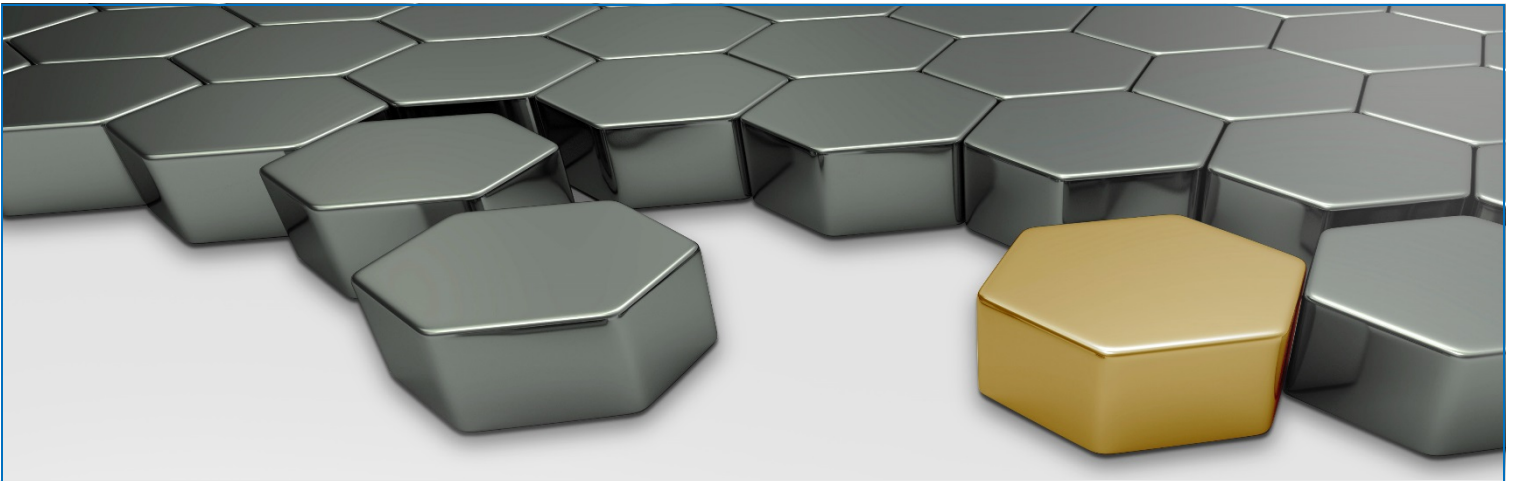




Reliability Management Team™ Manual

A Guide to Staffing, Training, Managing and Sustaining Reliability and Triad Teams



SG Collaborative Solutions, LLC™
Designed for Impact. Powered by Partnership.

Preface

Introduction and Access

This manual provides instruction on Staffing, Training, Managing and Sustaining Reliability and Triad teams. The manual supports SGCS Collaborative Solutions organizational clients with access to the SGCS High Reliability™ and Collaborative Just Culture™ suite of integrated products. This copyrighted manual is available for download from the SGCS online learning and collaboration platform. Users must be employed and authorized by an organization under contract with SGCS.

Online Prerequisites

- ◆ *Principles of Reliability*
- ◆ *Performance vs Behaviors*
- ◆ *Using the Reliability Response Guide™*
- ◆ *Essential Supervisor Skills*

Related Documents

- ◆ SGCS Reliability Response Guide™ (RRG)
- ◆ RRG Instruction Manual
- ◆ Reliability Management Team™ Manual

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Feedback

SG Collaborative Solutions values your feedback. Please provide general comments, along with any errors and omissions to: info@sg-collaborative.com

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A Five-Step Path to High Reliability



Introduction

Reliability is measured as *performance over time*. Most important, what is considered “reliable” is rarely written down – many consider zero undesired events to be “highly reliable,” but that would be inaccurate. There are no known areas where machine, system, and human failure rates are zero, unless you are measuring a short window of operational time. Instead, we need to be familiar with the term “Inherent Rate of Failure.”

The Inherent Rate of Failure is often unknown in a socio-technical system. (You’ll recall the term “socio-technical” means people working within systems.) It can be extremely difficult to determine a complex system failure rate, even using the latest science in probabilistic risk analysis. It is even more difficult to determine human failure rates – error, choice, and performance issues that are inevitable in complex systems where individuals and teams regularly trade accuracy for speed or to meet operational goals.

For our purposes, reliability will be considered *performance over time* within the boundaries of our personal and organizational expectations. For example, you may have an antique car. You might consider it highly reliable if you can drive it four or five times in a row without something going wrong. But if your new car broke down every four or five trips, you’d consider it highly unreliable. Commercial aviation has highly reliable engineering standards, some with a system failure rate of less than one in 1 billion flight hours. Most of us would consider this a highly reliable system – unless we were a customer on the plane that had the one failure.

In the Five-Step diagram above, you’ll note that a functional Reliability Management Team (RMT) is necessary if an organization wishes to sustain the concept of high reliability. These teams are multidisciplinary, and are considered subject matter experts in the process of seeing, understanding, and managing risk. They do not have to be experts in the area being examined – it actually can be helpful if they are not too familiar with the domain or system being analyzed, because this creates the opportunity for the RMT to ask questions, stay somewhat removed from bias, and see risk from differing perspectives.

As a Reliability Management Team member or risk review facilitator, it’s vital that you can describe reliability to people in a way they will understand. For instance, healthcare patients expect zero errors – that’s their standard of reliability. But healthcare practitioners know that they don’t successfully start 100% of IVs or get 100% of diagnoses correct. They know that medication errors, process errors, and other complex system issues will happen. Your job as a subject matter expert (SME) on the team is to determine where you can make systems and humans more *effective* and *resilient*. So you must make it clear that we’re not looking for perfection – we’re looking to be highly reliable. You can do this by having

open discussions about inherent failure rates, individual perception of what kind of reliability can be achieved, and how to reduce the probabilities of error, risk, and harm.

Reliability Management Team Roles

Description

A Reliability Management Team is generally considered an organization's subject matter experts in the methods of managing risk using high reliability techniques. The number of RMTs, their size and makeup, meeting schedules, etc., can be quite variable depending on the organization's size, number of employees, geographic footprint, risk profile, and many other factors.

For example, a small, critical-access hospital of 20 to 30 beds or a moderate-sized fire department may have one team that meets monthly, formed of six to eight diverse clinical, operational, and logistical personnel. A large teaching hospital of 900 beds may have a primary RMT of 14 to 18 people, sub-group RMTs in Human Resources and Clinical Practice. The primary team may meet weekly for an hour or two to discuss the Risk Register, reported and observed events, recent Collaborative Risk Reviews, Risk Management cases, and Triad process activity. A nationwide EMS organization or an airline may have four to five primary RMTs, each assigned to a geographic region. Each team may meet monthly and serve as Go Teams when a significant risk event happens in their region. You'll find more information later in the section *Additional RMT Roles and Services*.

Objectives

An RMT's objectives change as the organization matures into regularly using highly reliable methods. At the beginning of the Five-Step process we described earlier – the RMT may be primarily engaged in just becoming subject matter experts while analyzing risk events. They will use the online Learning Management System, analyze risk events and cases, practice facilitating Collaborative Risk reviews, and help identify the organization's high reliability integration points, such as needed changes to policy and procedure. The RMT will also develop internal instructors who will help guide managers, supervisors, and executives through practical scenarios after these managers and supervisors have completed the online training. This will help them develop skills to see, understand, and manage risk in their areas of responsibility. Eventually, the RMT becomes the organizational subject matter experts in high reliability methods. The team may then evolve, and many mature teams provide several primary functions after the initial organizational development stage.

