Attitude Indicator
Quarterly Safety Newsletter

Message from Flight Safety Officer

"Vision Air International is highly proud to be an international Charter Operator with more than five years of successful and safe international operations. Apart from fleet of B737s, this year we have got a B747-200F aircraft on our AOC. With the induction B747 in to our fleet we have carried out plenty of cargo flights to and from Johannesburg, Nairobi, Bahrain, Baghdad, Aden, Mombasa and Muscat. Vision Air International is also in the process of inducting additional B747s and A300 B4 Aircraft into its fleet to expand its operations.

To keep up safety and quality standards, Vision Air has incorporated in its Safety management program for independent operational and line management activities, which are being closely monitored by our safety staff to capture and analyze information useful to identify operational hazards. We also have the process for investigation of internal irregularities, non-conformities, significant safety issues to identify hazards and to arrange corrective training for our crew and staff to avoid human factors.

Here I also like to appreciate our flight operations and engineering department at Jinnah International Airport Karachi for their concerted effort in their respective job duties, because the foreign Pre-audit team of our vendor has gone satisfied with our existing flight standards and I am sure we are going to make further improvement to our existing flight standards. Here for the awareness of Vision Air crew and our vendors I have made an effort to present two aviation related articles about Crew Resource Management (CRM) and Special Safety Reports for the benefit and better learning of aircrew.

Good luck and have safe operations

GOOD CRM IS KEY TO FLIGHT SAFETY

Safety by all standards is the primary aspect towards the successful end results of any enterprise. A well conceived safety program enhances the ability to focus on use of available resources and to work out safety strategy to obtain best possible results. Therefore safety program is an essential tool to identify safety issues and to deal with them professionally, which will ultimately reduce financial impact for the operator. The company policy should be to prevent accidents by making safety a primary consideration in all operations, both in-flight and on ground. Recognizing that risk is inherent in any operation and that any accident or incident can have a profound effect on public (customer) confidence.

The safety culture could be achieved by formulating and following certain standardized Operating Procedures. Therefore current operational ac-

tivities shall be formulated after making analysis of past events.   In this regard the fundamental safety principle is the hazard analysis to identify contributory factors. Even a slightest miscreant may not be left unattended and must be analyzed to mend own safety standards. In aviation business, flight operations are the major activities, which are done through integration of team work of all concerned elements. Effective utilization of these elements is actually the resource management and in aviation business this is called crew resource management (CRM).

CRM was initially known as cockpit resource management, but as CRM programs evolved to included cabin crews, maintenance personnel and others; the phrase crew resource management was adopted all over. CRM is the fundamental part of all air operation in order to achieve and maintain safety within aviation. It is therefore vital for the crew to apply CRM essentials in all phases of flight. The most important part of CRM is the team management concepts in the modern flight deck environment. The pilots of small aircraft, as well as crews of larger aircraft, must make effective use of all available resources; human resources, hardware and available information to achieve better safety results

Current definition includes; all groups routinely working with the flight crew who are involved in decision making to achieve better flight safely environment. These groups include, but are not limited to pilots, dispatchers, cabin crewmembers, maintenance personnel, and air traffic controllers. CRM is one way of addressing the challenge of optimizing the human/machine interface for the safe and efficient conduct of a flight. After critically observing number of accidents and incidences the most crucial factors, which lead toward mishaps has been identified as follows:

a.   Individualism; individual behavior, has significant influence over other crew members in the same cockpit. Specifically, when there is a communication gap or a crew member tries to take actions at his own without unfolding his intentions to other crew members. This creates unsafe situation and uncoordinated crew actions in case of an emergency situation. Thus individualism is harmful in all phases of flight in general and in emergency situation in particular.

b.   Power distance, where less powered members of the   crew becomes helpless even if they are correct in their professional approach.

c.   Ego problem, where 'I' or self of an individual plays an adverse role. A person thinks and feels as distinguished from others members of the team and begins to work or act in his own way without taking help of other crew members.

d.   Poor knowledge or disregard to SOPs. Factually SOPs, describe individual crew duties as supplement to Flight Crew Operation Manual, QRH and APM. SOPs are considered safe practices and shall be strictly followed and adhered to by all crew members. If the crew members disregard SOPs, it degrades mission efficiency and causes confusion in the cockpit, which may cause flight safety hazards.
Captain has the primary duty to emphasized adherence to SOPs through pre flight briefing. In unusual circumstances Captain has the authority to vary these procedures; however he is required to announce his intentions while doing so specially during flight.

Note: The key to safe and efficient conduct of any flight lies in pre-flight briefings and after-flight debrief to aircrew and other concerned staff including representatives of handling agents, covering salient administrative and operational aspect of the flight.

