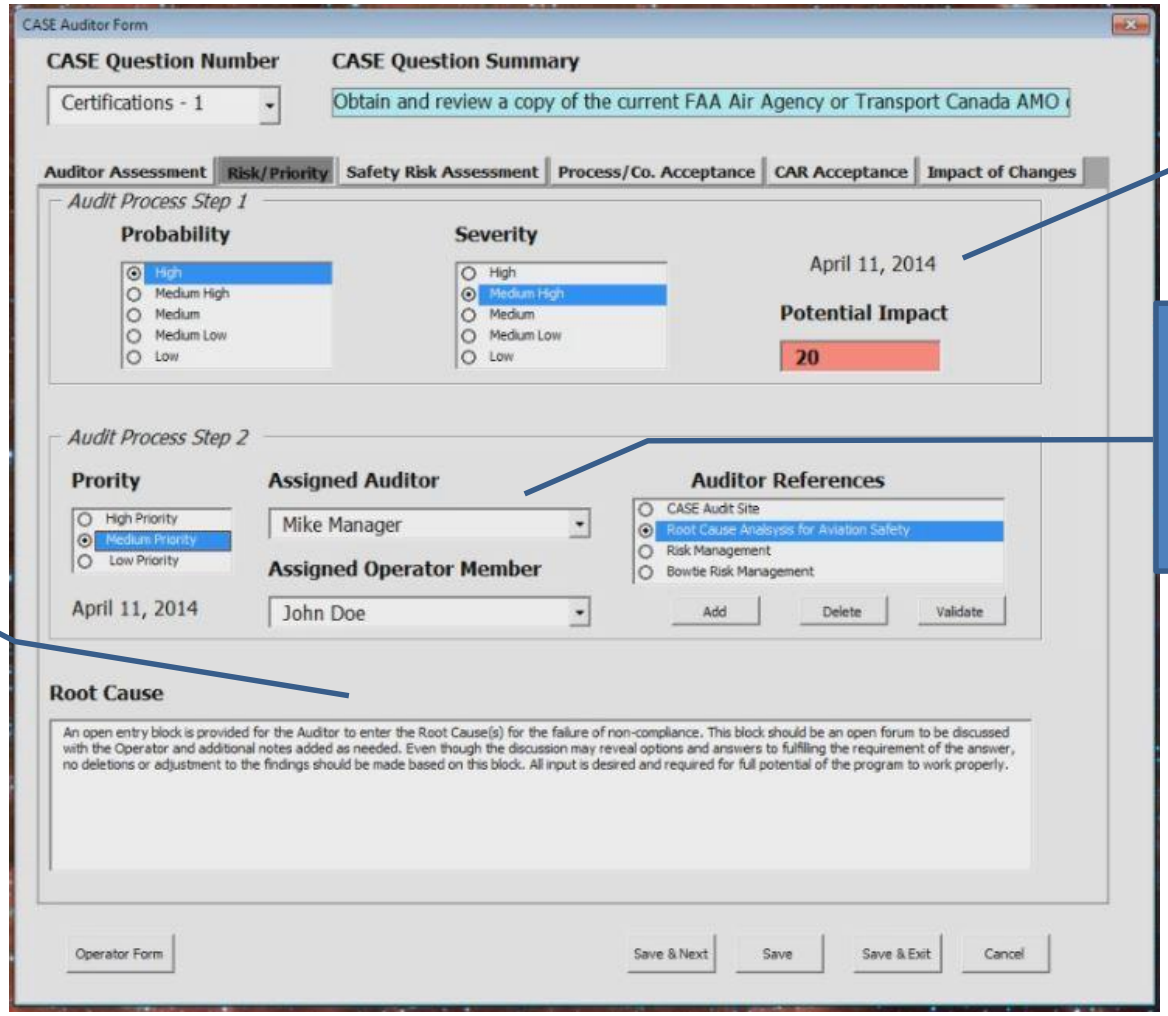


- Auditor evaluates operator self-assessment and documentation.
- Auditor Comments.