Example RMT Support

Here are some examples of how effective RMTs have functioned, providing **Green, Yellow, and Red** levels of support:

- **Green** support involves risks managed solely by the now-trained front-line supervisors or managers. These are low-to-moderate-risk events or observations where front-line supervisors

or managers need no external support. Using the Reliability Response Guide™ and methods they have learned, they identify the risks and competing priorities and discuss potentially more resilient systems. They then manage the human performance and/or behavior issues locally through Performance Improvement or Corrective Action strategies. Finally, they report system findings and recommendations to the RMT, which adds these to the Risk Register if necessary.

- **Yellow** support gives front-line supervisors or managers some “at the elbow” help with the process and with facilitating across departments. These usually are moderate risk events and often involve more than one department. Supervisors or managers contact the RMT or an RMT member, depending on how the team functions. In person or over the phone, the RMT member would help with the high reliability process.
- **Red** support typically involves high-risk near-miss events, or events that involve some form of undesired outcome, including harm. In these instances, RMT members often conduct a Collaborative Risk Review, and may also provide some Go Team support by visiting the area(s) where the event happened and helping front-line managers identify system, human performance, and human choice contributors.

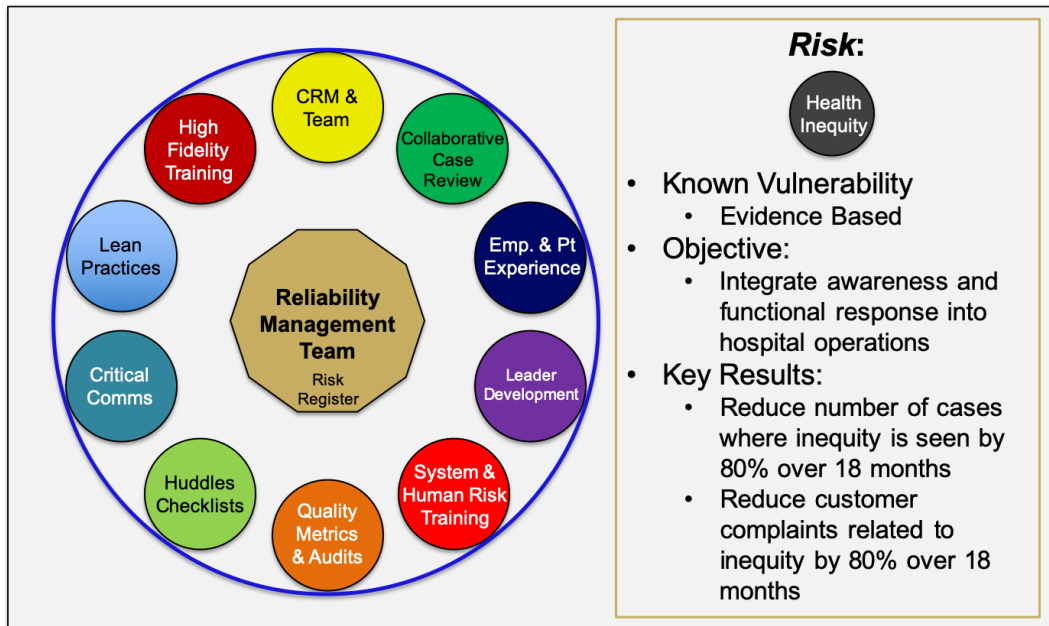
RMT members would rarely take over an investigation or analysis. The exception may be **Red** support, as noted above, which typically involves high-risk near-miss events, or events that involve some form of undesired outcome, including harm. In these events the organization may request the RMT to facilitate the investigation or analysis, gather facts, develop system recommendations, and use the Triad process to recommend solutions.

Regardless of the level of risk being analyzed, RMTs should always leave the job of managing performance issues and behavioral issues to front-line supervisors who have that responsibility. **RMTs should not create Performance Improvement Plans or recommend any specific type of Corrective Action.** Through the Triad process, the RMT may recommend that a person get remediation through a performance improvement plan, or get coaching or corrective action. But it is the responsibility of front-line supervisors and Human Resources to develop and administer these items.

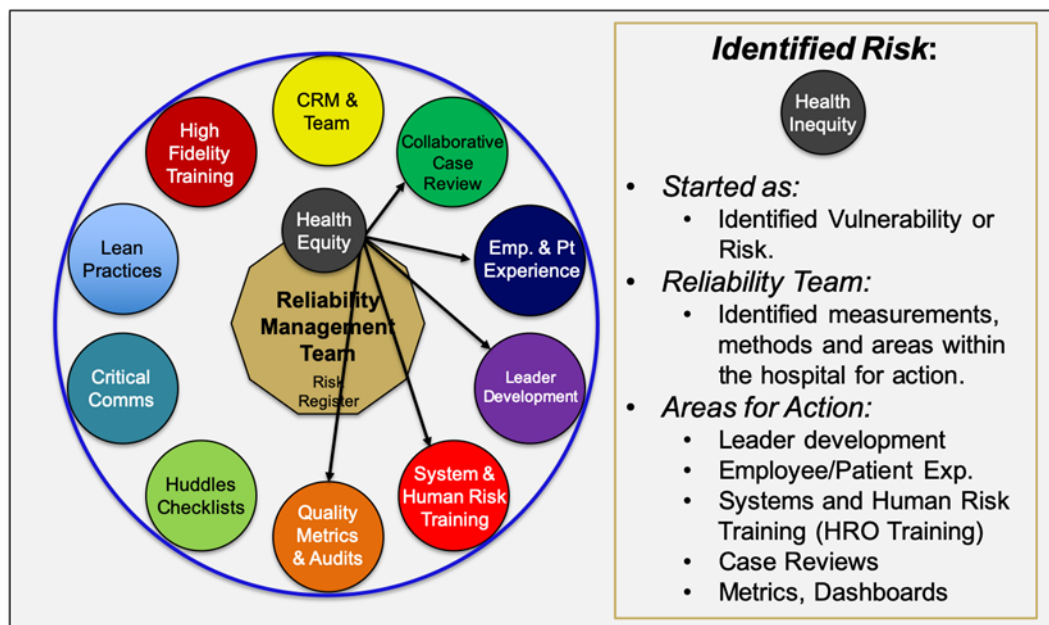
RMTs may manage the organizational Risk Register and identify areas of vulnerability. These vulnerabilities could be in many areas of risk, such as legal exposure, clinical, operational, customer service, inequity of service, quality, etc. These vulnerabilities will often generate the need for further analysis. The organization may need to develop Objectives and Key Results (OKRs) to determine where the organization will integrate resiliency.

For example, after several case analyses and customer service reports, a hospital RMT identified that the organization had been providing inequitable care. Some of the Risk Register metrics demonstrate that a person’s color, disabilities, nationality, and/or financial status were affecting the quality of care delivered. The RMT was asked to determine how the organization might integrate more effective and resilient strategies to address these risks.

