

BLUE RIBBON REVIEW TEAM

FINAL REPORT

Presented to the

Reno Air Racing Association, Inc.

on

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Introduction

On January 4, 2012, the Reno Air Race Association, Inc. ("RARA") announced the formation of a Blue Ribbon Review Team ("Team") to conduct a review of the National Championship Air Races, a unique event, held annually for the last 48 years. While the effort was announced following the tragic accident at the 2011 event, the Team did not investigate the accident. That was the sole province of the National Transportation Safety Board, assisted by the parties to the investigation, including RARA.

The effort undertaken by the Team focused on areas selected by its members. In this regard, while the members of the Team have diverse areas of aviation experience/expertise, certain of the recommendations contained herein require further study and consideration by RARA and others in areas of expertise not necessarily possessed by Team members. We would note that in our meetings/discussions with RARA leadership, we learned that RARA had already undertaken implementation of several measures which are encompassed by this report.

On April 10, 2012, the National Transportation Safety Board issued a series of recommendations to the Federal Aviation Administration, the National Air Racing Group Unlimited Division and the Reno Air Racing Association. Those recommendations were issued as part of the on-going NTSB investigation of the accident on September 16, 2011.

We have reviewed those recommendations, as well as the letter from Chairman Hersman transmitting them to RARA, and we note that several of the recommendations are similar to the subjects addressed by this Team.

Acknowledgement

The Team wishes to acknowledge the cooperation and assistance of the leadership of RARA, including Mike Houghton, President and Dave Wilbern, Director of Business Operations, as well as the entire Board of Directors and the RARA staff.

Scope of Review

In undertaking this effort, the Team received a large number of documents regarding RARA, the National Championship Air Races ("NCAR") and the race course. We met with RARA personnel and volunteers who were all open and forthcoming in answering our questions. We visited Stead Airport so we could actually see the race course and how the entire event is staged.

In addition to the foregoing, the Team met on two different occasions to discuss this effort, its scope and to get its questions answered.

This report is the result of the foregoing efforts, as well as the many years of experience of the Team members. The recommendations contained herein evolved as a result of these efforts.

RARA Organizational Structure

The Team reviewed and discussed the organizational structure of RARA, both generally, as well as how it relates specifically to the NCAR. In addition, we have had discussions with RARA regarding the element of flight safety associated with the event.

It is evident to the Team that safety is a pervasive factor at all levels of RARA. Recognizing the nature of the event they sponsor, i.e. air races, the fact that many of the aircraft have experimental airworthiness certificates, as distinguished from standard airworthiness certificates, and that the event is conducted pursuant to a waiver issued by the FAA, the element of safety is contextually different than is typically encountered in some other aviation event or operation. Everyone to whom we spoke was aware of this fact, from those involved in race course design, layout, qualification of pilots and aircraft, to the pilots who fly in the event.

We did note in the RARA organizational structure we reviewed, that no single individual is designated as Director of Safety. While we do not believe this fact has lessened the safety awareness of RARA, RARA should establish the position of Director of Safety, including whatever additional defined areas of responsibility are identified within the safety area.

By creating such a position, RARA will institutionalize its safety culture. In connection with this recommendation, we note that RARA, based on discussions with us, has already created and filled the Director of Safety position, with the Director of Safety having a seat on the RARA Board of Directors.

During one of our meetings, the subject of the location of the large fuel tanker truck during the races was discussed. This subject was raised in the context of whether or not the location of the truck should be changed. We believe this is an appropriate subject to be addressed by the Director of Safety.

Recommendation: Create a Director of Safety position.

Status: Completed.

Recommendation: The Director of Safety should study the placement of the large fuel tanker truck to determine whether its location during the air races should be changed.

Open: Open

Safety Management System

It is the collective experience of the Team members that a Safety Management System ("SMS") program currently represents the most effective means for fostering a safety culture in an aviation organization. While RARA is far from a typical aviation organization, we nonetheless believe that the principles of SMS are applicable and have a place in RARA.

Consistent with the foregoing, we recommend that RARA implement an SMS program throughout all phases of its operation. The implementation of an SMS program, along with the creation of the Director of Safety position, will recognize and formalize safety in an institutional fashion.

