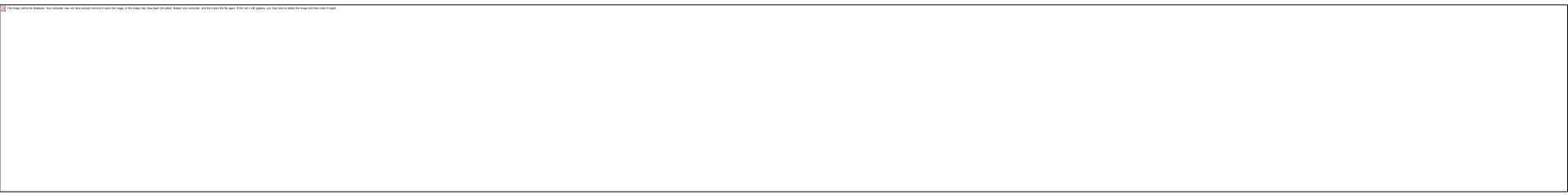
USMC Intelligent Power Management (IPMS) System

CWO5 Ralph Smith



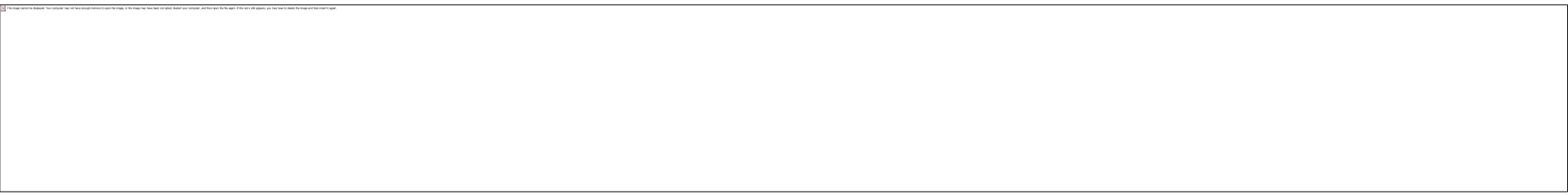
“The current and future operating environment requires an expeditionary mindset geared toward increased efficiency and reduced consumption, which will make our forces lighter and faster… The way we have brought the fight to the enemy has yielded success on the battlefield. It has also created unprecedented demands for fuel and water that tether Marines to long logistic tails and limit our ability to maneuver as an expeditionary force.”

Marine Corps conducted a capabilities based assessment.

- On 22 March 2017 Combat Development Command issued a Requirements Memorandum for the Intelligent Power Management System. The major capability gaps identified were:
  - Need to efficiently and autonomously match power production to load demand
  - Need to store electrical energy from multiple production sources
  - Need to prioritize and shed electrical loads
  - Need to remotely meter and monitor power production and distribution systems

IPMS consists of:

- Advanced Medium Mobile Power Sources with Advanced-Digital Control Systems (Micro-grid)
  - Can be operated in single generator configuration, parallel generator set configuration, or network configuration
  - Provides cost savings with fuel and maintenance support
  - Increased grid stability
  - Reduced logistical footprint
- Energy Storage Unit
  - Provides silent watch capability
  - Power assurance and grid stability
- Intelligent Power Distribution System
  - Provides load shedding and load prioritization capability
- Remote metering and monitoring
  - Managing the health of grids at higher echelon/enterprise levels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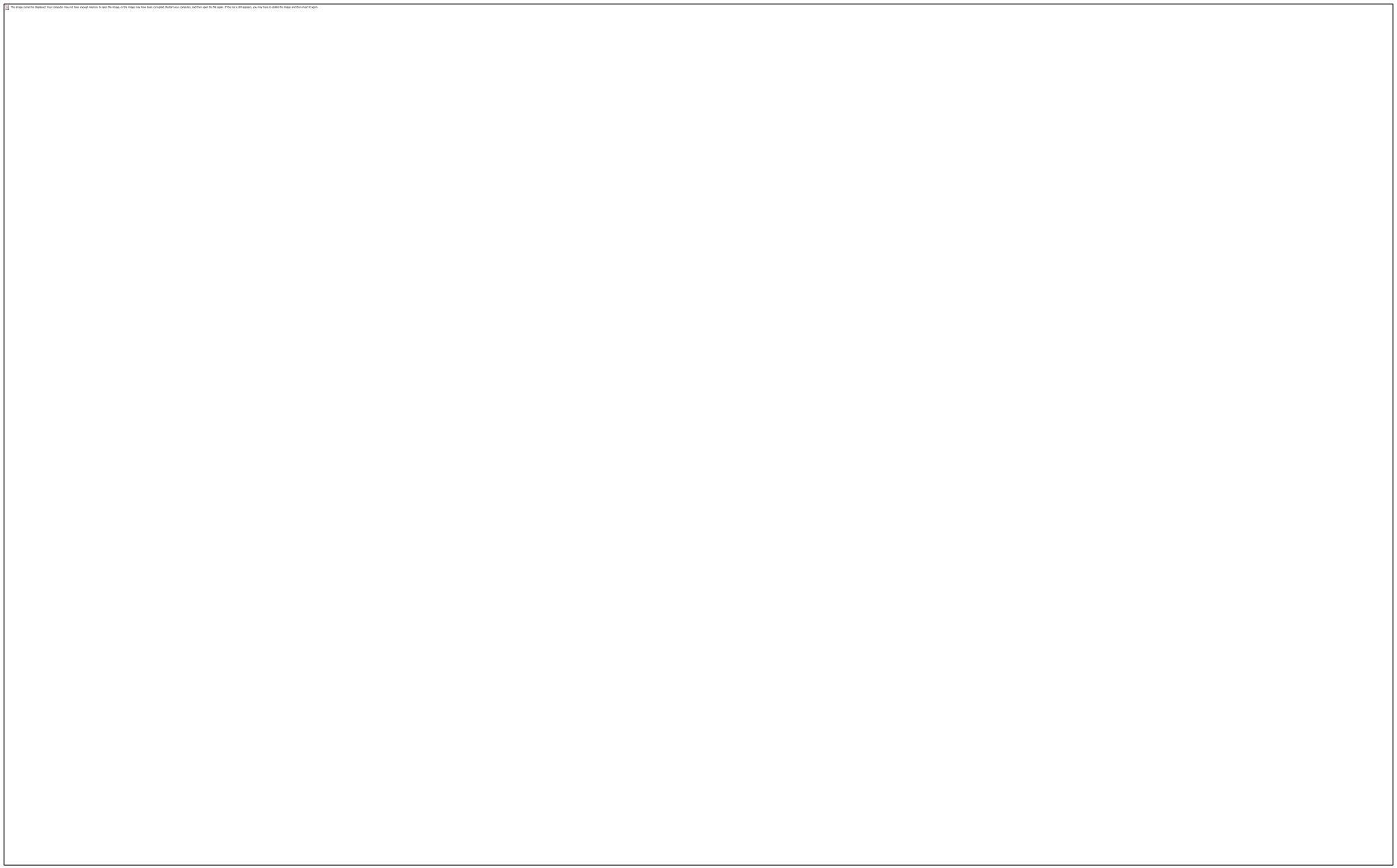
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- *Further develop gridding, storage, and intelligent distribution*
  - *IPMS POR*
  - *USMC owned/developed Interface Control Document for IPMS*
- *Assist in the development of DoD microgrid interface standards*
- *Joint Working Group update MIL-STD-705*


QUESTIONS