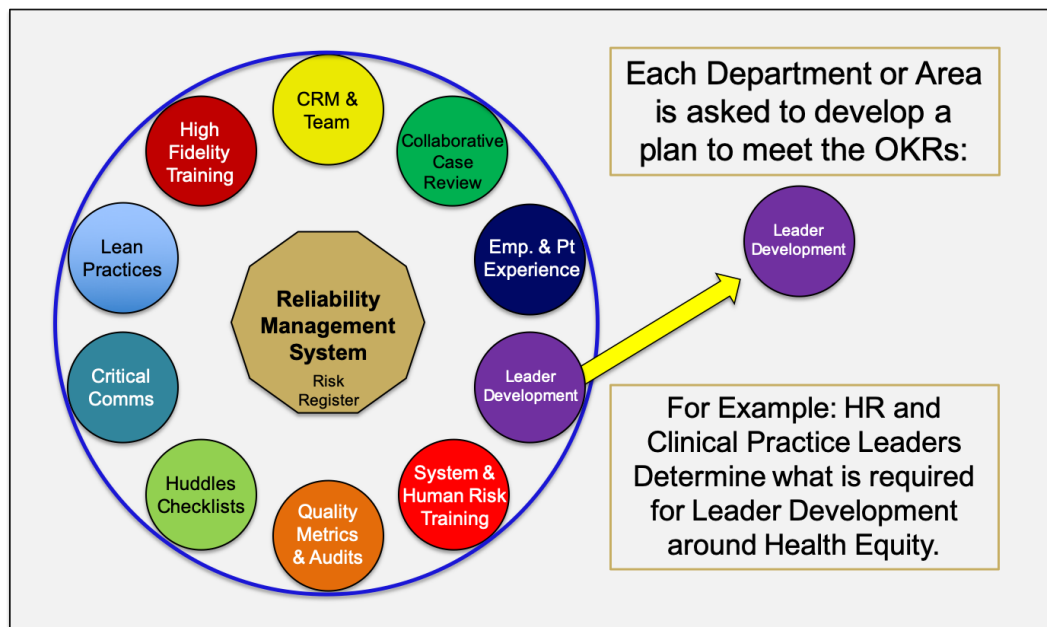
Step 1: Risk Identified and RMT Engages/Discusses



Step 2: RMT Recommends Integration Points



Step 3: Departments Develop Plans



Additional Notes on RMT Roles

RMTs are often charged with facilitating and/or managing Case Reviews for their organization. Because of their subject matter expertise in identifying and stratifying risk into contributing categories, the RMT (usually two to three members at a time, not the entire team), is typically engaged in gathering information on certain risk events and facilitating a Collaborative Risk Review (CRR).

For most RMTs, the organization expects a few members to conduct and facilitate CRRs, reporting on the findings and providing feedback to participants. Remember, RMT members are considered the organization's high reliability process experts – they do not need to be experts in the domain being examined.

RMTs also usually provide, or train, the instructors who will engage front-line supervisors and managers in practical scenario-based exercises once they have completed the online SGCS training. Initially, all existing supervisors, managers, and executives have to take the online SGCS training and attend practical sessions to test their new knowledge and develop skills around seeing, understanding, and managing risk.

The path to organizational high reliability proficiency often follows these steps:

- The SGCS Partner(s) assigned to your RMT will teach front-line managers and supervisors hands-on sessions while they are onsite during the first 12 to 24 months of engagement. During

this time, the RMT develops expertise through observation and SGCS mentoring. These hands-on sessions can be divided into three or more two-hour sessions titled “101,” “201,” and “301” with increasing levels of complexity.

- Once the RMT identifies its own instructors, these people will be given extra training and practice with the SGCS Partner so they can conduct the sessions themselves, helping the organization become self-sustaining. After the RMT becomes proficient in providing front-line supervisor and manager practical training, and conduct their own courses, the assigned SGCS Partner will transition into a role where they work primarily with the organization’s RMT. At this point, interacting with front-line supervisors and managers will be the role of the RMT and those designated instructors, who often come from the organization’s pool of educators, HR staff, or operational areas.
- Specific information related to the RMT *Instructor Candidate Process* is provided later in this manual (see Table of Contents).
- An RMT may assume other roles and responsibilities as determined by the organization. You’ll discuss these with your SGCS Partner.

RMT Membership and Charter

Charter

A Charter is a document that outlines the specific authority, support, membership, and other critical crucial aspects associated with any group, committee, or work team. Charters are a necessary sustainment tool. They ensure the group, committee, or team doesn't stray from assigned work, has a clear set of objectives, and knows its level of authority in an organization. A sample Charter is included as *Attachment #1*.

Standard Components

A Charter should include, but not necessarily limited to:

- **RMT Sponsor:** The sponsor is usually a senior executive with budget and resource authority.
- **Group Leader or Chair:** In some organizations, the RMT Leader is an assigned position associated with the head of Safety, Quality, and/or Risk. In others, the position may change, so the Charter should include specifics on terms and elections, if necessary.
- **Meeting Specifics:** Fixed times and dates (or repeating days) when the RMT holds regular, non-emergency meetings.
- **Commitment Statements:** These are commitments RMT members must make. Functional RMTs require every member to be a subject matter expert in high reliability practices, even though they may have sub-specialties. This is attained only through regular teamwork and repetitive exposure to the collaboration process the RMT uses. A sample Commitment Statement for the RMT might read, "Members must attend, by call or in person, at least three of the four meetings per month. Members may not miss two meetings in a row without permission from the Team Leader."
- **Membership:** The RMT's strength is diversity of experience and thought. Members should represent operations, logistical support, clinical, human resources, quality, safety, risk, engineering, IT, and other key functional groups. There should always be a representative of the management or executive perspective, along with front-line employees. If employees are represented by an organized labor group, it is essential that a senior member of the labor group participate. The number of members on an RMT is typically 10 to 18, but every organization is different.
- **Vision/Aim:** The vision or aim of the group should be clearly stated. See the Charter Sample in the Appendix for an example.
- **Committee Objectives:** These may change as the RMT matures and front-line supervisors and managers gain expertise, but clearly stated objectives are important. See the Charter Sample in the Appendix for examples.
- **Measures/Metrics:** Metrics should be established. These may be in many forms. Common methods include dashboards that allow key staff to regularly see measurable metrics, or

“Objectives and Key Results,” a method of setting larger objectives at the executive level and allowing teams to create measurable, time-limited key results.

- **RMT Scope:** The majority of RMTs are not empowered with decision-making authority – they are advisory. RMTs may make recommendations about system enhancements and management strategies, and assess the relative strength of a proposed mitigation plan. They may, using the Triad process, recommend that front-line supervisors and/or HR engage in performance or behavior modification strategies to mitigate risk. But RMTs should never recommend a specific human intervention, and they are not responsible for carrying these out. Human interventions such as Remedial Action Plans and Corrective Action Plans should always be the responsibility of the front-line manager or supervisor, in concert with the HR team.

Reliability Team Development

Orientation

RMT orientation assumes RMT Members have had some exposure to SGCS high basic overview (generally a one-day course with some RRG practice), they should complete the online courses in the SGCS Learning Management System before orientation. A team orientation is usually done the first time the entire team comes together. Some future RMT meetings will be facilitated by your SGCS Partner using video conferencing, but it is recommended that this first orientation be done in person with your SGCS Partner.

The goal of orientation is to answer team questions, develop some initial cohesiveness, and refine some of the next steps. Typically, the team is introduced to methods other RMTs have developed to integrate high reliability into an organization. Discussion often centers on how the RMT will gain initial expertise, how members will mature as subject matter experts, and how the team may look different in two to three years once the organization has reached sustainment.

Team orientation can generally be accomplished in a four-hour session, and the focus is on RMT Functions, Charter, and responsibilities (this document's previous two sections provide an overview). A sample RMT orientation slide deck is available from your assigned SGCS Partner.

Team Training

Training is conducted by regularly pulling the team together to conduct risk reviews and to slowly introduce more in-depth concepts of reliability and resilience. Typically, the team meets for three to four hours. In the first 60 to 90 minutes, your SGCS Partner usually will introduce and/or review a concept in depth. For example, the team may discuss various types of systems, how to determine inherent failure rates, and debate the resilience of a certain system. Alternatively, the RMT may be introduced to some of the more complex concepts around human performance and cognition, with cases used to provide examples. The rest of these meetings are usually spent breaking into smaller groups and practicing using the RRG, developing risk management strategies, and introducing those strategies to the rest of the group for further discussion. A sample RMT Agenda and Meeting Summary is available from your SGCS Partner upon request.

