

PPU Risk Description Sheet			Risk ID: T-P.2-001	L3 WBS: P.2.3 - Cryomodules																									
Risk Title: CM Cost Is High		Risk Description: If the current CM cost estimates are low, then project CM cost will increase																											
Risk Owner: Howell	P6 Number: P232P36																												
PRE-MITIGATION:																													
Likelihood Score: Probable - 50% to 80%		Justification: It is easier to hit a cost estimate for many cryomodules than the small number of PPU cryomodules required for this project.																											
Cost Impact Score: Major - \$500k to \$2M		Justification: For the purchase of 7 cryomodules, this would have an impact on the project of over \$1M.																											
Schedule Impact Score: Minor - <3 months		Justification: Risk is related to the cost of fabrication.																											
Technical Impact Score: Minor - No KPP impact		Justification: Risk is related to the cost of fabrication.																											
Risk Rank Matrix: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>L</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pro</td><td style="background-color: yellow;"></td><td style="background-color: orange; text-align: center;">X</td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pos</td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: orange;"></td></tr> <tr><td>UL</td><td style="background-color: green;"></td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: yellow;"></td></tr> <tr><td></td><td style="text-align: center;">Minor</td><td style="text-align: center;">Mod</td><td style="text-align: center;">Maj</td><td style="text-align: center;">Cat</td></tr> </table>		L					Pro		X			Pos					UL						Minor	Mod	Maj	Cat	Risk Rank: High	Risk Trigger: Start of partner lab procurement	
L																													
Pro		X																											
Pos																													
UL																													
	Minor	Mod	Maj	Cat																									
		Trigger Date: -																											
POST-MITIGATION																													
Mitigation Plan: None		In Baseline: YES	Mitigation Cost: (\$k) \$ -																										
		Likelihood:	0																										
		Cost Impact:	0																										
		Schedule Impact:	0																										
		Technical Impact:	0																										
Post Mitigation Risk Rank Matrix: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>L</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pro</td><td style="background-color: yellow;"></td><td style="background-color: orange; text-align: center;">X</td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pos</td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: orange;"></td></tr> <tr><td>UL</td><td style="background-color: green;"></td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: yellow;"></td></tr> <tr><td></td><td style="text-align: center;">Minor</td><td style="text-align: center;">Mod</td><td style="text-align: center;">Maj</td><td style="text-align: center;">Cat</td></tr> </table>		L					Pro		X			Pos					UL						Minor	Mod	Maj	Cat	Risk Rank: High	Risk Handling Strategy: Accept	
L																													
Pro		X																											
Pos																													
UL																													
	Minor	Mod	Maj	Cat																									
		Expiration Date: -	Expiration Description: Start assembly of 7th CM																										

PPU Risk Description Sheet		Risk ID: T-P.2-013	L3 WBS: P.2.3 - Cryomodules
Risk Title: CM Shipment		Risk Description: If the CM shipment produces unintended performance degradation in the CMs, then repairs are required prior to test cave testing	
Risk Owner: Saunders	P6 Number: P238P36		
PRE-MITIGATION:			
Likelihood Score: Possible - 20% to 50%	Justification: Performance of the partner laboratory during the original shipment of 23 cryomodules makes having degradation in more than one cryomodule unlikely.		
Cost Impact Score: Moderate - \$50k to \$500k	Justification: Repairs to both cavity performance through plasma processing and repairs to insulating vacuum leaks would take 4 people about 8 weeks for about \$50 k.		
Schedule Impact Score: Minor - <3 months	Justification: Repairs to the affected cryomodule would be conducted in 2 months.		
Technical Impact Score: Minor - No KPP impact	Justification: Risk is related to the cost and schedule.		
Risk Rank Matrix:		Risk Rank:	Risk Trigger:
L			
Pro			
Pos	X		
UL			
	Minor	Mod	Maj
			Cat
		Medium	First CM delivery from partner laboratory
		Trigger Date: -	
POST-MITIGATION			
Mitigation Plan: Conduct shipping tests on CM shipping fixture to measure g-loading and adjust fixture or re-route truck along different roads to minimize impact to CM		In Baseline: NO	Mitigation Cost: (\$k) er, 1 truck rental @ 10k, 1 engin
		Likelihood:	Unlikely - < 20%
		Cost Impact:	Moderate - \$50k to \$500k
		Schedule Impact:	Minor - <3 months
		Technical Impact:	Minor - No KPP impact
Post Mitigation Risk Rank Matrix:		Risk Rank:	Risk Handling Strategy:
L			
Pro		X	
Pos			
UL		X	
	Minor	Mod	Maj
			Cat
		Low	Mitigate
		Expiration Date: -	Expiration Description: Finish of 7th CM testing in RFTF test cave

