



space radiation analysis group

NCRP Review
Flight Support Team Training

Lyndon B. Johnson Space Center

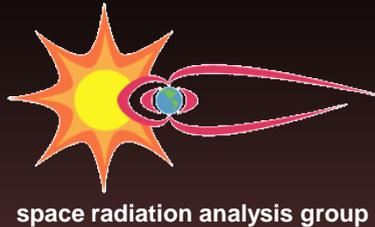


Mark Weyland (LM/C23 -- X36193)

ESSSED / Space Radiation Analysis Group

FLIGHT SUPPORT TEAM TRAINING

Mark Weyland
Project Manager – Lockheed Martin



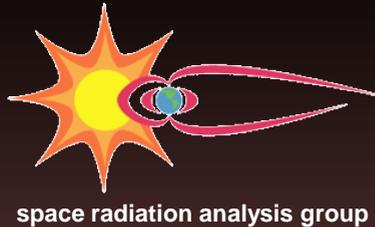
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Introduction

- SRAG monitors and evaluates space environment conditions for enhancements which could lead to excessive crew radiation exposure.
- SRAG provides notification and recommendations to flight management during conditions which have the potential of increasing crew exposures above nominal levels in accordance with ALARA.
- SRAG personnel must be certified to perform pre-flight radiation exposure assessments and real-time support in the SRAG MPSR.
- The SRAG training plan resides in ISO work instruction SN3-WI-004 (copy included in your handouts).



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Educational & Experience Requirements

- BS in a physical science or engineering discipline
- Post-graduate education in a physical science or engineering discipline (desired, not required)
- Knowledge of radiation measurement techniques
- Knowledge of radiation effects on humans
- Knowledge of a programming language (FORTRAN preferred)

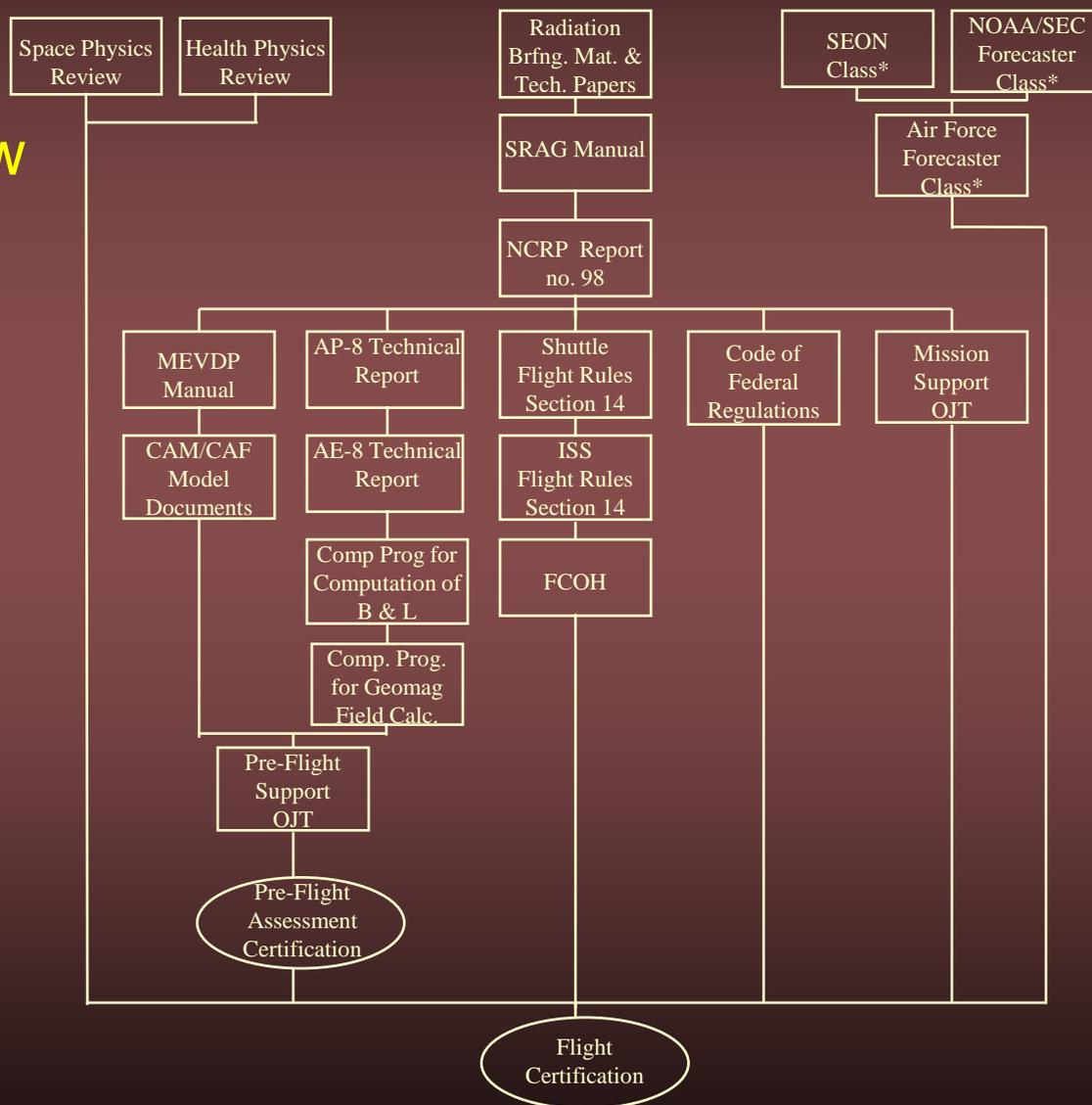


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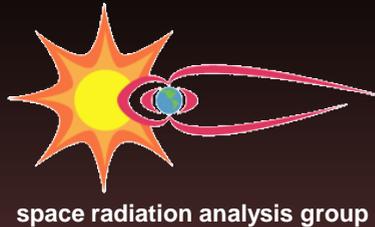
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SRAG Training Flow



* due to class availability, students are not required to complete the SEON Class, NOAA/SEC Forecaster Class and Air Force Forecaster Class for flight certification. It is recommended that students take these classes within 2 years of employment within SRAG.



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Training Course Descriptions

- The course descriptions describe the purpose of the training, a list of the materials to be reviewed, the location of the training materials, and a summary of the topics.

| Space Physics Review | self study |
|---|------------|
| <p>Purpose: Familiarization with the space physics knowledge necessary to perform mission support</p> <p>Location: SRAG Library</p> <p>Description: Topics include solar physics (composition of the sun, visible features, solar events, solar cycle), solar wind, interplanetary magnetic field, geomagnetic field, effects of solar events in the near Earth environment and radiation belts.</p> <p>Texts and papers to be reviewed:</p> <ul style="list-style-type: none"> -Introduction to the Space Environment, 2nd edition (Thomas Tascione), chapters 2-8, 10 -History of Energetic Solar Protons for the Past Three Solar Cycles including Cycle 22 Update (Shea & Smart) -Geomagnetic Cutoffs: A Review for Space Dosimetry Applications (Smart & Shea, 1994) - User's Guide to the Preliminary Report and Forecast of Solar Geophysical Data (NOAA, July, 1995) - SESC Glossary of Solar-Terrestrial Terms (NOAA-USAF SESC, August 1988) - available on the WWW at http://www.sel.noaa.gov/info/glossary.html - The Virtual Sun - available on the WWW at http://www.astro.uva.nl/michielb/sun/kaft.htm - Solar Flare Theory - available on the WWW at http://hesperia.gsfc.nasa.gov/sftheory/toc.htm | |



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