Operator documentation.

Comparison of
- Operator Assessment
- Auditor Assessment

Risk Assessment/Priority Analysis

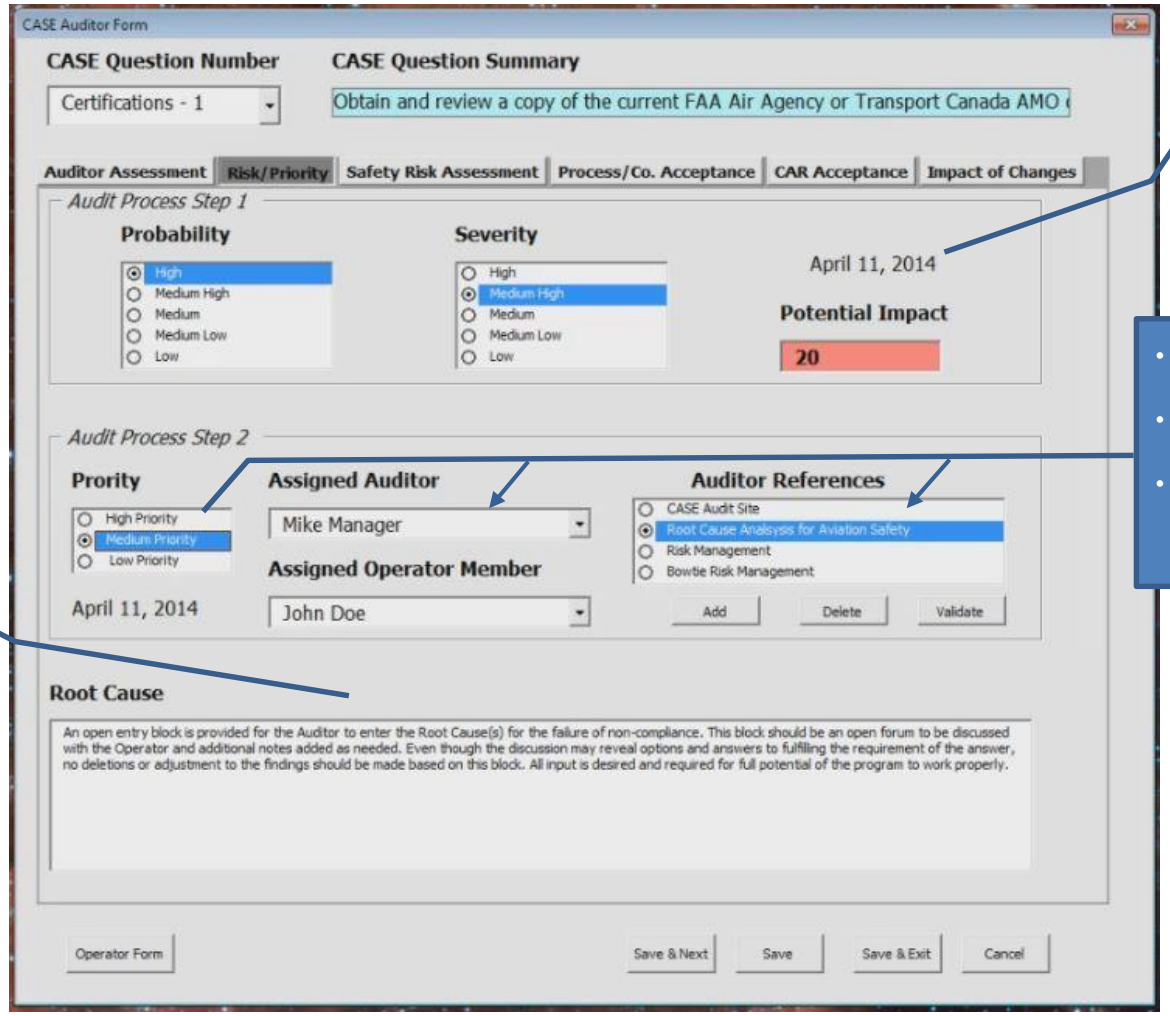


Date generated automatically and updated when a selection or input saved.