The time it takes to develop the RMT as subject matter experts is directly related to the frequency of the RMT development and training meetings, the dedication of team members and the support of leadership. Teams that meet at least monthly, with the SGCS Partner facilitating by video conference or on site, will develop faster than those that meet quarterly. Team members who engage with the SGCS Learning Management System early, and who revisit the LMS concepts after attending a meeting, will more quickly grasp the concepts.

Development of Subject Matter Expertise (SME)

RMT members are responsible for becoming the subject matter experts in concepts and methods of high reliability. We know that small variations in the way the science is applied or incorrect use of the tools and strategies can create situations where humans are improperly judged, or risks are not properly managed. Therefore, we expect team members to do their best to become subject matter experts (SMEs) who are relatively comfortable answering questions from peers, other experts, and people attending the courses the organization will eventually conduct for its staff.

Most important, the sign of a true SME is someone who will ask or do the research if they don't know the answer. We expect you will reach out to your fellow RMT members and your SGCS Partner if you have questions you can't answer or issues that need clarification.

Credibility is gained over time. One sure way to erode credibility and trust is to "wing it" when answering a question, particularly when team members will be teaching a methodology to front-line managers, supervisors, and leaders use to evaluate and manage risk. Not knowing an answer should not be embarrassing. These are complex concepts, and the science continues to evolve. Just remember that drifting from the concepts, even slightly, can create long-term issues with the way you manage people and programs.

We at SGCS consider ourselves lifelong learners around these concepts, and team members should as well. Your SGCS Partner will be in regular contact with the RMT to ensure we all keep on course, stay true to the science, and learn together when new concepts are introduced. We recognize that RMT members have other duties and expectations, and that developing SMEs takes time. Mastery comes from time and exposure. We do not expect anyone to become an SME right away, and we certainly expect there to be areas where you are unsure. The team's success will be based more on the level of curiosity its members demonstrate around *learning and listening*, rather than being able to immediately answer every question.

Subject matter expertise also comes with a well-rounded exposure to socio-technical concepts. There is a Recommended Reading List included as *Attachment #2*. We suggest you choose at least one book from each section and start working your way through as you find time. The additional reading, conducting case analyses, collaboration with other RMT members and teaching the concepts to others are all excellent methods to develop confidence and expertise.

Ongoing Education and Practice

Team members can advance their learning and gain expertise in many ways besides monthly or quarterly meetings and Collaborative Risk Reviews. A few examples are given below. There are many others, and because we continue to learn of new methods all the time, we encourage you to discuss this further with your team and your SGCS Partner.

- **Book Clubs:** This is a simple, straightforward method to share learning. The reading list is divided up into categories involving socio-technical risk, analysis, teamwork, systems, safety, communications, decision-making, cognitive science, and other topics directly or indirectly related to the science of high reliability. At one critical-access hospital, for example, RMT members each chose a book from the list. At their monthly meeting, the RMT dedicates about 15

to 20 minutes where two or three members report on a key item they learned from the reading, generating a discussion.

- **RMT Huddles:** Brief huddles at the beginning of every week, or on some other regular schedule, can bring members together to discuss issues. These huddles are intentionally brief. The topics typically are associated with what risks the organization has been managing since the last huddle, and what they can anticipate during the next week. A sample RMT Huddle process that was created by a healthcare client is included as *Attachment #3*.
- **Media case e-mails:** Any team member, upon seeing a story in the media that could impact the organization, should send an e-mail to the RMT. These are brief, educational, and help the team manage bias. Several RMTs have found this to be a valuable exercise. SGCS knows of multiple RMTs that employ this practice, which helps RMT members see everyday risks outside the workplace and allows them to recognize system, human performance, and behavioral choice contributors. These are brief, educational, and help the team manage bias. Example cases will be provided by your SGCS Partner, and your RMT will be encouraged to develop their own.
- **LMS Video Engagement:** RMT members have used the Learning Management System to their advantage by scheduling a brief meeting with front-line staff, selecting videos that cover a specific topic, and watching the videos as a group. Group members discuss what they watched and how the concepts may apply in their work environment. Because the videos average 4 minutes, this has been proved to be a good method for RMT members to demonstrate their knowledge and reinforce what they have learned about high reliability.

Competency Metrics and Confidence Levels

At various points in the RMT journey, original members will leave the team. We always encourage RMTs to select a few people not in the regular charter group and ask them to attend meetings. Think about the commitment team members make, and the message they're responsible for conveying. Who do you think has the talent, desire, and credibility to perform this work? Some members are appropriately assigned by the organization to serve based on their particular role, such as Safety Officer or Risk Manager. But others should be recruited based on their curiosity, skills, and ability to teach or influence.

Metrics to evaluate RMT member proficiency and commitment are hard to establish. While commitment may be measured by attendance, competency or proficiency can be a more nuanced evaluation. Your SGCS Partner will often view competency through a lens we call "confidence levels." It's important to have confidence in moving toward SME, but overconfidence is a telling sign. If members are confident without questioning, or lack curiosity about their own level of learning or understanding, this can indicate they have not yet reached a level of competence where the SGCS Partner would be comfortable having them teach the concept. We will often gauge competency by asking a team member to "teach us what you know about that concept," and listening carefully to the response.

RMTs often use a few common methods to assess these parameters. Whether your RMT decides to use these, other metrics, or a combination will be up to the Team Sponsor and the organizational leader who is charged with managing the RMT.

● Commitment Measurements:

- Attends scheduled RMT meetings, orientations, and training sessions within the approved boundaries outlined in the RMT Charter.
- Completes the LMS Leadership Courseware within the assigned time frame.
- Engages in other RMT-assigned activity to build expertise, such as book club or huddles.
- Attends Collaborative Risk Reviews when asked (and when possible).

● Proficiency Measurements (Generally measured annually by SGCS Partner Audit):

- Ability to teach high reliability concepts and use the RRG (accurately while being monitored) to any group of managers, supervisors, leaders, or staff.
- Ability to identify the steps necessary for conducting a risk analysis and/or Collaborative Risk Review.
- Ability to listen to a series of narratives by people involved in an event, and ability to identify and document contributors in the proper categories (system, human performance, and human behavior).
- Ability to tell the difference between a behavioral choice and a human performance factor, and ability to differentiate between a human performance factor that is system-related vs. a human performance factor that is Personal.
- Ability to conduct a Collaborative Risk Review, manage conflict effectively, produce a summary report with suggested strategies, and evaluate the strategies' resilience.
- Ability to identify who should receive reports, how they should be communicated, and what information is appropriate for these reports.

Competency measures for RMT members who will serve as formal high reliability instructors in the organization are slightly more rigorous. Find them in *Attachment #4* titled "RMT Instructor Candidate Guide."

The Triad Process

Purpose and Proficiency

The purpose of the Triad is to help the organization and its employees live up to organizational values by providing a reliable, documented review process for seeing, understanding, and managing risk.

The Triad Review Team is a subset of the Reliability Management Team. The Triad members must be trained to proficiency, and their qualifications must be documented. To achieve this, the Triad will practice periodically with the Reliability Management Team using scenario-based examples to develop and maintain proficiency in the Sequence of Reliability methods and tools.

The Sequence of Reliability

The Triad recognizes and applies the Sequence of Reliability:

- 1. First see and understand risk, then**
- 2. Analyze and manage reliability in this order:**
 - a. System performance*
 - b. Human performance*
 - c. Organizational performance*

Initiating a Triad Review

When needed, the Triad will meet to review risk and events. It will produce findings and recommend further actions for the organizational management of risk.