We note that at a meeting held with RARA on March 14, 2012, the Team not only met with the newly appointed Director of Safety, but learned that he has already undertaken the design and implementation of an SMS program uniquely tailored to the RARA organization and the air races. While we were not provided with a timetable for implementation at that time, it appeared from the briefing we received, the process is already underway.

Further to the foregoing, the Team did not include an examination of each of the Race Classes and their governing structures, the Team recommends that RARA require each Race Class to implement, in coordination with RARA, an SMS program within its organization.

Recommendation: Adopt an SMS program with full implementation to be completed prior to the 2012 air races.

Status: SMS program design is underway.

Recommendation: Require each Racing Class to implement, in coordination with RARA, an SMS program.

Status: Open

Recommendation: Implement, as part of an SMS program, an Internal Evaluation Program ("IEP"). The Team would refer RARA to FAA Advisory Circular 120-59A, Air Carrier Internal Evaluation Programs. While the Team recognizes that the AC focuses on airlines, it nonetheless will provide a reference point for RARA. See also AC 145-5, Repair Station Internal Evaluation Programs.

Status: Open.

Pilot Age/Medical Certificate

The current policy of RARA is that all pilots must be at least 21 years of age, but there is no maximum age limit to participate in the NCAR. Rather, RARA requires every pilot to have a medical certificate as designated by the governing body of their Race Class issued by the FAA and that age is not a determinative factor. Moreover, a pilot who had a second class medical, but allows that medical certificate to “slip” to a third class certificate, is still allowed to compete without obtaining a current second class certificate if a Class III medical certificate is acceptable to the Race Class in which the pilot is competing.

The Team talked about whether age limits were advisable, increased medical requirements should be imposed or other steps taken to address the physiological demands placed by an air race on the competing pilots. This included not only the items listed, but educating pilots on “G” forces and the other physical effects of operating in an air race environment.

While the Team talked about these and other related areas, the Team also recognized that it was not in a position to make what are, in effect, medical recommendations. In the organizational structure of RARA, we also noted there is no single individual charged with this responsibility by RARA. We were advised that RARA has volunteers who are aerospace physicians and/or Authorized Medical Examiners (AME) designated by the FAA, but that there is no formal position of Director of Aerospace Medicine or anything similar at RARA to serve as the focal point for these issues.

Recommendation: Create a formal position of Director of Aerospace Medicine.

Status: Open

Recommendation: Once designated, the Director of Aerospace Medicine should review areas of pilot age and medical certification, “g” forces, etc., to determine what changes, if any, should be implemented by RARA.

The Team would note that both the FAA’s Civil Aeromedical Institute, as well as the Air Force, can be valuable resources for these undertakings and would encourage that full use be made of them.

Status: Open.

Aircraft Technical Inspection

The manner in which the air races function is unique. RARA produces the event and there are multiple classes of competition. However, RARA is not a governing body for any of the classes of competition in the way NASCAR functions. As a result, each class of competition at the air races has its own governing body, officers, and boards of directors, rules and standards. Moreover, each Race class provides technical inspections for the aircraft in its class which a pilot wishes to fly in the air races.

RARA, as the event organizer and producer, is a volunteer organization. It does not possess the degree of technical expertise in all of the various technical matters associated with the six classes of aircraft and, as a result, relies upon the FAA and the governing bodies of the Race Classes to inspect aircraft and assure that they are airworthy, per the FAA documentation, and that they conform to the specifications as defined by the class prior to competing in the air races.

RARA does require that when an aircraft is entered in the air races that accompanying the paperwork are the results of the technical inspection conducted by the class. Moreover, if the technical inspection conducted by the class reveals any discrepancies, those discrepancies are required to be corrected before the aircraft can fly at the air races.

Notwithstanding the foregoing, the Team believes that additional steps can be taken, more procedural in nature, to assure there is compliance with all of the procedures.

