Space Flight Resource Management
Training for International Space Station
Flight Controllers

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Overview

• Short summary of Space Station SFRM skills
• How five Lessons Learned are being implemented
• Status of SFRM training in Mission Operations Directorate at the Johnson Space Center
5 Lessons Learned about SFRM Training

SFRM

• is an integrated set of skills
• must be used daily
• must be embedded in technical training
• must be trained formally and learned informally
• must be learned from senior flight controller mentors
SFRM is an Integrated Set of Skills

• Each skill affects and is affected by the other 7 skills
• Failure to do any skill properly may result in a failed team effort
SFRM Used Daily

• If you use SFRM skills
  – At daily status meetings,
  – When making routine decisions, and
  – When you don’t think SFRM is required

• You don’t put links in an error chain

• That might eventually result in an incident that requires ‘time critical’ SFRM
SFRM Embedded in Technical Training

• SFRM training must be
  – Introduced in the full mission and team context
  – Introduced early
  – Reinforced continually

• When a flight controller learns a procedure, s/he also learns
  – How to assess the situation
  – What factors dictate if/when the procedure is executed
  – What decisions must be made
  – To whom to talk, about what and how
  – How to resolve conflicts
SFRM Trained Formally, Learned Informally

- Formal training is the lessons in the training programs
- Informal learning is through observations, practice and talking to others
  - To take advantage of informal learning, we developed guides for
    - New Flight Controllers
    - Mentors
SFRM Learned from Senior Mentors

• Senior Flight Controllers bring their experience to provide the full mission and team context

• How ‘real life’ experiences are subtly different from training and from each other

• How mistakes happen, how they are resolved and what are the lessons learned
Status of SFRM Training in JSC MOD

• Training includes both SFRM-dedicated lessons and SFRM training embedded into technical lessons

• Goal is to reduce certification times by 50% and integrated simulations by 75-90%

• SFRM is practiced, evaluated and debriefed in part task trainers and full-task simulation lessons

• SFRM model and training are constantly being evaluated against student/management feedback, best practices from industry/military, and latest research