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A Communication from the
Vice President, System Operations Services

***In this Issue**:*

CRM–HOW IT FITS IN A SAFETY CULTURE

/*TR/E The five components in a safety culture are **reporting, just, informed, learning,** and **flexible**. CRM focuses particularly on the informed, learning, and flexible components. CRM is a front-line, operational effort that involves the individual, team, and facility system levels.

CRM contributes to each safety component as described below.

In a **reporting** culture, the workforce willingly reports errors and system deficiencies. CRM provides opportunities to identify and record local internal risks and external threats, vulnerabilities and countermeasures, potential errors, and system deficiencies.

In a **just** culture, an atmosphere of trust encourages people to provide essential safety information. CRM generates open communication and encourages trust in jeopardy-free forums at the team and facility levels.

In an **informed** culture, there is current knowledge about human, technical, organizational, and environmental factors. CRM provides scientific information and a common language to explore and understand each of these factors at the local level.

In a **learning** culture, people reach the correct conclusions from safety information, and implement reforms when and where they are needed. CRM generates a continuous flow of dialogue and recorded local data which can be used to improve individual, team, and local system performance through informal adjustments and formal action planning.

In a **flexible** culture, people adapt effectively to the different demands of technical problems and adaptive challenges. It is critical to know the differences between technical problems and adaptive challenges, and to apply the correct types of solutions to each. Technical problems are those which have the current or readily obtainable knowledge and authority to solve. However, adaptive challenges require the appreciation of new points of view, the discovery and internalization of new truths, and changes in attitudes, values, and behaviors. We commonly fail when we attempt to use technical solutions on adaptive challenges. It helps to remember that for every complex issue, there is a simple wrong answer. CRM introduces technical and adaptive concepts, and provides action planning processes to implement the correct types of solutions that will effectively solve problems.

It is important to recognize CRM provides a comprehensive set of day-in and day-out front line and facility level principles and methods.

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These methods include CRM behaviors, best practices, team debriefs, expert traits, valuing safety over capacity, threat and error management, and action planning. These actions can be used every day in the field to strengthen local safety cultures, systems and to make operations safer.

TCAS RAs

/*TRE TCAS RAs can be a recurring phenomenon in busy air traffic control environments. RAs are a feature of TCAS II. Many types of aircraft are being fitted with TCAS II equipment. All commercial turbine powered aircraft, with more than 30 seats, are required to be equipped with TCAS II.

Pilots responding to a TCAS RA will either commence climb or descend. RA climb and/or descent rates can vary dependent on the proximity of detected traffic. RA reversals from climb to descend, or descend to climb, are possible when multiple threats are detected. TCAS is designed to inhibit descending RAs below 1100 feet above ground level (AGL), and all RAs below 1000 feet AGL. Aircraft maintaining visual separation or leveling off at altitudes above or below TCAS II equipped aircraft have been known to trigger RAs without actual loss of prescribed separation. Aircraft responding to an RA will require climb or descent in the 300 to 500 feet vertical displacement range to satisfy a conflict, but other factors can cause the vertical adjustment to exceed this range.

While RAs are designed to enhance overall safety, the effects of an RA can be disruptive. Any unplanned or unanticipated aircraft maneuver can have a 'ripple' effect on other traffic.

Understanding aircraft performance characteristics, and recognizing potential TCAS RA scenarios, can help controllers minimize the likelihood and effect of RA events.

Additional information regarding TCAS RAs can be found in FAA Order JO 7110.65, Paragraph 2-1-27, TCAS RESOLUTION ADVISORIES.

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*In this publication, the option(s) for which a briefing is required is indicated by an asterisk followed by one or more letter designators, i. e., * T – Tower, *E – ARTCC, *R – TRACON, or *F – AFSS/FSS.*
(Reference FAA Order JO 7210.3, Facility Operation and Administration, paragraph 2-2-9)
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