- Establish priority ranking
- Assigning team members for question
- Any supporting documents/regulations used in assessment

Root Cause(s) for the failure of non-compliance.

Risk Assessment/Priority Analysis



Date generated automatically and updated with each input.

- Establish priority ranking.
- Assigned ROSI Action Team.
- Reference to supporting documents and/or regulations.

Root Cause(s) for the finding.

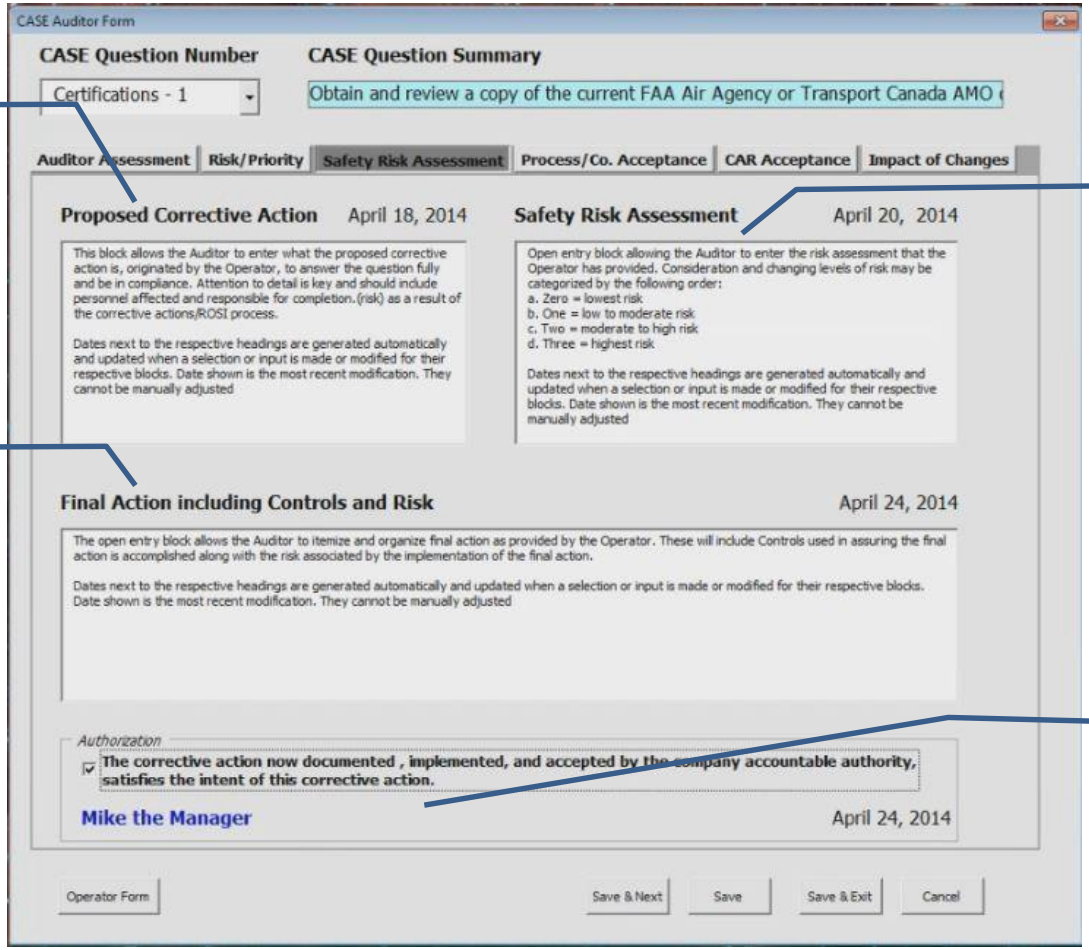
Safety Risk Assessment Tab

Originated by the Operator ROSI Team.

