

Where Do We Go From Here

- Somehow continue to share information with the group. Meet again in the future. Yes I would be very interested in being involved! I am particularly interested in the Stress and Cognition study.
- Include more regional level carriers in study. Thanks much for conducting this gathering. It was very worthwhile.

Industry Contacts:

- Regionals may have some good things to add.
- Would like more info (or paper) on stress and cognition. The Field Guide concept appears very usable.
- Move the equipment and evacuation study out and do it separately. Narrow to the key factors in each of the 15 main categories. US flight crew & US airplanes fly in worldwide environment so do not limit study to US domestic carriers. You are talking to Airbus so look at foreign carriers.
- Seems like you are doing all the right things to identify the problems and issues, but I would suggest that you cannot offer guidance without validating your recommendations in empirical studies, e.g. in full mission simulators. For example, resolve if FO should fly and Captain work abnormal. I welcome further discussion on this.
- Regarding your look at full time versus line pilot instructors, you should survey the full time instructors as to age, experience, previous flying, and specifically, formal instructor training programs (military, civilian, 121, PT91, etc.). “A line pilot does not necessarily make a good instructor, nor does an outstanding instructor make a great line pilot”
- My belief is that a template has/is being developed now with SNORT (one of the initiatives at our company). Could it be used to examine and analyze EAS much as we have with Normal Procedures?
 - Training for long term memory. Dr. Bourne’s work could be of help.
 - Textbook vs. non standard situations
 - Usage errors with checklists. For example, omissions and misunderstandings, using the wrong branch of the decision tree.

- Knowledge level of aircraft systems – should we have a “core” knowledge of appropriate questions regarding systems that a pilot should be required to have to for proper application to EAS.
- I found the Symposium very interesting, despite its main focus being on cockpit crew. I will certainly use the material for inclusion in our ATC training.
- Areas of the study regarding non normal checklists and stress and cognition are of particular interest to me. I feel they would benefit the group I represent a great deal!
- The “Time Available” should be a theme throughout.
- The level of “Trust In”, “Assistance From,” etc. the outside entities should be addressed: I would rank them
 - Maintenance Control
 - Dispatch
 - ATC

This is based upon personal career experiences

- We should have follow up sessions, perhaps more focused.
- Good forum. However to continue forward the subjects need to be split into more manageable areas. Like a separate forum for each checklist and procedure design, training, etc. Good start though!
- Robert Francis hit it all where issues start, need focus, and need standardization - it starts by consistency of federal agencies. Potential of breakout groups to listen to others problems and solutions?
- All sounds very good. I’m very interested in seeing the end results. My main area of interest is in the development of checklists for our maintenance control group. I’m wondering how we can stay in touch to assist each other in this effort?
- I would like to suggest the B747 (any model) loss of 2 or more hydraulic systems checklist(s) as examples to look at as examples of ultra complex, confusing checklists. I would also like to recommend a follow up session in the future.
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What is missing? What is most important?

- Communication channels and technical support for communications
 - Communications Protocol - what needs to be communicated and why? (crew resource management)
 - Need to address proactive responses to get early identification of abnormal situations – to minimize workload impact
 - Use the website to track progress of this research program?
 - I like the idea of field guides as products
- Please consider coordinating some of your efforts with the ATA Flight Operations Working Group. I think that both groups could benefit from interactions.
 - Have you looked at other industries and how they train emergencies? Medicine, nursing, EMTs and paramedics all train for emergencies. There might be some “lessons learned” from them.
 - Efforts should be made towards standardization between manufacturers. Focus on standardization of checklists. Possibly there should be a common method, such as ATA specifications? There should also be a focus on industry harmonization.
 - Consider culture organizational issues that impact practices in abnormal situation management (ASM).
 - Consider how security may conflict with safety & its impact on ASM.
 - How can risk based assessment techniques be used to inform checklist usage and design.
 - The Study is on the right track in as far as areas to be covered. The big areas to be covered are the cognitive abilities of crews in an emergency or abnormal situation. Then, dissect what they did and why – this answer will help us train better through active awareness of how crews actually think and work together. Publish, Publish, Publish.
 - I would suggest the study attempt to observe portions of aircraft evaluation group projects, such as flight standardization board evaluations of new or variant aircraft, operational suitability flying, workload studies, etc.
 - Focus on emergencies pre and post 9/11 regarding issues with the cockpit door

- Team based operational challenges can be generalized across many types of industries: air carrier, commercial, science, and military space, ATC, petrochemical, and nuclear power are a few examples. Cross fertilization of these might lead to some very interesting synergies.
- For glass cockpits does any software exist with graphical or text displays that bring attention to and problems with the aircraft and self diagnose of any of these. Computers can run self diagnosis of problems down to the board level.