PPU Risk Description Sheet		Risk ID: T-P.2-014	L3 WBS: P.2.3 - Cryomodules
Risk Title: First 2 CM Delivery Is Late		Risk Description: If the first two CMs are delayed from the partner laboratory and not ready to be installed during scheduled outage, then installation is delayed	
Risk Owner: Saunders	P6 Number: P238P36		
PRE-MITIGATION:			
Likelihood Score: Probable - 50% to 80%	Justification: The first two cryomodules are the most likely to encounter delays at the partner laboratory resulting in a delay of shipping to SNS.		
Cost Impact Score: Moderate - \$50k to \$500k	Justification: The burn rate for the production of cryomodules is ~\$250 k/month. Assuming a 50% decrease in cost for a delay of one month equates to \$125 k.		
Schedule Impact Score: Major - > 6 months	Justification: Next window for cryomodule installation is the next available SNS maintenance down, at least 6 months of schedule delay.		
Technical Impact Score: Minor - No KPP impact	Justification: Risk is related to the cost and schedule.		
Risk Rank Matrix:		Risk Rank:	Risk Trigger:
L			
Pro		X	
Pos			
UL			
	Minor	Mod	Maj
			Cat
		High	Start of CM32 & 31 test cave testing
		Trigger Date: -	
POST-MITIGATION			
Mitigation Plan: Negotiate with SNS operations to adjust maintenance outage schedule to accommodate actual CM delivery dates		In Baseline: YES	Mitigation Cost: (\$k) \$ -
		Likelihood:	Unlikely - < 20%
		Cost Impact:	Minor - < \$50k
		Schedule Impact:	Minor - <3 months
		Technical Impact:	Minor - No KPP impact
Post Mitigation Risk Rank Matrix:		Risk Rank:	Risk Handling Strategy:
L			
Pro			
Pos			
UL	X		
	Minor	Mod	Maj
			Cat
		Low	Mitigate
		Expiration Date: -	Expiration Description: Finish of 2nd CM testing in RFTF test cave

PPU Risk Description Sheet			Risk ID: T-P.2-015	L3 WBS: P.2.3 - Cryomodules																										
Risk Title: Tuner Delivery Is Late		Risk Description: If the tuner harmonic drive is delayed, then cryomodule production is delayed																												
Risk Owner: Saunders	P6 Number: P232P146																													
PRE-MITIGATION:																														
Likelihood Score: Probable - 50% to 80%		Justification: Harmonic drive procurement has been problematic in recent years for both SNS and FRIB.																												
Cost Impact Score: Major - \$500k to \$2M		Justification: The burn rate for the production of cryomodules is ~\$250 k/month. Assuming a 50% decrease in cost for a delay of 6 months equates to \$750 k.																												
Schedule Impact Score: Major - > 6 months		Justification: Recent procurements have been late by approximately 6 months.																												
Technical Impact Score: Minor - No KPP impact		Justification: Risk is related to the cost and schedule.																												
Risk Rank Matrix: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>L</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pro</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red; text-align: center;">X</td><td style="background-color: red;"></td></tr> <tr><td>Pos</td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: orange;"></td></tr> <tr><td>UL</td><td style="background-color: green;"></td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td></tr> <tr><td></td><td style="text-align: center;">Minor</td><td style="text-align: center;">Mod</td><td style="text-align: center;">Maj</td><td style="text-align: center;">Cat</td></tr> </table>				L					Pro			X		Pos					UL						Minor	Mod	Maj	Cat	Risk Rank: <div style="background-color: orange; text-align: center; padding: 5px;">High</div>	Risk Trigger: Assembly of first cold mass
L																														
Pro			X																											
Pos																														
UL																														
	Minor	Mod	Maj	Cat																										
				Trigger Date: -																										
POST-MITIGATION																														
Mitigation Plan: Utilize 8 existing SNS spare harmonic drives, including those currently installed on spare HB CM and replace when delivered			In Baseline: YES	Mitigation Cost: (\$k) \$ -																										
			Likelihood:	Unlikely - < 20%																										
			Cost Impact:	Minor - < \$50k																										
			Schedule Impact:	Minor - <3 months																										
			Technical Impact:	Minor - No KPP impact																										
Post Mitigation Risk Rank Matrix: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>L</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pro</td><td style="background-color: yellow;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td></tr> <tr><td>Pos</td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: orange;"></td></tr> <tr><td>UL</td><td style="background-color: green; text-align: center;">X</td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td></tr> <tr><td></td><td style="text-align: center;">Minor</td><td style="text-align: center;">Mod</td><td style="text-align: center;">Maj</td><td style="text-align: center;">Cat</td></tr> </table>			L					Pro					Pos					UL	X					Minor	Mod	Maj	Cat	Risk Rank: <div style="background-color: green; text-align: center; padding: 5px;">Low</div>	Risk Handling Strategy: Mitigate	
L																														
Pro																														
Pos																														
UL	X																													
	Minor	Mod	Maj	Cat																										
			Expiration Date: -	Expiration Description: Finish of 7th cold mass assembly																										