By:
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Flight Safety Officer
Vision Air International

CREW MEMBER ATTITUDE QUESTIONAIRS (CAQ)

9.   The Crewmember Attitudes Questionnaire is an anonymous survey designed to measure organizational culture, as it pertains to safety and team functioning. The data from this survey is used to guide future training development and to provide a cultural baseline against which progress can be measured. Individual responses are not analyzed except as a group and are kept strictly confidential. Flight Management Attitudes Questionnaire (FMAQ) was generally accepted in the industry that cultural norms have a large impact on safety; there was no data available to describe the culture or measure it against other industries

10.   With the assistance of the University of Texas in modifying the instrument, MCS first used the survey with Interagency Hotshot Crews in 1997. The first phase of the study, completed in 2003, measures culture at the crew leader level and contains data from more than 800 firefighters who had not previously received leadership and human factors training. Larry Shadow, Shadow and Associates, Frenchtown, MT, provided invaluable analysis, insight, and support for the Phase I effort. Although collection of pre-training responses will continue, post-training collection will constitute the Phase II analysis effort due to be completed in 2005.

11.   Mission-Centered Solutions, Inc., solely funds the CAQ program as a private research effort with the primary purposes of supporting and enhancing training product improvement and consultative support. The effort is financed through ongoing tuition and program fees.

SAFETY CULTURE

12.   Culture is commonly defined as the organized system of meanings that members of a culture attribute to the persons and objects which make up the culture. Examination of the safety records from aviation, an analog of the firefighting environment, from a regulatory or investigatory perspective has provided strong evidence that cultures, whether organiza
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Culture is commonly defined as the organized system of meanings that members of a culture attribute to the persons and objects which make up the culture. Examination of the safety records from aviation, an analog of the firefighting environment, from a regulatory or investigatory perspective has provided strong evidence that cultures, whether organizational or national, are closely related to accident rates and that there are no culture-free environments.

ASSESSMENT OF PERFORMANCE-RELATED ATTITUDES

Interpersonal rather than technical failures have been implicated in the majority of accidents and incidents in high technological, high stress environments. Mr. Helmreich did lot of research regarding risk involved and high consequences of team failures and his major focus has been on the assessment of attitudes related to the interpersonal aspects of performance. He conducted survey and in light of his survey he prepared a Cockpit Management Attitudes Questionnaire (CMAQ: in 1984 and in 1988) to measure attitudes of flight crews regarding issues of communication, coordination, leadership and personal capabilities. The attitudes and related behaviors that are measured have been related to crew behaviors in a variety of aviation accidents and incidents. The CMAQ has been widely employed in aviation and data have been collected from more than 30,000 individuals in an array of civilian and military organizations in the U.S. and throughout the world.

The survey contains three factor analytically defined scales that reflect attitudes toward interpersonal communications and team coordination, leadership and authority, and personal vulnerability to external and internal stressors. The CMAQ has been validated as predictive of behavior and performance in operational settings. However, it should be noted that the scales are sensitive to organizational differences and can isolate distinctive subcultures within organizations, indicating that this type of survey may be a useful diagnostic tool for investigations of organizational and national issues.

MEASURING CULTURE: Hofstede's Work

Cross cultural dimensions: A conceptual background for investigation of cultural issues is provided by the seminal research of Geert Hofstede (1980; 1991), who conducted an exhaustive study of work values in over 40 countries with more than 100,000 respondents. Hofstede identified four dimensions of cultural variation in work values, which are:

a. The first conceptual dimension of individualism-collectivism is the extent to which the individual's behavior is defined and influenced by others. It has received the most attention.

b. His second dimension identified by power distance - the extent to which the less powerful members of institutions and organizations within a culture expect and accept that power is distributed unequally.

c. The third dimension of his research is uncertainty, which reflects preference for greater formalization of rules and codes for behavior and increased standardization of work activities.

d. The fourth dimension was labeled masculinity-femininity. It reflects a bipolar continuum with so-called "ego-social" at one pole defined by items stressing good relationships with managers and peers and desire for security and quality of life. The other pole is reflected in items related to opportunities for advancement and a desire for challenging tasks and high earnings.

16. Hofstede's measures proved quite robust in discriminating between national cultures and give us a good feel for the measurable dimensions along which smaller cultural groups might vary. His model represents organizational as well as national cultures. It allows for systematic variation within larger aggregations. Hence individuals can vary within organizations that can normatively vary within cultures. His studies of the workplace and are the largest cross-national investigation of attitudes and values. The factors specified above clearly relate to the work of professionals i.e. flight crews, astronauts, and medical teams in endeavors requiring coordinated, team actions and decision making.

