

MSD Project Risk Assessment Template

ID	Risk Item	Effect	Cause	Likelihood	Severity	Importance	Action to Minimize Risk	Owner
	<i>Describe the risk briefly</i>	<i>What is the effect on any or all of the project deliverables if the cause actually happens?</i>	<i>What are the possible cause(s) of this risk?</i>			<i>L*S</i>	<i>What action(s) will you take (and by when) to prevent, reduce the impact of, or transfer the risk of this occurring?</i>	<i>Who is responsible for following through on mitigation?</i>
1	Local system overheat of Thermoelectric device	Component degradation or loss. Replacing component delays testing.	Poor heat sinking, rapid removal from water	1	2	2	Heat sinking testing without component, follow test protocol for removing device from water	
2	Local system overheat of wiring	Component failure, possible system or subsystem failure, minimal time delay	Short circuit, poor heat sinking	2	1	2	Check wiring against schematics before beginning testing	
3	Local system overheat of electronics	Component degradation or loss. Replacing component delays testing.	Poor heat sinking, short circuit	1	2	2	Heat sinking testing without component	
4	General system overheat of thermoelectric, wiring, electronics	Component degradation or loss. Replacing component delays testing.	Poor heat sinking	2	1	2	Heat sinking testing without electronics	
5	Pressure vessel breach due to failure of seals	Equipment degradation, possible partial or complete system loss. This is potentially a large time draw as multiple	Deflection due to thermal or mechanical stress, improper assembly	2	3	6	Heat sinking and pressure testing without electronics, follow testing procedure for assembly	

		components would require replacing before resuming testing.					
6	Pressure vessel breach due to failure of enclosure	Equipment degradation, possible partial or complete system loss. This is potentially a large time draw as multiple components would require replacing before resuming testing.	Deflection due to thermal or mechanical stress, improper assembly	1	3	3	Heat sinking and pressure testing without electronics, follow testing procedure for assembly
7	Electrical failure of wiring	Component failure, possible system or subsystem failure. Re-wiring is a minimal time delay for testing.	Short circuit, bad solder joints	2	1	2	Continuity testing and implementation of termination and wiring solutions
8	Electrical failure of PCB / microcontroller	Possible component failure. Possible long lead time item requires replacing, delaying testing.	Short circuit	1	3	3	Thorough subsystem testing and CAD simulation
9	Battery failure	Loss of component, subsystem failure. Replacing component delays testing.	Overcharge, overheat, rapid discharge, short circuit, incorrect voltage or current	2	1	2	Current limiting and charge monitoring circuitry, isolation from other systems
10	Lack of guidance / late guidance from Boeing	Design criteria left open-ended, design without Boeing input, last minute changes put project behind	Boeing contact is busy, does not respond in a timely manner	3	1	3	Provide ultimatum proposal to Boeing, rely on benchmarking competitors where detailed technical information is needed.

		schedule						
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Likelihood scale	Severity scale
1 - This cause is unlikely to happen	1 - The impact on the project is very minor. We will still meet deliverables on time and within budget, but it will cause extra work
2 - This cause could conceivably happen	2 - The impact on the project is noticeable. We will deliver reduced functionality, go over budget, or fail to meet some of our Engineering Specifications.
3 - This cause is very likely to happen	3 - The impact on the project is severe. We will not be able to deliver, or what we deliver will not meet the customer's needs.

"Importance Score" (Likelihood x Severity) – use this to guide your preference for a risk management strategy	
Prevent	Action will be taken to prevent the cause(s) from occurring in the first place.
Reduce	Action will be taken to reduce the likelihood of the cause and/or the severity of the effect on the project, should the cause occur
Transfer	Action will be taken to transfer the risk to something else. Insurance is an example of this. You purchase an insurance policy that contractually binds an insurance company to pay for your loss in the event of accident. This transfers the financial consequences of the accident to someone else. Your car is still a wreck, of course.
Accept	Low importance risks may not justify any action at all. If they happen, you simply accept the consequences.