The Triad meets when a significant organizational risk is recognized and warrants further review. The Triad meets in person or via other media, such as a phone bridge or video conference. The threshold for Triad meetings may involve risk and events involving significant changes to socio-technical systems where system improvements and/or employee actions may be warranted and the operational manager and/or the RMT has not reached a consensus. Examples of Triad reviews include risk or events where:

- A change to an operating system, process, or device is proposed, and the RMT cannot agree on a strategy, such as:
 - System changes affecting operations or multiple divisions.
 - An upgrade or addition to front-line systems, such as aircraft navigation/avionics, infusion pumps, and paramedic protocol changes.
- Potential disciplinary or remedial action with an employee is considered or stakeholders disagree about a behavioral or performance mitigation plan. This may include:

- A front-line operations supervisor recommends discipline or termination, there was human error by the employee, and the RMT doesn't think the person was reckless or had repetitive behavior or performance issues.
- A front-line supervisor has not held an employee accountable to complete a behavioral or performance remediation plan.
- A manager is considering termination based on an area of risk that falls under the RMT's purview. For example, a Triad would not typically review termination because of abusive behavior.

Composition, Roles and Responsibilities

The Triad review process is a partnership that depends on the balanced participation of diverse participants with independent perspectives and areas of expertise. Only qualified people who have been trained to proficiency in the Sequence of Reliability and the use of the Reliability Response Guide™ will participate in the review process. The composition of the Triad Review Team is described below. Organizations may choose to have either an employee or safety/quality/risk representative. The Triad Review Team members, and their roles and responsibilities, are:

Facilitator

- Should be the Reliability Management Team Chair or Member
- Facilitates and guides Triad Review Team meetings.
- Procures resources, including subject matter experts, witnesses, and other contributors as required.
- Documents and reports all findings and recommendations, as needed, to the appropriate organizational executive and/or leadership team.

Management Representative

Provides the viewpoint of those responsible for managing the systems and human performance of the work environment being reviewed. When multiple departments are involved, the management representative may collaborate with other operational people. But only one management viewpoint may be documented in the final determination of unanimous consensus on each finding and recommendation.

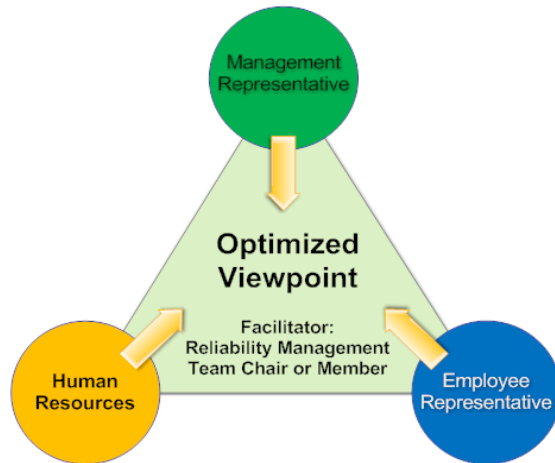
Human Resources Representative

Provides the HR perspective to ensure workplace fairness and to monitor culture and team member relations throughout the review process. The Human Resources team member may collaborate with other HR people. But only one HR viewpoint may be documented in the final determination of unanimous consensus on each finding and recommendation.

Composition One – Employee Representative

Contributes to organizational, employee, and labor interests; represents the employee peer perspective.

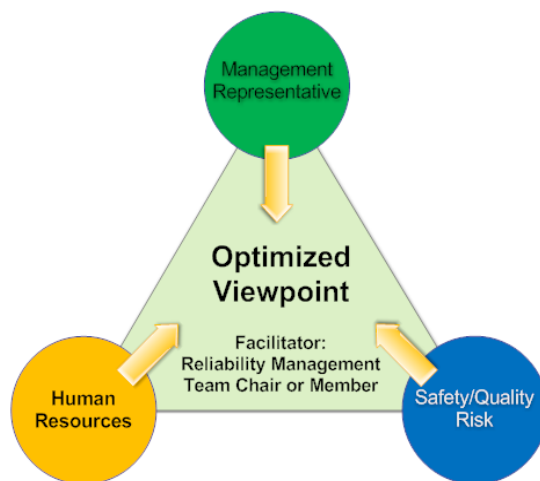
Composition One



Composition Two – Safety/Quality/Risk Representative

Contributes to organizational, employee, and labor interests; represents the employee peer perspective.

Composition Two



Achieving a Unanimous Consensus

The Triad review process' success depends on the team achieving unanimous consensus on all findings and recommendations resulting from the review. The Reliability Response Guide™ will yield reliable results when applied consistently through collaboration. An optimized viewpoint is achieved when members of the Team bring differing perspectives and expertise into alignment, each adding value to seeing, understanding, and managing organizational risk.

Avoiding Bias

The Triad must operate free from individual and organizational biases, including, but not limited to: outcome and hindsight bias, professional bias, manager's/employee's bias, normalcy bias, confirmation bias, and fundamental attribution bias. This can be achieved by team members reminding each other of common biases and holding each other accountable whenever they are present.

Use of Internal and External Experts

We encourage the Triad to use internal and external subject matter experts as needed. These subject matter experts, however, are not counted as Triad representatives. Their viewpoints are not binding on the Triad requirement for unanimous consensus.

Findings and Recommendations

The Triad must be careful to acknowledge where clinical or technical expertise may be needed beyond the Team's experience, particularly in cases involving system design risk. In such cases, Triad findings are preferred over recommendations. The difference is that the Triad may legitimately assess risk and produce a related finding without exceeding its clinical or technical knowledge and expertise. This allows the operational and domain experts to assess and develop solutions for managing risk, with the goal of producing optimal solutions.

Escalation

If the Triad fails to unanimously agree on all findings and recommendations, a Triad representative shall report the non-agreement to an accountable Senior Executive or his/her designee for escalated review and resolution. The designee must be trained in the Sequence of Reliability methods. The accountable Senior Executive or designee may designate an additional Executive Triad to review the non-consensus items, or collaborate with senior executives of HR and the operational departments involved to achieve departmental unanimous consensus. If consensus is still not achieved, the accountable Senior Executive shall make the final determination on the findings and recommendations.

Organizational Triad Policy

You must have an organizational policy to document the Triad's description, composition, and process, with a means of assuring proficiency and standards of operation. A sample Triad Policy is included as *Attachment #5*.

Additional RMT Roles and Services

The RMT as a Go Team

When we think of the Go Team concept, we naturally gravitate toward the aviation model perfected by the National Transportation Safety Board. A team of experts in differing domains, such as human factors, engineering, survival, administration and maintenance, pull together and travel to a crash site. They reconstruct the event, looking for causal and contributory factors. These teams have no regulatory authority to impose change. They make recommendations to regulatory bodies, manufacturers, educators, and others, but they assume no responsibility for implementing the recommendations. They stay completely independent.

Your RMT purposely comprises people with differing viewpoints, knowledge, domain expertise, and risk perceptions. They have a few commonalities – they work for the same organization, and they have developed some expertise in the methodology of looking for socio-technical risk. This makes your RMT uniquely qualified to facilitate the analysis of risk events, whether they are near miss or events involving harm.”

But your team also wants to ensure it doesn’t assume the responsibility to manage all risk at the front line – that’s the job of managers and supervisors. Instead, the RMT, in concert with HR, Safety, Risk Management, and other departments, should determine when it might be appropriate to send a team of process experts to assist front-line managers or supervisors, or the Safety Team, or the Risk Management Team when a major risk event happens.

When a small plane crashes in the woods, and a single pilot is involved, the NTSB does not generally send in a large team – it dispatches a few members with the necessary knowledge and skill, and those people take the lead in analyzing the contributors. In some instances, the NTSB may delegate this authority to local FAA officials. On large-scale or complex events, the NTSB may send a full team, depending on the complexity of the scene and the amount and type of work to be done.