NEW MEASURE OF CULTURAL RELATED ATTITUDES AND VALUES

17. The empirical findings and the fact that the CMAQ has been validated as predictive of crew behavior. It would be valuable to develop a new instrument that retained Hofstede's dimensions but also related more directly to the domains of interest such as firefighting, aviation and medicine.

18. In 1994 the NASA/FAA Aerospace Crew Research Project completed development of the Flight Management Attitudes Questionnaire (FMAQ), which contained all the original CMAQ items and, with permission, Hofstede's survey items, and items drawn from Bond and his colleagues' Chinese Culture Connection (1987). They also generated a set of new items designed to strengthen the measurement of Hofstede's cultural dimensions. The FMAQ consists of 86 items, 46 dealing with attitudes regarding team performance, leadership, and personal capabilities, two asking for categorization of preferred and encountered leadership style, 20 regarding work values. A goal in the development of the instrument was to have a generic instrument that can be modified to be relevant to specific professions. FMAQ has been completed by more than 7,000 respondents from 14 countries.

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FLIGHT SAFETY SPECIAL REPORTS

Besides its regular publications, Flight Safety Foundation from time to time takes on a big theme and examines flight safety top to bottom. Some have been published as special issues of Flight Safety Digest, others as stand-alone productions. Some have been commissioned from outside sources and issued as part of an industry initiative. All annual reports from 2006 to 2011are based on aggregate data gathered during more than 6,600 flights every year by C-FOQA participants. It focuses on five key areas:

•   Unstable approaches.
•   Disregard to aircraft limitations.
•   Maintenance events.
•   Flight operations events.
•   Degraded landing performance.

The aggregate-data report provides a fleet wise yardstick that the individual operators can use to measure their own safety results.

HEAD-UP GUIDANCE SYSTEM (HGS) TECHNOLOGY

(A Clear Path to Increasing Flight Safety).
This study conducted by the Flight Safety Foundation indicates that the use of head-up guidance system (HGS) technology could have prevented or positively influenced 38 percent of all commercial aircraft accidents that occurred over the span of past 13 years. "Head-up Guidance Technology — a clear path to increasing flight safety," examines the use of HGS technology in modern cockpits that are based on digital technology. Commissioned by Rockwell Collins, the report was derived through analysis performed by the Foundation on information from 983 commercial air carrier, business and corporate airline accidents during the 13-year period between 1995 and 2007.

3. Findings also indicated that the benefits of head-up guidance technology increased in accidents where the pilot was directly involved, such as take-off and landing and loss-of-control accidents. In take-off and landing, the likelihood of accident prevention is 69 percent when a plane is equipped with head-up guidance technology. During loss-of-control accidents, the likelihood of accident prevention is 57 percent.

GLOBAL AVIATION SAFETY ROADMAP

4. In May 2005, the Air Navigation Commission of the International Civil Aviation Organization (ICAO) held a consultation with the many industry participants on the improvement of aviation safety. One of the decisions of the meeting was to develop a common roadmap for aviation safety that would incorporate a process that would best prioritize initiatives and ensure that the safety efforts throughout the world are coordinated so as to ensure consistency and reduce duplication of efforts. The final product of

that effort is the Global Aviation Safety Roadmap. The final document, a 16-page outline of the effort, was produced in 2006.

IMPLEMENTATION OF GLOBAL AVIATION SAFETY ROADMAP

5. Once the Global Aviation Safety Roadmap was accepted in 2006 by the International Civil Aviation Organization's Council, it was determined that a Part 2 was required to build upon the objectives identified in the initial report by defining specific best or preferred practices which will enable the aviation industry and the world's nations to address and correct the deficiencies outlined in the first part. The result was Implementing the Global Aviation Safety Roadmap, which is a highly detailed document

JOINT RESOLUTION ON CRIMINALIZATION OF AVIATION ACCIDENTS

6.   The Foundation was one of the originators of a 2006 resolution condemning the growing tendency of law enforcement and judicial authorities to interfere with accident investigations and insisting that the primary consideration in an accident investigation should be "to determine the probable cause of and contributing factors in the accident, not to punish criminally flight crews, maintenance employees, airline or manufacturer executives, regulatory officials or air traffic controllers."

7.   The Foundation's position consistently has been that criminal punishment of pilots, air traffic controllers and others for inadvertent mistakes that lead to accidents does nothing to improve safety; instead, the fear of criminal prosecution discourages the sharing of accident-related information. The Foundation recognizes, however, that punishment is appropriate in the cases in which an accident or incident was caused by intentional misconduct or especially reckless actions.

8.   In addition to its campaign against criminalization of accidents, the Foundation has fought against prosecutorial actions and civil law suits aimed at winning the court orders, which caused disclosure of confidential information gathered through flight operations department and quality assurance (FOQA) programs.