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Note:

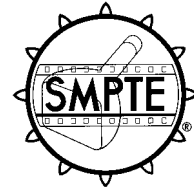
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SMPTE ENGINEERING GUIDELINE**EG 8-1993**

Revision of EG 8-1984

Specifications for Motion-Picture Camera Equipment Used in Space Environment



Page 1 of 7 pages

1 Scope

This guideline specifies the technical and operational requirements for the use of documentary and theatrical motion-picture cameras aboard a space shuttle.

2 Objective

The objective of this guideline is to specify the conceptual design and associated technical specifications for an onboard camera system that will enable NASA to offer motion-picture producers access to the space shuttle. These specifications cover the hardware that would be required for using the space shuttle as a universal camera platform and an earth orbit location for depicting man's presence in space. (Detailed specifications are listed in annex A.3.)

2.1 Concept

Figure 1 provides a generic description of payload integration above the shuttle to familiarize users with a typical scenario of the integration process. New design, redesign, and/or new utilization of payload hardware must take into account requirements of the integration process in the early stages of the project for cost effectiveness and efficiency. The extent and complexity of each integration step will depend largely upon the specific payload and its planned utilization. Requalification of previously flown equipment for reflights is a relatively easy process. Introduction of new equipment and new utilization may involve the full integration process. Sufficient and adequate planning is highly advisable in the initial stages of the project to meet the overall objectives for the payload and make a specific flight of the shuttle, if desirable.

2.2 Basic references

NASA has established a methodological approach for the shuttle documentation system and is providing a

Customer Service Center for customer liaison and interface with the STS program. The "document tree" approach to the documentation structure has been implemented to facilitate easy access. (See figure 1.)

3 Basic technical requirements**3.1 Electrical characteristics and specifications****3.1.1 Power**

DC or ac power may be made available through the shuttle orbiter (see reference 7 of annex A.3).

DC power – voltage:	28 V $\pm$ 4 V
power:	TBD watts depending upon location

AC power – voltage:	115 V $\pm$ 5 V rms
power:	TBD watts
frequency:	400 Hz $\pm$ 7 Hz

3.1.2 Fusing criteria

The payload element is required to provide circuit protection in the form of fuses, resistors, or other current limiting devices on its side of the interface in order to protect payload element/orbiter wiring.

3.1.3 Electromagnetic compatibility (EMC)

The payload shall comply with the radiated and conducted electromagnetic interference requirements of ICD 2-19001, paragraphs 10.7.3, 10.7.3.1, and 10.7.3.2 (see reference 2 of annex A.3). As a design goal, cargo wiring on the payload side of the interface shall meet the requirements of Table 10.7.1-2 (see reference 2 of annex A.3) or utilize equivalent shielding.

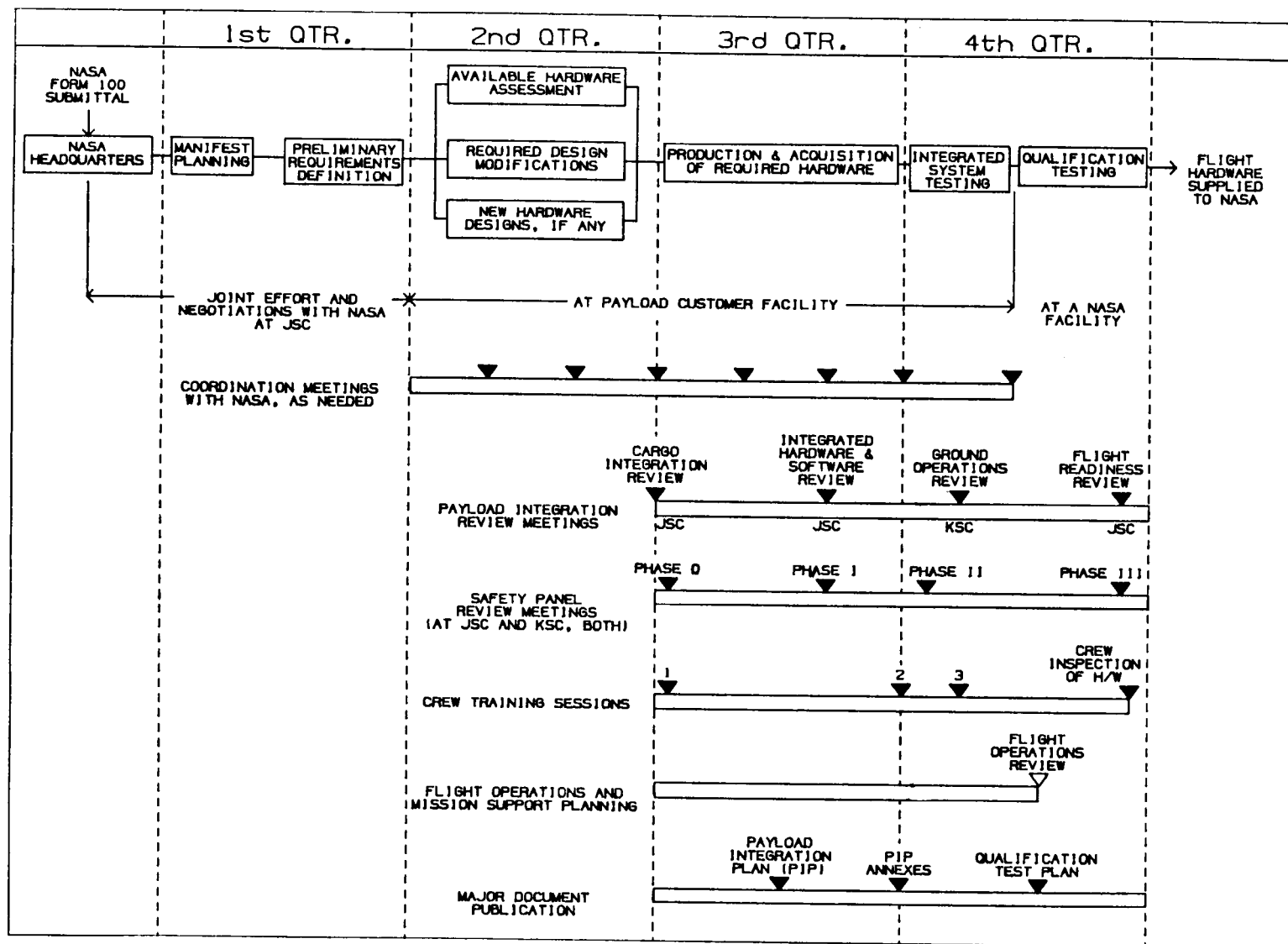


Figure 1 – Payload integration scenario overview — 12-month typical "accelerated" schedule