Using the same basic strategy, it would be a rare event where your entire RMT was involved as a Go Team, dispatched to the department or organizational area where the event happened. It is much more likely that your RMT will work with front-line managers and supervisors, key executive staff, and internal or external subject matter experts to identify team members who have expertise in the domain and in the high reliability process of determining socio-technical contributors.

Earlier in this document, in the *Reliability Management Team Roles* section, we described the “Green, Yellow, Red” method of response that some RMTs use. With this-format, the RMT forms a Go Team to respond to “Red” events and help the staff organize information, secure equipment, follow a highly reliable process, and look for contributors. These might be events the organization determines are high-risk in consequence, frequency, or both. In any case, your SGCS partner will give you examples and help the RMT determine an appropriate response method based on the RMT’s makeup, the risks involved, and organizational structure and resources.

Several large SGCS clients use a model with trigger points to activate their RMT. The Team Leader determines what levels of expertise is needed. One of the RMT's first steps is to establish a command center room where they use a standard Incident Command Structure to frame and coordinate their work. The Team Leader becomes the Incident Commander, their Operations Leader manages incident analysis, and their Planning and Logistics personnel support the process. At these facilities, the process of seeing, understanding, and managing the risks is coordinated and reliable. They can simultaneously handle complex internal and external reporting, incident analysis, employee support, customer support, and many other key tasks. Your SGCS Partner has examples to demonstrate how this process works.

RMT Members as Navigators

Some RMTs have developed a comprehensive series of short task lists that can be texted or e-mailed to a leadership employee when that employee faces an urgent risk. RMTs that provide this service have called it a "navigator" process, where they help front-line leaders navigate the initial steps after an event or near-miss. In some larger, more comprehensive systems, RMT members rotate navigator duties. Someone is always on call and ready to text the appropriate list, often taking the place of the On-Call Administrator. This process helps reliability during a low-frequency, high-risk event. With smaller teams, no one may be on call, but the lists are readily available through security, the intranet, or phone operator service.

A sample of the lists that have been developed for this purpose is included as *Attachment #6*.

RMT Members as Instructors

As we previously discussed, RMT members are considered the subject matter experts on high reliability in the organization. For the organization to move past the Development stage into Sustainment and Qualification, high reliability must be embedded in the organizational DNA.

The most common and successful method for this transformation is using the online platform experience combined with hands-on practical sessions taught by the SMEs. More detail about this method is covered in the next section, Introduction to the High Reliability LMS. The basic plan for many organizations follows a Launch Plan that allows the RMT to first gain some expertise.

Usually, after about six to nine months of practice, the RMT is ready to answer questions from employees. Members will feel comfortable deconstructing non-complex risk situations, determining contributors, and recommending mitigation plans. This is when the Leadership Bundle Learning Management System has been rolled out to all supervisors, managers, or executives, including labor leaders (if unionized). In most instances, these employees are given 90 to 120 days to complete all four courses in the Leadership Bundle. They will then sign up for hands-on training. It is structured so that easier risk situations are presented first and more difficult cases are analyzed as the person gains exposure and practices.

These hands-on practical sessions typically run two to three hours. Your SGCS Partner will recommend that they be presented as Level 101, Level 201, and Level 301 Practice Sessions. All supervisors, managers, and executives who have completed the online training would be required to attend each of the 101, 201, and 301 practical sessions in the next 60 to 90 days. We recommend that people start at 101 and not proceed to 202 until they have that basic practice. But all supervisors, managers, and executives should be encouraged to attend as many practice sessions as they can to gain experience.

Because the same risk cases typically are not presented every session, people gain experience and insight over multiple sessions.

When the RMT is still formative, your SGCS Partner often teaches these practical sessions while onsite. But to become sustainable, an organization must take over responsibility for teaching the practical sessions. (The next section will describe this in more detail.)

The SGCS Partner will require the RMT members who wish to become instructors (or any non-RMT member who has gained similar expertise) to conduct some additional training and practical work. This additional work is intended to enhance the instructors' ability to present high reliability concepts to different groups, answer questions from the audience, and give appropriate real-life examples of the methods in action.

Instructors will be responsible for conducting practical training sessions for leaders, managers, executives, and other staff who have completed the high reliability training modules in SGCS's online Learning Management System. As someone who has extensive practice with high reliability and the Reliability Response Guide™, instructors understand the importance of staying true to the science and methods. Small variations or incorrect use of the tools can create situations where humans are improperly judged or risks are not properly managed. So we expect instructors to become relatively comfortable answering questions from people attending the courses. Most important, we expect instructors will reach out to their SGCS Partner if they have questions they can't answer or issues that require clarification. The sign of a true SME is someone who will ask or do the research if they don't know the answer.

Instructor candidates will receive an assignment from their SGCS Partner and will be expected to complete it in a certain amount of time. Instructor candidates will present this assignment in front of the SGCS Partner, the Reliability Management Team, and/or their fellow instructor candidates, who will ask questions, provide feedback, and help them refine their knowledge and style.

No instructor candidates are asked to prepare and present the entirety of the material in front of the group, but they are expected to master it all and be prepared to answer questions. After all, they will be seen as the organizational subject matter experts, and people will look to them for guidance. Drifting from the concepts, even slightly, can create long-term issues with the way the organization manages people and programs. Mastery comes from time and exposure. SGCS does not expect anyone to become an SME right away. We expect there to be rough edges where you are unsure. Instructor and RMT success will be based more on the level of curiosity they demonstrate around learning and listening, rather than being able to answer every question.

Attachment #4 (Instructor Guide, Page 2) has some typical guidelines associated with the assignments given to Instructor candidates. Your SGCS Partner may adjust or change these based on organizational needs, internal expertise, and other factors. The SGCS Partner working with your team may also engage additional educational professionals to help if necessary.

RMT Specialty Groups, Expert Services

Depending on the organization's size and complexity, the principal RMT may decide to develop sub-groups with subject matter expertise. This is relatively common in large organizations, where different

domains are responsible for writing their own policies, conducting analyses, and other tasks that may overlap with RMT functions.

Some large healthcare systems that have more than two hospitals have developed a system RMT for the healthcare organization, while at the same time, each hospital has developed its own hospital RMT to manage its risk. The hospital RMTs generally are considered subordinate to the healthcare organization's RMT, but they do coordinate on managing larger risk events. Importantly, they share risk analysis findings, reliability and resilience methods, and risk management strategies. In some cases, the hospital RMTs feed information into their own risk register, which can be used organizationally.

In other organizations, specific RMTs have been created in Human Resources, Clinical Operations, Logistics, Medical Staff, and other key support areas. These groups provide SME guidance for their internal customers. They also help the Principal RMT analyze larger risk, provide instructors for practical sessions, and support the Triad process.

The RMT may call in specific experts for many reasons. Some of the more common:

- A risk analysis involves a complex situation that would be better analyzed by an outside team.
- Institutional bias is extremely strong and external views are needed for balance.
- The Triad process or risk analysis requires technical expertise beyond what is internally available.
- The RMT wants more training or education in a topic of interest or in an area that would advance its understanding.