Itemize and organize Corrective Action(s).
- Controls.
- Accepted Risk(s).

Rating remaining level(s) of residual risk.

Signifies that the Responsible Manager is in agreement with the intent of the corrective action and accepts residual risk.



Process Control

how the final action plan will take place

Description of corrective action.

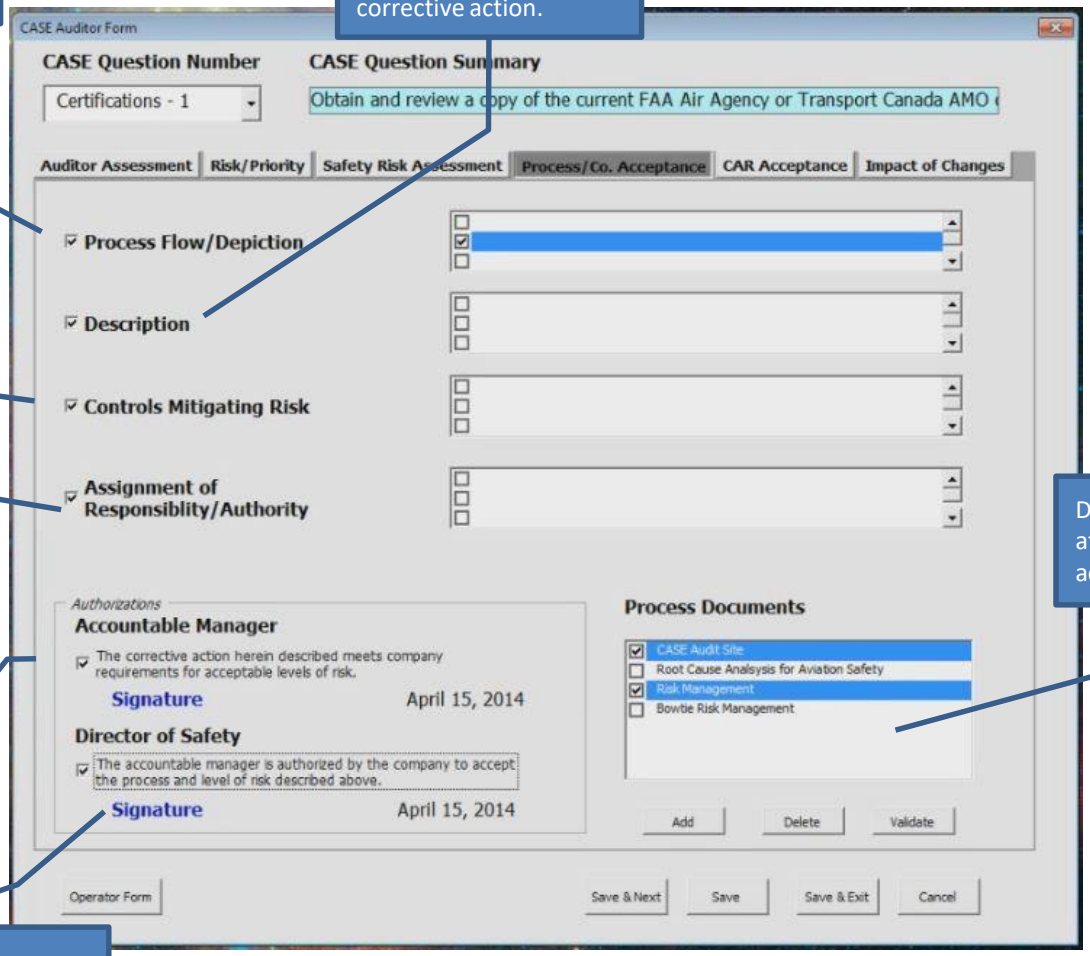
Ensures that critical factors have been addressed to mitigate risks.

Names of those responsible for completion corrective action.