PPU Risk Description Sheet				Risk ID: T-P.2-016	L3 WBS: P.2.3 - Cryomodules
Risk Title: Last 3 CM Delivery Is Late		Risk Description: If the final three CMs are delayed from the partner laboratory and not ready to be installed during scheduled outage, then installation is delayed			
Risk Owner: Saunders	P6 Number: P238P96				
PRE-MITIGATION:					
Likelihood Score:		Justification: With the production capabilities of the partner laboratories, it is unlikely they would experience delays after the first two production cryomodules are finished.			
Possible - 20% to 50%					
Cost Impact Score:		Justification: The burn rate for the production of cryomodules is ~\$250 k/month. On these last cryomodules, no other partner laboratory work is occurring so full burn rate is applicable. A delay of 3 months equates to \$750 k.			
Major - \$500k to \$2M					
Schedule Impact Score:		Justification: Next window for cryomodule installation is the next available SNS maintenance down, at least 6 months of schedule delay.			
Major - > 6 months					
Technical Impact Score:		Justification: Risk is related to the cost and schedule.			
Minor - No KPP impact					
Risk Rank Matrix:				Risk Rank:	Risk Trigger:
L	Yellow	Orange	Red	Medium	Start of CM28, 27 & 25 test cave testing
Pro	Yellow	Orange	Red		
Pos	Green	Yellow	Orange with X	Trigger Date:	
UL	Green	Green	Yellow	-	
	Minor	Mod	Maj	Cat	
POST-MITIGATION					
Mitigation Plan: Negotiate with SNS operations to adjust maintenance outage schedule to accommodate actual CM delivery dates				In Baseline: NO	Mitigation Cost: (\$k) \$ -
				Likelihood:	Unlikely - < 20%
				Cost Impact:	Major - \$500k to \$2M
				Schedule Impact:	Major - > 6 months
				Technical Impact:	Minor - No KPP impact
Post Mitigation Risk Rank Matrix:				Risk Rank:	Risk Handling Strategy:
L	Yellow	Orange	Red	Medium	Mitigate
Pro	Yellow	Orange	Red		
Pos	Green	Yellow	Orange	Expiration Date:	Expiration Description: Finish of 7th CM testing in RFTF test cave
UL	Green	Green	Yellow with X	-	
	Minor	Mod	Maj	Cat	