SGCS Platform: Learning, Collaboration, and Reliability

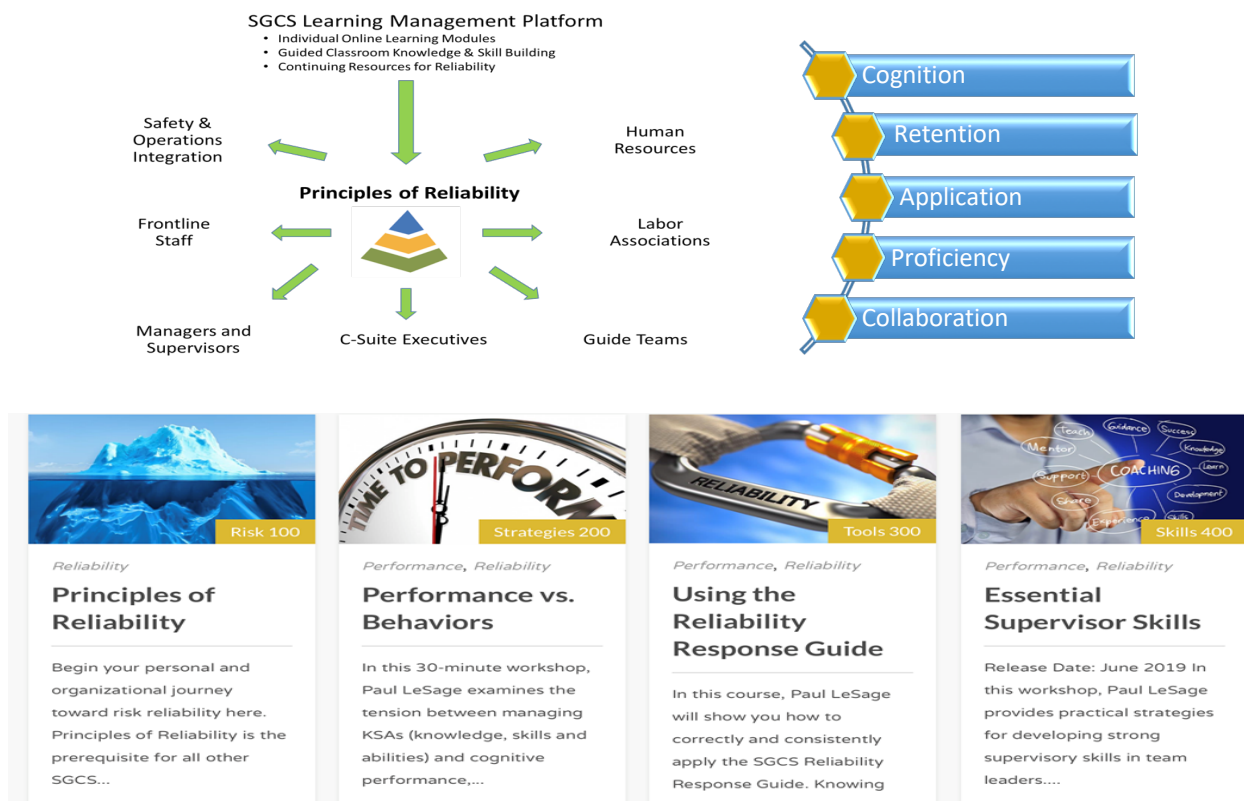
The Platform as a Learning Management System (LMS)

The SGCS online platform is designed to support the organization, the Reliability Management Team, Human Resources, and front-line supervisors, managers and employees. Designed around brief, 4-minute impactful videos, learning is sustained through the use of examples, and by breaking down concepts into easily consumable and highly retainable material. In addition, many supervisors and managers will use the short videos to engage staff in discussion during meetings, emphasize learning points, or to continually develop their own expertise.

The SGCS Learning and Collaboration Platform is specifically designed to support high reliability practices in enterprise class organizations throughout the entire Sequence of Reliability. Unlike other commercial platforms used for compliance-based training programs, the SGCS platform delivers courseware optimized for rapid cognition and long-term retention – necessary for building sustainable skills and competencies – and later provides a collaboration environment where new reliability skills progress into projects, initiatives and practices.

The SGCS LMS is cloud-based, open source, rebrandable, secure and accessible on any browser-enabled device, wired or wireless. It uses state-of-the-art encryption technology to protect user data, and is approved under Harvard Cyber Security Risk Assessment RITMO0796990.

Leadership Bundle



The Learning Management System portion of SGCS's platform includes four courses included in a Leadership Bundle. These courses consist of high-fidelity videos, averaging four minutes apiece and optimized for mobile devices. The learning is sequential, with one lesson building upon the previous one. Initially, all videos in each course must be watched in order – once a learner has completed an entire course, they may return to any video in that course to reinforce learning, teach others, or introduce the methods and critical thinking concepts to their colleagues and staff.

The LMS Leadership Bundle is not intended to be a stand-alone method for learning high reliability concepts and methods. It is designed as an initial introduction and detailed overview of the concepts, which must then be practiced in hands-on, risk-scenario training like that described in the next section.

First Course: *Principles of Reliability*

The material in this course, presented by SGCS founder Scott Griffith, is designed to provide advanced, comprehensive, and contemporary methods proven to achieve high reliability. A former physicist, airline captain and chief safety officer, he has worked extensively in high consequence industries such as healthcare, EMS, law enforcement, the railroad and nuclear power industries. The content Captain Griffith provides will help you and your organization integrate cultural and operational change that will make a positive difference in the results you achieve.

Principles of Reliability demonstrates the distinctive approach needed to achieve reliability in high-consequence organizations such as healthcare, EMS, firefighting, and law enforcement. This approach includes best practices from other high-consequence industries, such as aviation, that have proven themselves over the past several decades. Unlike commercial aviation, though, most other industries have multiple regulators and complex, dynamic, people-intensive environments. And aviation has some control over risk encountered. For example, airlines can cancel or delay a flight due to weather or other operational concerns. Other industries, such as healthcare, EMS, firefighting, and law enforcement may not be able to defer encounters involving high risk. The SGCS high reliability approach is designed to address the unique complexities of these high-consequence industries.

You may have heard terms related to high reliability such as Just Culture, Safety Culture, or Learning Culture. In the past, these words have often been used without much definition. *Principles of Reliability* will show how workplace justice, safety, and learning are all important, but each is insufficient in guaranteeing high reliability. To achieve success, we must learn a new language that pulls together all that must be done to become reliable. This course applies to individuals, work groups, and the organization-at-large, forming the foundation for sustainable high reliability success.

The Principles modules in the Integrated Learning Management System (LMS) are broken into five main sections that build upon each other:

- Introduction to Reliability
- Seeing and Understanding Risk
- System Reliability
- Human Reliability

Second Course: *Performance vs Behaviors*

This course consists of 8 eight videos and is designed to help managers, supervisors, executives, and labor leaders understand the difference between Human Performance Factors and Behavioral Choices, which are managed differently. Human Performance Factors are related to knowledge, skill, ability, experience, and cognitive performance. Behavioral Choices typically are associated with a person's failure to follow a policy, law, procedure, protocol, or best practice.

We know from human factors and social science that Human Performance Factors cannot be improved through punitive measures. When Human Performance Factors are identified as contributing to risk, specific remediation around sub-standard performance is needed. Knowledge gaps require training, skill degradation requires practice, and cognitive failures require an examination of the system and personal factors that influenced cognition.

You can successfully manage Behavioral Choices with coaching and, at times, corrective action. Because performance gaps and behavioral issues must be managed differently to maintain high reliability, leaders must be able to determine the differences and establish methods for managing risk.

Third Course: *Using the Reliability Response Guide™*

This course consists of 33 modules. The videos are designed to help managers, supervisors, executives, and labor leaders understand and apply high reliability methods using real case examples. The Reliability Response Guide™™ (RRG) is introduced, and the videos walk learners through cases using the RRG as a template for seeing, understanding, and categorizing risk contributors. You can download a copy of the latest Reliability Response Guide™ from the LMS site.

These videos can be valuable for your staff to review as a team. It can be especially instructive for two to three members to go through the modules together, then discuss the concepts. This helps you see the differing perspectives risk tolerances of each team member.

We encourage learners to select a known or hypothetical event from your organization – a near-miss or harmful incident – as an example as you go through these modules. The material and concepts in these sections can be difficult to grasp initially, and often require reviewing some of the videos more than once. This is certain to help you embed the learning.