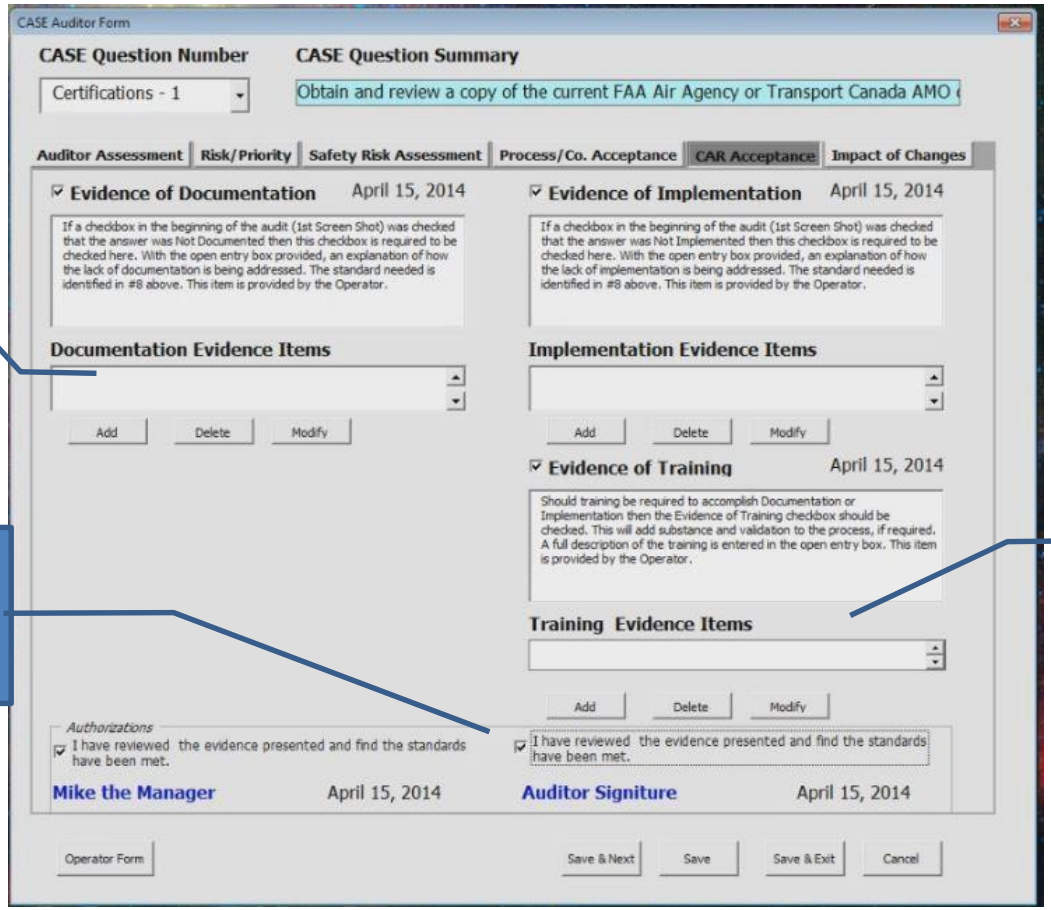
Responsible Manager Accountable for the corrective action.

Director of Safety Acknowledgement/Acceptance.

Documents/text affected by the specific action.