PPU Risk Description Sheet		Risk ID: T-P.2-017	L3 WBS: P.2.3 - Cryomodules
Risk Title: Second 2 CM Delivery Is Late		Risk Description: If the second two CMs are delayed from the partner laboratory and not ready to be installed during scheduled outage, then installation is delayed	
Risk Owner: Saunders	P6 Number: P238P88		
PRE-MITIGATION:			
Likelihood Score:	Justification: With the production capabilities of the partner laboratories, it is unlikely they would experience delays after the first two production cryomodules are finished.		
Possible - 20% to 50%			
Cost Impact Score:	Justification: The burn rate for the production of cryomodules is ~\$250 k/month. Assuming a 50% decrease in cost for a delay of one month equates to \$125 k.		
Moderate - \$50k to \$500k			
Schedule Impact Score:	Justification: Next window for cryomodule installation is the next available SNS maintenance down, at least 6 months of schedule delay.		
Major - > 6 months			
Technical Impact Score:	Justification: Risk is related to the cost and schedule.		
Minor - No KPP impact			
Risk Rank Matrix:		Risk Rank:	Risk Trigger:
L			
Pro			
Pos			
UL			
	Minor	Mod	Maj Cat
			Medium
		Trigger Date:	Start of CM30 & 29 test cave testing
		-	
POST-MITIGATION			
Mitigation Plan: Negotiate with SNS operations to adjust maintenance outage schedule to accommodate actual CM delivery dates		In Baseline: NO	Mitigation Cost: (\$k) \$ -
		Likelihood:	Unlikely - < 20%
		Cost Impact:	Minor - < \$50k
		Schedule Impact:	Minor - <3 months
		Technical Impact:	Minor - No KPP impact
Post Mitigation Risk Rank Matrix:		Risk Rank:	Risk Handling Strategy:
L			
Pro			
Pos			
UL			
	Minor	Mod	Maj Cat
			Low
		Expiration Date:	Mitigate
		-	
			Expiration Description: Finish assembly of 4th CM

PPU Risk Description Sheet				Risk ID: T-P.2-018	L3 WBS: P.2.3 - Cryomodules																									
Risk Title: End Can Delivery Is Late		Risk Description: If the supply or return end cans are delayed, then cryomodule production is delayed																												
Risk Owner: Saunders	P6 Number: P234P81																													
PRE-MITIGATION:																														
Likelihood Score: Unlikely - < 20%		Justification: Experienced vendors will be selected for this procurement making this delay unlikely.																												
Cost Impact Score: Moderate - \$50k to \$500k		Justification: The burn rate for the production of cryomodules is ~\$250 k/month. Assuming a 50% decrease in cost for a delay of 4 months equates to \$500 k.																												
Schedule Impact Score: Moderate - 3 to 6 months		Justification: Delay assumed to be 4 months. Reviewed with multiple SMEs. Based on typical vendor performance.																												
Technical Impact Score: Minor - No KPP impact		Justification: Risk is related to the cost and schedule.																												
Risk Rank Matrix: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>L</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pro</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pos</td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td></tr> <tr><td>UL</td><td style="background-color: green;"></td><td style="background-color: yellow; text-align: center;">X</td><td style="background-color: orange;"></td><td style="background-color: red;"></td></tr> <tr><td></td><td style="text-align: center;">Minor</td><td style="text-align: center;">Mod</td><td style="text-align: center;">Maj</td><td style="text-align: center;">Cat</td></tr> </table>				L					Pro					Pos					UL		X				Minor	Mod	Maj	Cat	Risk Rank: Low	Risk Trigger: Receive first end can from vendor
L																														
Pro																														
Pos																														
UL		X																												
	Minor	Mod	Maj	Cat																										
				Trigger Date: -																										
POST-MITIGATION																														
Mitigation Plan: None				In Baseline: YES	Mitigation Cost: (\$k) \$ -																									
				Likelihood:	0																									
				Cost Impact:	0																									
				Schedule Impact:	0																									
				Technical Impact:	0																									
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L																														
Pro																														
Pos																														
UL		X																												
	Minor	Mod	Maj	Cat																										
				Expiration Date: -	Expiration Description: Receive all supply/return cans																									

PPU Risk Description Sheet				Risk ID: T-P.2-019	L3 WBS: P.2.3 - Cryomodules																									
Risk Title: Heat Exchanger Delivery Is Late		Risk Description: If the cryomodule heat exchanger is delayed, then cryomodule production is delayed																												
Risk Owner: Saunders	P6 Number: P234P96																													
PRE-MITIGATION:																														
Likelihood Score: Unlikely - < 20%		Justification: Current baseline plan is to purchase these components with early long-lead procurement funds. Based on the length of the procurement relative to the schedule, this is very unlikely to occur.																												
Cost Impact Score: Moderate - \$50k to \$500k		Justification: The burn rate for the production of cryomodules is ~\$250 k/month. Assuming a 50% decrease in cost for a delay of 4 months equates to \$500 k.																												
Schedule Impact Score: Moderate - 3 to 6 months		Justification: Delay assumed to be 4 months. Reviewed with multiple SMEs. Based on typical vendor performance.																												
Technical Impact Score: Minor - No KPP impact		Justification: Risk is related to the cost and schedule.																												
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L																														
Pro																														
Pos																														
UL		X																												
	Minor	Mod	Maj	Cat																										
				Trigger Date: -																										
POST-MITIGATION																														
Mitigation Plan: None				In Baseline: YES	Mitigation Cost: (\$k) \$ -																									
				Likelihood:	0																									
				Cost Impact:	0																									
				Schedule Impact:	0																									
				Technical Impact:	0																									
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L																														
Pro																														
Pos																														
UL		X																												
	Minor	Mod	Maj	Cat																										
				Expiration Date: -	Expiration Description: Receive all heat exchangers																									

