

# OSAC Registry Implementation: A How-to Guide

## Introduction

The Organization of Scientific Area Committees (OSAC) for Forensic Science is a collaborative body of more than 550 forensic science practitioners and other experts representing all levels of the government, academia, and industry. Administered by the National Institute of Standards and Technology (NIST), OSAC's mission is to facilitate the development of science-based standards and to encourage the use of these standards throughout the forensic science community. The goal is to have stakeholders in the forensic science community and legal system embrace the approved standards on the [OSAC Registry](#) and implement them into everyday practice. Implementation will improve consistency across forensic science disciplines and increase confidence in the accuracy and reliability of a forensic science service provider's (FSSP) outputs. These positive benefits enhance the confidence in FSSP's reports and the credibility of FSSP's expert testimony in the courts of law.



OSAC Registry implementation means a FSSP has incorporated an OSAC Registry standard into their management system (i.e., quality) documents. OSAC has previously published comprehensive guidance on [OSAC Registry Implementation](#). Successful incorporation of, and compliance to, an OSAC Registry standard is currently self-declared by a FSSP. OSAC does not audit nor independently assess any claims of OSAC Registry standard(s) implementation or continued compliance. Any self-declaration by a FSSP that it is following an OSAC Registry standard will be observable in documents and records of the FSSP. This document provides further suggestions on how a FSSP can demonstrate successful incorporation and routine compliance.

Section 1 of this document lists possible pathways for incorporation and relevant considerations. This section includes an intermediate stage when a FSSP cannot fully incorporate an OSAC Registry standard. Section 2 of this document provides further discussion to assist FSSPs in their evaluation and incorporation of applicable OSAC Registry standards.

How, and to what degree, a FSSP implements an OSAC Registry standard is at its discretion; it is most aware of potential enhancements to its practices and management system. As such, OSAC does not advocate for one specific pathway over another but does encourage FSSPs to aspire to and eventually complete the full incorporation of Registry Standards insofar as practicable.

## Section 1: Possible Pathways for Incorporation of OSAC Registry Standards

### a. Incorporate all standards for all forensic disciplines applicable to the FSSP.

**Example:** A FSSP's policy describes that it will evaluate and incorporate all applicable OSAC Registry approved standards into their operating procedures.

**What this means:** As the OSAC Registry is updated, the FSSP would need to review each new standard and decide whether it applies to its scope of services provided. The FSSP would either use each applicable standard as its SOP for each discipline or incorporate the standard's wording into the FSSP's self-authored SOPs for each discipline.

### b. Incorporate all applicable standards for a specific forensic discipline.

**Example:** A FSSP has incorporated all OSAC Registry standards for Toxicology into its relevant SOPs.

**What this means:** The FSSP would either use each applicable standard as its SOP for the specific discipline or incorporate the standard's wording into the FSSP's self-authored SOPs for the specific discipline.

### c. Incorporate one or more standards, but not all OSAC Registry standards, applicable to a specific forensic discipline.

**Example:** A FSSP incorporates the OSAC Registry approved standard "*ASTM Standard Practice for Identification of Seized Drugs [E2329-17]*" into its SOP for the identification of seized drugs (or equivalent).

**What this means:** The FSSP would either use the standard as its SOP for the specific discipline or incorporate the standard's wording in its self-authored SOPs.

## Intermediate Implementation

It is possible that a FSSP has jurisdictional, regulatory or policy requirements that prevents incorporation of a standard as published at a given time. While the majority of the standard's criteria may be met, a FSSP can only reach a partial incorporation due to the limitation. A FSSP may wish to demonstrate its intent to meet the criteria for an OSAC Registry standard while noting the limitation which prevents full incorporation.

**Example:** A FSSP incorporates the majority of the OSAC Registry approved standard "*ASTM Standard Practice for Identification of Seized Drugs [E2329-17]*" into its SOP for the identification of seized drugs (or equivalent).

**What this means:** In the SOP, the FSSP's would cite the standard, cite the *specific portion* of the standard that cannot be incorporated and the reason the *specific portion* cannot be met.

Incorporation of a standard as published is desired. However, a FSSP may have sound and defensible justifications for why it can only incorporate most requirements and not the standard as published. OSAC's goal is to improve consistency within and across forensic science disciplines and intermediate incorporation of a standard is a step toward that goal; denoting that the FSSP has assessed the applicability of an available Registry standard(s) and incorporated it to its fullest ability at a given time.

## **Section 2: General Considerations**

FSSPs are consistently striving for improvement. The OSAC Registry offers those providers who use consensus developed forensic science standards, a way to enhance their forensic services and management systems. While the incorporation of OSAC Registry standards is currently novel in the forensic science community, it is anticipated the momentum for incorporation will continue to grow. This is similar to the continuum of forensic science laboratories seeking accreditation over the past years. Initially, pioneering laboratories came together to develop an accreditation program that could support and provide demonstrable proof of quality improvement. Laboratories sought this optional accreditation which included implementation of standards and best practices. As more laboratories achieved accreditation, what was previously optional eventually became expected in the forensic science community and legal system. Expectation of laboratories being accredited drove further participation leading to some federal and state governments mandating their forensic laboratories achieve accreditation wherever applicable. The starting point for every FSSP is to evaluate the approved Registry standards, assess those standards that are applicable to the forensic services provided by that FSSP, and determine how the standard(s) can be incorporated into their management system. Incorporation may require validation or verification for a method. Incorporation *will* require updating corresponding SOPs (or equivalent) and appropriate training for technical personnel. This requires that the FSSP allocates the time and necessary resources for successful execution. We discuss some of these elements in further detail below.