Recommendation: RARA revise its procedures, as necessary, regarding any aircraft which has undergone an alteration which affects, to any degree, any of the following:

- weight
- balance
- structural strength
- performance
- powerplant operation
- flight characteristics
- other qualities affecting airworthiness

RARA should require that any such aircraft must provide, as part of the RARA application process, the FAA approved substantiation, testing and approvals for said alterations.

Status: Open

Recommendation: With respect to any discrepancy noted on an aircraft as a result of technical inspection by the governing body of a class, RARA be provided with documentation evidencing that the discrepancy has been corrected as attested to by the class governing body. To the extent necessary, RARA documentation should be changed to assure that uncorrected discrepancies do not “slip through” the system.

Status: Open.

Emergency Response & Procedures

The Team reviewed the 2011 RARA Emergency Services Manual, as well as discussed with RARA the planning and preparation which goes into emergency preparedness. Given the diverse backgrounds of the Team members, including both FAA and NTSB experience, we were particularly focused on whether the plan was merely an exercise in theoretical planning or a practical blueprint that could respond in a real emergency.

In connection with the foregoing, RARA personnel and volunteers discussed with us the emergency response to the September 16, 2011, accident and how the various elements of the planned emergency response functioned. It has been reported that within approximately 60 minutes of the accident, all seriously injured persons were either en route to or at hospitals, and others needing care were receiving it at the scene. This result suggests that the emergency response program and all emergency responders functioned well.

Recommendation: Recognizing that there is always room for improvement, the Team recommends that RARA, in close coordination with the airport and emergency responders, continue to hold table-top emergency tabletop exercises and give consideration to whether or not full scale emergency response drills should be periodically conducted with the airport and emergency responders.

Status: Open.

Race Course

The Team learned that the layout of the courses, including pylon placement, altitudes, turns, etc., are reviewed on an annual basis following the races and, to the extent deemed appropriate, changes are made. Those changes are received and commented upon by the class governing bodies before the final changes are implemented. Moreover, as a predicate, the course must comply with all applicable FAA regulations and be reviewed by the FAA as part of the waiver process.

Recommendation: Create a formalized structure, e.g. committee, including RARA, class representatives, etc., to conduct the annual race course review.

Status: Open

NTSB Recommendations

The Team does not view it as appropriate to comment upon any aspect of the on-going NTSB investigation of the September 16, 2011, accident, including the recommendations issued by the NTSB on April 10, 2012.

The Team recommends that RARA take a pro-active approach towards studying those recommendations and, to the extent practicable and/or advisable, implement either those recommendations or equivalent measures which address the underlying facts/circumstances being addressed by the recommendations.

Specifically, the Team recommends that RARA establish a committee, with each of the classes being represented thereon, and that the committee study and, as appropriate, implement the recommendations of both the NTSB and this Team.

Recommendation: A committee be established, consisting of representatives from RARA and the race classes, for the purpose of studying the recommendations of the NTSB and, to the extent practicable, implement either those recommendations or such other measures as may address the underlying facts and circumstances described by the NTSB and this Team.

Status: Open

Summary

From an overall perspective, RARA is a very effective organization which produces a "one of a kind" event. Over the decades, the air races and the learning curve associated with them has evolved. Our effort demonstrates to us that each year's experience is used as an opportunity on the part of RARA to put in place new procedures/policies based on the then just concluded event.

From an overall perspective, the Team notes that all of the recommendations made herein should be applied to all of the classes of racing, including the Unlimited Class and the Jet Class, the latter of which fly at speeds higher than the Unlimited Class

To further strengthen RARA and the air races, our recommendations focus principally on institutionalizing much of what is already being done and taking advantage of advancements in the aviation area which heretofore have had limited or no applicability to an event of this type.

Recommendation: We recommend that RARA establish a realistic timetable for the study and implementation of the recommendations made by this Team.

Status: Open

Recommendation: RARA also establish, either through its internal structure, or through this Team, a follow-up review to not only verify/validate the measures it has implemented, but also to evaluate whether additional steps should be taken.

Status: Open

Recommendation: RARA "close the loop" and provide a report back to this Team, prior to September 2012, the status of the implementation of the NTSB and Team recommendations.

Status: Open

Submitted by: Reno Air Race Association Blue Ribbon Review Team

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