PPU Risk Description Sheet			Risk ID: T-P.2-020	L3 WBS: P.2.3 - Cryomodules																										
Risk Title: Partner Laboratory Priorities		Risk Description: If the partner laboratory faces resource constraints due to shifting project priorities, then CM delivery is delayed																												
Risk Owner: Saunders	P6 Number: P232P36																													
PRE-MITIGATION:																														
Likelihood Score: Possible - 20% to 50%		Justification: If the partner laboratory were more than 50% likely to be taken off PPU production, they would not be chosen. This matches with the letters of commitment received from the potential partner laboratories.																												
Cost Impact Score: Moderate - \$50k to \$500k		Justification: The burn rate for the production of cryomodules is ~\$250 k/month. Assuming a 10% charge for 6 months equates to \$150 k.																												
Schedule Impact Score: Moderate - 3 to 6 months		Justification: Based on the partner laboratories selected for this project and their relationship with DOE, it is unlikely any temporary priority shift would exceed 6 months.																												
Technical Impact Score: Minor - No KPP impact		Justification: Risk is related to the cost and schedule.																												
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L																														
Pro																														
Pos		X																												
UL																														
	Minor	Mod	Maj	Cat																										
				Trigger Date: -																										
POST-MITIGATION																														
Mitigation Plan: Add SNS personnel or contract labor at partner laboratory to meet production schedule			In Baseline: NO	Mitigation Cost: (\$k) 307 [4 people for 3 months]																										
			Likelihood: Unlikely - < 20%																											
			Cost Impact: Moderate - \$50k to \$500k																											
			Schedule Impact: Moderate - 3 to 6 months																											
			Technical Impact: Minor - No KPP impact																											
Post Mitigation Risk Rank Matrix: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>L</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pro</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td><td style="background-color: red;"></td></tr> <tr><td>Pos</td><td style="background-color: green;"></td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td><td style="background-color: red;"></td></tr> <tr><td>UL</td><td style="background-color: green;"></td><td style="background-color: green; text-align: center;">X</td><td style="background-color: yellow;"></td><td style="background-color: orange;"></td></tr> <tr><td></td><td style="text-align: center;">Minor</td><td style="text-align: center;">Mod</td><td style="text-align: center;">Maj</td><td style="text-align: center;">Cat</td></tr> </table>			L					Pro					Pos					UL		X				Minor	Mod	Maj	Cat	Risk Rank: Low	Risk Handling Strategy: Mitigate	
L																														
Pro																														
Pos																														
UL		X																												
	Minor	Mod	Maj	Cat																										
			Expiration Date: -	Expiration Description: Finish assembly of 7th CM																										

PPU Risk Description Sheet				Risk ID: T-P.2-021	L3 WBS: P.2.3 - Cryomodules	
Risk Title: Vacuum Vessel Delivery Is Late		Risk Description: If the vacuum vessel is delayed, then cryomodule production is delayed				
Risk Owner: Saunders	P6 Number: P233P66					
PRE-MITIGATION:						
Likelihood Score: Unlikely - < 20%		Justification: Experienced vendors will be selected for this procurement making this delay unlikely.				
Cost Impact Score: Moderate - \$50k to \$500k		Justification: The burn rate for the production of cryomodules is ~\$250 k/month. Assuming a 50% decrease in cost for a delay of 4 months equates to \$500 k.				
Schedule Impact Score: Moderate - 3 to 6 months		Justification: Delay assumed to be 4 months. Reviewed with multiple SMEs. Based on typical vendor performance.				
Technical Impact Score: Minor - No KPP impact		Justification: Risk is related to the cost and schedule.				
Risk Rank Matrix:				Risk Rank:	Risk Trigger:	
L				Low	First vacuum vessel delivery due date	
Pro						
Pos						Trigger Date:
UL	X					-
	Minor	Mod	Maj	Cat		
POST-MITIGATION						
Mitigation Plan: None				In Baseline: YES	Mitigation Cost: (\$k) \$ -	
				Likelihood:	0	
				Cost Impact:	0	
				Schedule Impact:	0	
				Technical Impact:	0	
Post Mitigation Risk Rank Matrix:				Risk Rank:	Risk Handling Strategy:	
L				Low	Accept	
Pro						
Pos						Expiration Date:
UL	X					-
	Minor	Mod	Maj	Cat	Expiration Description: Receive all vacuum vessels	