The Reliability Response Guide™ videos will begin with an introduction that defines how to profile a risk. If learners are examining a known or hypothetical risk incident from their organization, they will find it helpful to stop after each video and consider how the concepts relate to that case. The course also includes a detailed, downloadable Instruction Manual that is a companion to the Reliability Response Guide™. The detailed Instruction Manual covers many frequently asked questions and answers. It also incorporates examples of human error analyses and coaching strategies.

The Instruction Manual is designed to help learners understand *why* a particular question is being asked. We recommend that learners keep the Instruction Manual with their Reliability Response Guide™ until they become proficient in using the tool.

Fourth Course: *Essential Supervisor Skills*

This course, often called *Coach, Cop, Bartender, Mentor, and Apprentice*, totals seven brief videos. It focuses on five essential skills needed to develop as a supervisor and leader of people. The first video is an overview of these attributes, and the last is a summary.

The *Coach* video cover specific concepts around being a coach – and discusses some of the successful attributes needed to coach employees through difficult situations.

The *Cop* video walks learners through one of the more challenging aspects of supervising human behavior – holding people accountable through corrective or punitive measures when necessary.

The *Bartender* video does not discuss serving adult beverages – it's focused on the skills needed to listen carefully and with empathy. It's easy to fall into a few traps as a leader when you are listening and empathizing. For example, the video covers how to empathize with a situation without crossing the line into gossip or undermining other employees or leaders.

The *Mentor* video discusses tips for being an effective mentor and leader. Teaching through example, and ensuring the people you mentor can “fail forward,” are two major themes.

The last specific skill video in the series is *Apprentice*. One of the major risks in leadership is that we forget to sharpen our own saw – we get rusty, or don't take the time to develop new and improved skills in our changing world. We're all lifelong apprentices striving to learn. This video discusses ideas you might use to improve your ability to stay on top of your game.

Methods for Developing Educational Expertise

Once the Reliability Management Team has developed a sufficient level of expertise, you will develop a plan to roll out the four LMS Leadership Courses. There are several options for doing this successfully. Your SGCS Partner will work closely with the RMT and the organization's leaders to determine the best method, timing, and pace. A typical plan looks like this:

- First, all supervisors, managers, executives, and labor leaders are given access to the online coursework. In most organizations, these employees are given 90 days to complete all four Leadership Bundle courses.
- When introducing the coursework to front-line leaders, your SGCS Partner will recommend attaching a set of expectations to the material. These emphasize the importance of the journey and the key role these leaders will play in identifying and stratifying risks and contributors. A brief note from the CEO or COO is essential.
- At this time, you should establish metrics that these leaders will be measured against. This ensures they understand how they will be expected to use the concepts. Common metrics included in the initial rollout include:
 - Telling leaders their annual evaluation will include questions and discussion related to the concepts.
 - Letting leaders know they will participate in practical sessions and use the knowledge they gain during team exercises with their peers.
 - Enforcing the expectation that after the coursework and initial practical sessions are completed, upper-level directors and executives will expect all reports related to any risk event (employee, system, operational event or clinical issue) to use high reliability

methods. This means reports will include risks that were seen, competing priorities that influenced risk, system issues and whether they are effective and/or resilient, human performance factors, and behavioral choices. Recommendations for managing these contributors also must be identified.

- The organization will then plan to hold practical-application training for the leaders after they have completed the online coursework. These sessions are structured so that simpler risk situations are presented first and more difficult cases are analyzed as leaders gain exposure and practices. These hands-on, practical sessions typically run two to three hours. Your SGCS Partner will recommend that they be presented as Level 101, Level 201, and Level 301 Practice Sessions.
- All leaders who have completed the online training will be required to attend one each of the 101, 201, and 301 practical sessions in the next 60 to 90 days. We recommend leaders start at 101 and don't proceed to 201 until they have that basic practice. But you should encourage them to attend as many practice sessions as they can to gain experience. Because the same risk cases typically are not presented every session, leaders gain experience and insight over multiple sessions.
- While the RMT is still in its formative and learning stages. Your SGCS Partner often will teach these practice sessions onsite. To become sustainable, though, the organization will take over responsibility for this teaching. (The earlier Additional RMT Roles and Services section of this manual covers the requirements for instructors of these practical sessions.)
- Once leaders have completed the online training, and typically after they have started the practical sessions, the Principles Course (only) is rolled out to front-line non-leader employees. They must complete the coursework in 90 days. At this point, leaders will have exposure to the concepts and some basic ability to answer questions and deconstruct risk events, and the RMT will be present to answer difficult questions and serve as organizational subject matter experts.
- During these last two periods, where the LMS and high reliability concepts are introduced to employees, the organization must also plan how to introduce them to new hires and newly promoted leaders. A typical plan for doing that looks like this:
 - New employees are introduced to the LMS Course titled Principles of Reliability after being with the organization for six months. This time lag from hire date to introduction is to accommodate the large amount of job-specific training that usually takes up time during the first six months. New employees, once given the Principles of Reliability coursework, are given 60 days to complete the course.
 - Newly promoted or newly hired leaders are introduced to the full Leadership Bundle of four courses within the first six months of their employment in a leadership position. The amount of time between the promotion or hiring and the introduction can be adjusted based on the complexity of the initial leader orientation. New leaders must complete the four courses within 90 days and sign up for at least two practical sessions within 90 days of completing the online coursework.

Using these methods to embed the concepts into the organization takes time, particularly when the entire organization is on the learning and adoption curve. Once the RMT is established, instructors are identified, repeated practical sessions are scheduled throughout the year, and new hires and

promotional employees are introduced to the concepts, the organization is well on its way to embedding the principles of reliability within the organization.

The Platform as a Collaboration System

The SGCS platform supports online collaboration. Reliability Management Team members can use the platform as a forum to:

- Communicate between team members with levels of restricted access
- Communicate with other Reliability Management Teams and their members in other facilities within organization
- Compare departmental and organizational high reliability best practices
- Post frequently asked questions and answers
- Post completed case studies and sample training scenarios
- Post recorded video-conference sessions

Once Reliability Management Team members achieve qualification, you'll gain access to the SGCS online collaboration forum, connecting with other Reliability Management Team leaders from multiple industries and organizations. Participation in the RMT Collaboration Forum requires current qualification based on sustained proficiency. You'll able to share reliability best practices, participate in discussions, and communicate directly with other leaders who are facing and solving the same challenges.

The Platform as a Reliability Management System

Organizations are combinations of people working inside systems. An organization wouldn't rely on people to manage operating budgets without an accounting system. So why would an organization look to people to manage risk without a system to identify and manage risk across all values?

A Reliability Management System does exactly that. It's a structured platform that combines the way an organization sees, understands, and manages risk. An RMS dives deep below the waterline – beyond adverse events and audits – providing a clearer picture of the threats to an organization. Departmental leaders and staff work together to sustain reliability through active engagement and documentation. Each department manages their reliability records while allowing visibility into enterprise progress.

Inside the organization, the RMT will apply the Sequence of Reliability to build internal capacity. This starts with organizations seeing and understanding risk first, then building internal capacity and managing risk in the following order:

System Reliability	Workforce Reliability	Organizational Reliability
• Policies, processes, and procedures	• Reliability Management Team	• Reliability Management System
• Equipment	• Departmental leaders	• Improved performance
• New technologies	• Entire workforce	• Organizational sustainment

SG Collaborative Solutions developed RMS from aviation's Safety Management Systems, then evolved it to embrace all organizational values. A combination of platform and integrated programs, an RMS provides a sustainable way for the organization to see, understand, and manage risk.

Reliability Management Systems also include proactive methods of predictive risk management – from collaborative case reviews to socio-technical probabilistic risk assessments. Organizational cultures will change over time, but an effective RMS will guide the organization to sustainable reliability far into the future.