

This document is not an API Standard; it is under consideration within an API standards committee but has not received all approvals required to become an API Standard. It shall not be reproduced or circulated or quoted, in whole or in part, outside of API committee activities except with the approval of the Chairman of the committee having jurisdiction and API staff. Copyright API. All rights reserved.

Annex H (informative)

Establishing Span of Control (SOC) and Evaluation Intervals

H.1 Purpose

To establish maximum recommended task SOC and evaluation intervals, operators should determine the risk and difficulty of each covered task. In making risk and difficulty determinations, operators should consider Subject Matter Expert (SME) input, system operating characteristics, company procedures, equipment used to perform covered tasks, and the company's history of near misses and accidents.

H.2 Process

H.2.1 *Step One: Assess Risk.*

- Determine the likelihood of risk being realized while performing the task.
 - High risk consequences could be:
 - a product release that presents a hazard to persons, property, or the environment
 - an injury resulting in hospital admission and/or fatality
 - an evacuation or shelter-in-place order
 - a fire or explosion causing significant monetary cost
 - any consequence the operator deems high risk
 - Moderate risk consequences could be:
 - an employee or contractor injury
 - a fire causing moderate monetary cost
 - any consequence the operator deems moderate risk
 - Low risk does not meet the consequences for high or moderate risk, and is not likely to lead to:
 - a product release
 - injury or fatality
 - fire or explosion

NOTE This list is not intended to be all inclusive.

H.2.2 *Step Two: Assess Difficulty.*

- Determine the difficulty of performing the task.
 - High difficulty may require or include:
 - advanced knowledge and skill
 - specialized training and/or certification
 - ability to analyze complex tasks
 - non-sequential task steps
 - significant time and effort
 - unique environmental conditions
 - Moderate difficulty may require or include:
 - intermediate knowledge and skill
 - ability to analyze routine tasks
 - sequential task steps
 - average time and effort

This document is not an API Standard; it is under consideration within an API standards committee but has not received all approvals required to become an API Standard. It shall not be reproduced or circulated or quoted, in whole or in part, outside of API committee activities except with the approval of the Chairman of the committee having jurisdiction and API staff. Copyright API. All rights reserved.

- Low difficulty may require or include:
 - basic knowledge and skill
 - ability to comprehend basic procedures
 - ability to apply principles
 - minimal time and effort

When the levels of risk and difficulty have been determined, use Figure H.1 to follow the line to the maximum recommended SOC and evaluation interval for the task. Operators should consider the frequency that an individual performs the task when determining SOC ratios.

NOTE The process described, including the SOC and evaluation interval maximum recommendations, are provided for operators to consider when establishing task management parameters.

Figure H.1—Risk & Difficulty Analysis

| TASK ANALYSIS | | TASK MANAGEMENT | |
|---------------------------|---------------------------------|--------------------|------------------------|
| Step One - ASSESS RISK | Step Two - ASSESS DIFFICULTY | SPAN OF CONTROL | EVALUATION INTERVAL |
| High Risk | High difficulty | 1:1 | 36 months |
| | Moderate difficulty | 1:1 | 36 months |
| | Low difficulty | 1:1 | 36 months |
| Moderate Risk | High difficulty | 1:1 | 36 months |
| | Moderate difficulty | 1:3 | 48 months |
| | Low difficulty | 1:3 | 48 months |
| Low Risk | High difficulty | 1:3 | 48 months |
| | Moderate difficulty | 1:5 | 60 months |
| | Low difficulty | 1:5 | 72 months |

Operators should consider their system’s operating characteristics, procedures, and equipment when determining SOC and evaluation intervals. Figure H.1 establishes the maximum recommended SOC ratio. The ratio may be reduced to zero by the following considerations:

- Requires a qualified individual by regulation (e.g., welding)
- Qualified individual can not intervene to correct improper performance or react to an abnormal operating condition (e.g., hot tap)