PPU Risk Description Sheet				Risk ID: O-P.2-030	L3 WBS: P.2.3 - Cryomodules																									
Risk Title: CM Cost Is Low		Risk Description: If the current CM cost estimates are high, then project CM cost will decrease																												
Risk Owner: Saunders	P6 Number: P232P36																													
PRE-MITIGATION:																														
Likelihood Score: Unlikely - < 20%		Justification: Based on the recent cryomodule production experience of the three partner laboratories selected to quote the PPU project, it is unlikely that the quote overestimated the cryomodule fabrication cost.																												
Cost Impact Score: Major - \$500k to \$2M		Justification: For the purchase of 7 cryomodules, this would have an impact on the project of over \$1M.																												
Schedule Impact Score: Minor - <3 months		Justification: Risk is related to the cost of fabrication.																												
Technical Impact Score: Minor - No KPP impact		Justification: Risk is related to the cost of fabrication.																												
Risk Rank Matrix: <table border="1" style="width: 100%; text-align: center;"> <tr> <td>L</td> <td style="background-color: yellow;"> </td> <td style="background-color: orange;"> </td> <td style="background-color: red;"> </td> <td style="background-color: red;"> </td> </tr> <tr> <td>Pro</td> <td style="background-color: yellow;"> </td> <td style="background-color: orange;"> </td> <td style="background-color: red;"> </td> <td style="background-color: red;"> </td> </tr> <tr> <td>Pos</td> <td style="background-color: green;"> </td> <td style="background-color: yellow;"> </td> <td style="background-color: orange;"> </td> <td style="background-color: orange;"> </td> </tr> <tr> <td>UL</td> <td style="background-color: green;"> </td> <td style="background-color: green;"> </td> <td style="background-color: yellow;">X</td> <td style="background-color: yellow;"> </td> </tr> <tr> <td></td> <td>Minor</td> <td>Mod</td> <td>Maj</td> <td>Cat</td> </tr> </table>				L					Pro					Pos					UL			X			Minor	Mod	Maj	Cat	Risk Rank: Medium	Risk Trigger: Start of partner lab long lead procurement
L																														
Pro																														
Pos																														
UL			X																											
	Minor	Mod	Maj	Cat																										
				Trigger Date: -																										
POST-MITIGATION																														
Mitigation Plan: None				In Baseline: YES	Mitigation Cost: (\$k) \$ -																									
				Likelihood:	0																									
				Cost Impact:	0																									
				Schedule Impact:	0																									
				Technical Impact:	0																									
Post Mitigation Risk Rank Matrix: <table border="1" style="width: 100%; text-align: center;"> <tr> <td>L</td> <td style="background-color: yellow;"> </td> <td style="background-color: orange;"> </td> <td style="background-color: red;"> </td> <td style="background-color: red;"> </td> </tr> <tr> <td>Pro</td> <td style="background-color: yellow;"> </td> <td style="background-color: orange;"> </td> <td style="background-color: red;"> </td> <td style="background-color: red;"> </td> </tr> <tr> <td>Pos</td> <td style="background-color: green;"> </td> <td style="background-color: yellow;"> </td> <td style="background-color: orange;"> </td> <td style="background-color: orange;"> </td> </tr> <tr> <td>UL</td> <td style="background-color: green;"> </td> <td style="background-color: green;"> </td> <td style="background-color: yellow;">X</td> <td style="background-color: yellow;"> </td> </tr> <tr> <td></td> <td>Minor</td> <td>Mod</td> <td>Maj</td> <td>Cat</td> </tr> </table>				L					Pro					Pos					UL			X			Minor	Mod	Maj	Cat	Risk Rank: Medium	Risk Handling Strategy: Accept
L																														
Pro																														
Pos																														
UL			X																											
	Minor	Mod	Maj	Cat																										
				Expiration Date: -	Expiration Description: Start assembly of 7th CM																									