Corrective Action Acceptance Tab

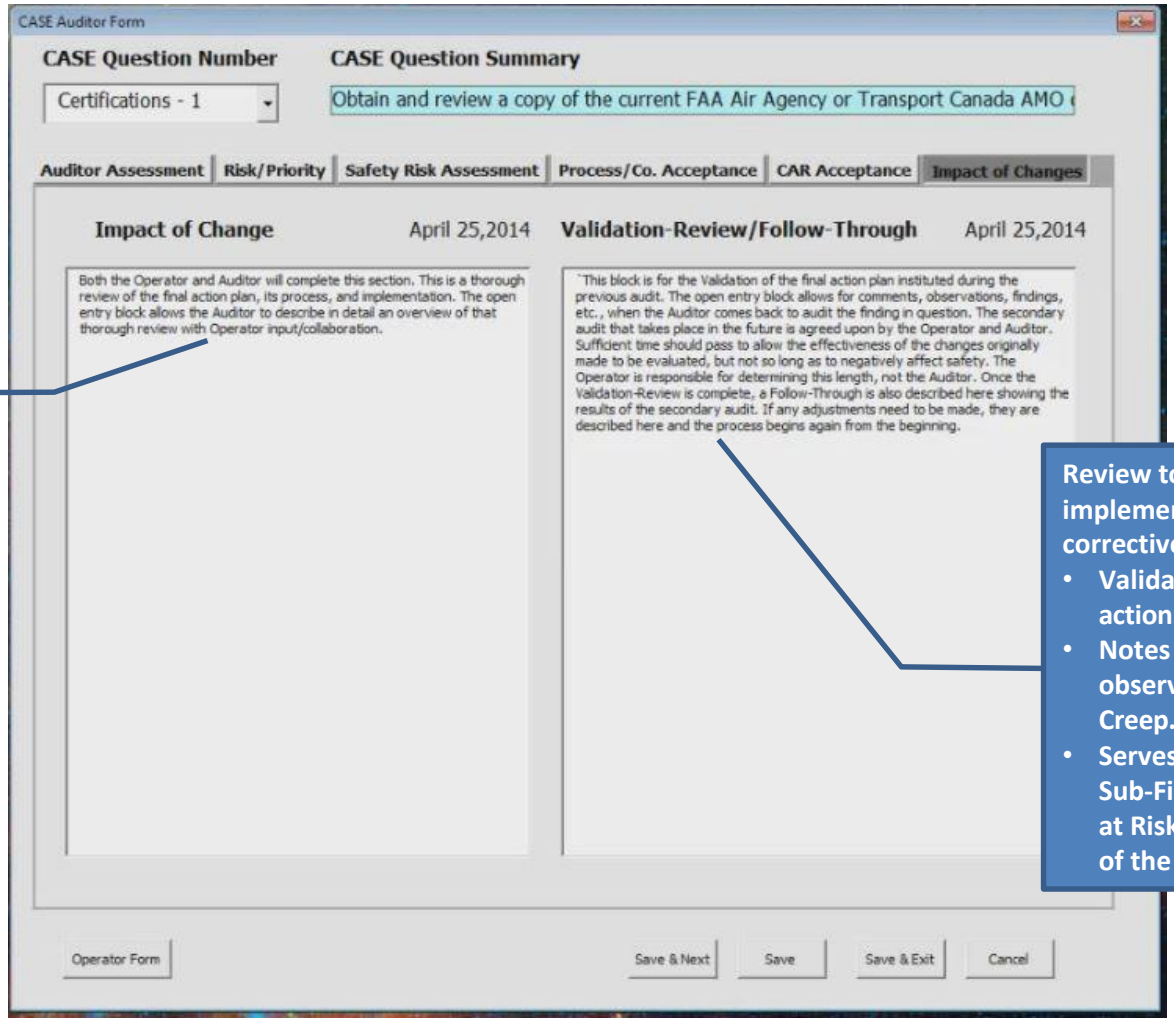


Attached documentation pertaining to particular standard/corrective action.

Authorization that the Operator and the Auditor are in agreement the corrective action constitutes a complete solution to the finding.

Documentation attesting to the completion of required training (if applicable).

Impact of Changes, Implementation Validation, Performance Creep Identification & Response



Review to confirm effective impact of changes assessment.

Review to confirm implementation of the corrective action.

- **Validation of the final action.**
- **Notes detailing any observed performance Creep.**
- **Serves as foundation for Sub-Finding to recommence at Risk/prioritization phase of the process.**

Flexible Installation, Multi-Modal User Access, Enduring Support

Enterprise/Server Installation

Individual Laptop or Desktop PC

Next-Gen SMS

Audit & Resolution of Safety Issues

SOAR+ Solution

Adaptive Information Technology