

LLE INSTRUCTION 7700F DESIGN AND INTEGRATION OF EQUIPMENT

... design review and documentation requirements to ensure that safety, reliability, and all other relevant factors are addressed during the equipment design and qualification process.

... applies to projects that produce new equipment or significant modifications to existing equipment ...



- **Significant modifications affect**
 - **operational characteristics,**
 - **structural integrity**
 - **Safety of a previously qualified piece of equipment., or**
 - **Involve more than one engineering discipline**

- **Full re-qualification is not required for minor changes**
 - **Engineering Division Director approval**
 - **approved as part of the normal PDM design approval process**
 - **Implemented using WAP**

The complete process includes:



- **Create a project team that supports the PI**
- **Perform the Safety Risk Assessment and FMEA**
- **Tailor the design and qualification process to fit the project tasks and needed resources.**
 - **CDR, FDR & ORR are required**

Revised forms/process/terminology



- **Role of individual SE is expanded in support of the PI.**
- **PC (project coordinator) renamed Project Assistant (PA)**
- **Safety Risk Assessment (was SRAW) is more formal**
 - **Failure Modes and Effects Analysis (FMEA) will be used**
 - **SRA & FMEA evolve as design progresses.**
- **"Critical" is dropped from CEQC because all projects must comply: "EQC".**
- **Demonstration of safety features is required as part of qualification.**

Provision is included for preliminary qualification testing prior to final qualification



- **Intended for special cases**
 - **When project or equipment evolves incrementally**
 - **Unique, one-time test**
- **On-shot use is permitted**
 - **Requires planning, procedures and approval**

Some flexibility in holding formal meetings



- **Minor changes – reviews not required. (WAP)**
- **Minor Projects – paperless FDR**
- **Preliminary Qualification – less formal plans and procedures. (WAP)**
- **Paperless ORRs on recommendation of SE.**