

**STS-112**  
**FLIGHT READINESS REVIEW**  
**Eastern Range**  
**September 17, 2002**

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# **RANGE SAFETY COMMAND DESTRUCT SYSTEM REQUIREMENT**

**Presenter:**

**Michael Gawel**

**Organization/Date:**

**Range/09-17-02**

- Command Destruct Systems covered in section 5.2.3.2 Shuttle LCC, EWR 127-1
  - Rationale: “One complete (dual) command system from liftoff through orbital insertion. For shuttle, the requirement is liftoff through SRB separation...”
  - All ER Command Systems are two strings (fault tolerant) connected by a station guardian (fault detection-failover)
  - A single (dual stringed) system is mandatory for launch



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|-----------------------------------------------------------------|----------------------------------------------|
| <b>RANGE SAFETY COMMAND<br/>DESTRUCT SYSTEM<br/>REQUIREMENT</b> | <b>Presenter:<br/>Michael Gawel</b>          |
|                                                                 | <b>Organization/Date:<br/>Range/09-17-02</b> |

- Two Command Systems Cape 1A, 1B
  - Two completely independent command systems
  - Command Systems are two string (fault tolerant) connected by a station guardian (fault detection-failover)
  - A single (dual stringed) system is mandatory for launch



**RANGE SAFETY COMMAND  
DESTRUCT SYSTEM  
ISSUE****Presenter:****Michael Gawel****Organization/Date:****Range/09-17-02**

- Cape Command Destruct System 1B
  - PCB leak discovered 12 March 2001 in Cape Command 1B High Power Transmitter #2
  - System removed
- Cape 1A mandatory for all launched
  - 7 Shuttle launches



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|------------------------------------------------------------|----------------------------------------------------|
| <b>RANGE SAFETY COMMAND<br/>DESTRUCT SYSTEM<br/>STATUS</b> | <b>Presenter:</b><br><b>Michael Gawel</b>          |
|                                                            | <b>Organization/Date:</b><br><b>Range/09-17-02</b> |

- Cape 1B command system has been certified for launch operations
- Cape command 1A, 1B will support all launches
- Dual redundant command systems



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|--------------------------------|--|
| <b>READINESS CERTIFICATION</b> |  |
|                                |  |

The Eastern Range and the DOD Shuttle Network are ready to support STS-112 Launch Operations

S/J. Gregory Pavlovich

J. GREGORY PAVLOVICH  
Brigadier General, USAF  
Commander, Eastern Range

