



Overview: The JSC Flight Safety Office maintains the *Significant Incidents and Close Calls in Human Spaceflight* graphic to provide continuing visibility of the risks inherent with space exploration and provide engineers with a summary of past experience. It is hoped this information will be used to learn from the past and make present and future missions safer.

Abbreviations and Acronyms					
<b>AC</b>	Air Conditioner	<b>GPC</b>	General Purpose Computer	<b>PASS</b>	Primary Avionics Software System
<b>APU</b>	Auxiliary Power Unit	<b>GPS</b>	Global Positioning System	<b>PSI</b>	Pounds per Square Inch
<b>ASTP</b>	Advanced Systems Technology Program	<b>GIRA</b>	Galley Iodine Removal Assembly	<b>RCS</b>	Reaction Control System
<b>ATO</b>	Abort to Orbit	<b>H<sub>2</sub></b>	Hydrogen	<b>RIP</b>	Rapid Information Page
<b>BMP</b>	Russian Trace Contaminant Removal System (Air Purifier)	<b>ISS</b>	International Space Station	<b>RS</b>	Russian Segment
<b>CO<sub>2</sub></b>	Carbon Di-Oxide	<b>LH<sub>2</sub></b>	Liquid Hydrogen	<b>S&amp;MA</b>	Safety and Mission Assurance
<b>DM</b>	Descent Module	<b>LOC</b>	Loss of Crew	<b>SM</b>	Service Module
<b>ENG</b>	Engine	<b>LOV</b>	Loss of Vehicle	<b>SRB</b>	Solid Rocket Booster
<b>EPS</b>	Electrical Power System	<b>ME</b>	Mechanical	<b>SSP</b>	Space Shuttle Program
<b>EVA</b>	Extravehicular Activity	<b>METOX</b>	Medical Oxygen	<b>STS</b>	Shuttle Transportation System
<b>FC</b>	Flight Controller	<b>MMOD</b>	Micro-Meteoroid Orbital Debris	<b>TBS</b>	To Be Supplied
<b>FGB</b>	Zarya (Sunrise) Module on ISS	<b>N<sub>2</sub>O<sub>4</sub></b>	Nitrogen Tetroxide	<b>TPS</b>	Thermal Protection System
<b>FSO</b>	Flight Safety Office	<b>O<sub>2</sub></b>	Oxygen		
<b>G</b>	Gravity	<b>OSMA</b>	Office of Safety & Mission Assurance (NASA HQ)		

**Rapid Information Pages (RIPs)** are a product of the JSC S&MA Flight Safety Office (FSO) and the OSMA Assessment Team. RIPs assemble and clarify best available data from multiple sources to help S&MA decision makers quickly develop a fully informed and holistic perspective of key factors involved in the risk-based decision process. For further information, please contact:

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# Significant Incidents and Close Calls in Human Spaceflight

## **S&MA Flight Safety Office**

Safety & Mission Assurance Support Services Contract  
 OSMA Assessments Team  
 Rapid Information Page

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