**Evaluation:** A requirement for an accredited FSSP, and best practice for all, is that senior management conduct an annual review of the overall health of the management system. Additionally, management system documents must be periodically reviewed and updated as necessary. These reviews provide an opportunity to assess the applicability of current Registry standards to the FSSP's practices, and potentially document the organization's intent on incorporation. At a minimum, technical experts for each of the FSSP's forensic disciplines can evaluate the applicability of OSAC Registry standards to their SOPs during this periodic review.

Should an FSSP choose to document its review of OSAC Registry standards into their business records or management system documents (e.g., in a report of the laboratory's annual review of their management system), the following sample language is offered:

*“The [Forensic Science Service Provider Name] has an established quality system that supports consistent conformance to requirements in ISO/IEC 17025:2017 as demonstrated through accreditation by Accrediting Body X. For the forensic service provided, the organization will incorporate/meet [select the best word that describes the current status or intent] the requirements of the standards on the Organization of Scientific Area Committees (OSAC) for Forensic Science Registry where those standards are applicable. The [FSSP Name] is committed to a strategy of continuous improvement.”*

**Risk:** A vital part of an FSSP’s management system is the ability to assess risk. The outcome of risk can either be positive (i.e., an opportunity) or negative (i.e., a threat). Risk assessments are conducted to reduce the likelihood of a negative impact and to maximize realized opportunity. The introduction of ISO/IEC 17025:2017 states, “Addressing both risk and opportunities establishes a basis for increasing the effectiveness of the management system. The laboratory is responsible for deciding which risks and opportunities need to be addressed.”

An FSSP’s evaluation of OSAC Registry standards should include an assessment that looks at the objectives of the organization and determines both the risks and opportunities from incorporating these standards. A decision to incorporate a standard demonstrates the FSSP is agreeing to meet the standard requirements the forensic science community has deemed appropriate. This provides both the public and the legal system an added level of trust in the services provided and allows the work to be compared more readily to other organizations. FSSPs should note that potential risk exists for both choosing or not choosing to incorporate Registry standards. Short-term considerations may include the effort and resources that are available for successful incorporation. Long-term risks for a FSSP deciding not to incorporate OSAC Registry standards may include being out of step with best practices deemed by the forensic community and being susceptible to increased challenges during testimony. There are also potential expectations and pressure from the public, law enforcement, forensic science community, and legal system for FSSPs to follow applicable Registry standards.

**Training:** A key element to the successful incorporation of a Registry standard is having the appropriate training provided to personnel. Regardless of which pathway a FSSP uses, all will result in modifications to the management system documents of the organization. These modifications require technical personnel to be trained on the reason and expected benefit of incorporating the Registry standards. It is recommended that general training for technical personnel include information about OSAC, its mission, the Registry standards and the specific details around the FSSP’s implementation of the standards. For a FSSP that has opted for intermediate incorporation due to a given limitation, it is advisable that technical personnel are knowledgeable of why full incorporation of a standard was not executable at the given time and how, if at all, that impacts the overall methodology used. It is critical that technical personnel who testify be prepared to address these topics during judicial proceedings. As mentioned, greater incorporation of the OSAC Registry standards by forensic science service providers will set greater expectations. Technical personnel should be fully aware of their FSSP’s status and position on Registry standards to address those potential questions during testimony.

**Recognition of Incorporation:** The goal of OSAC is to have FSSPs embrace and incorporate the Registry standards for the betterment of its operations and outputs. Those who have incorporated Registry standards will likely want to share this information with their customers as a demonstration of high-quality service. It should be noted that there is no current method by which OSAC can independently confirm that an FSSP has successfully incorporated the Registry standards and is following those requirements routinely. FSSPs should seek accreditation whenever possible as the auditing process evaluates whether a FSSP is following its documented quality practices and technical procedures. As an example, if an accredited FSSP incorporates an OSAC Registry standard through the pathways noted in Section 1, by default, that incorporation becomes a part of the FSSP's documented management system documents. Those procedures are routinely provided to its accrediting body and are then used by that body to evaluate a FSSP's management system.

In conclusion, OSAC facilitates the development of scientifically sound standards for the forensic science community. These standards have been developed through collaboration and consensus by subject matter experts who represent that community at large. The intent of each standard is to improve consistency within forensic disciplines and to ensure confidence in the accuracy and reliability of provided forensic science services. The OSAC Registry standards offer a tool for FSSPs in their constant endeavor to improve. This document advocates for their incorporation by FSSPs and has offered suggested pathways for organizations to consider in that process. Each FSSP should evaluate the applicability of those standards to the forensic science services they provide and assess how incorporation of a standard will benefit their management system documents. Successful incorporation will require modifications to management system documents, along with appropriate training for personnel. Incorporation of Registry standards into an accredited FSSP's procedures will allow for the subsequent auditing by an accrediting body that can demonstrate whether the organization is meeting or exceeding the standard's criteria. At a minimum, FSSPs are encouraged to assess the benefits of incorporating OSAC Registry standards.

To learn more about OSAC Registry implementation efforts, visit the [OSAC website](#).

If you have questions about OSAC Registry implementation, contact the OSAC Program Office ([forensics@nist.gov](mailto:forensics@nist.gov)).

---

Prepared by the Organization of Scientific Area Committees (OSAC) for Forensic Science, Quality Task Group's (QTG) Working Group on OSAC Registry Implementation

The OSAC Quality Task Group's (QTG) role is to act as a resource to OSAC members on quality issues. The QTG was asked to determine possible pathways for the incorporation of Registry standards into the management system (i.e., quality system) of forensic science service providers. The QTG's goal with this document is consistent with OSAC's mission: to encourage the use of OSAC Registry standards.

Task Group Members:

Eric Pokorak (Chair), Karin Athanas, Christopher Krug, Jason Bond, Jason Bundy, Matthew Gamette, Melanie McMillin, Lori Nix, Blythe Toma, Patti Williams