

AIP Project	% Complete	Budget (\$k)	Power ramp-up	Availability	Power ramp-up + Availability
AIP-02 HVCM Upgrade	77%	1,703			X
AIP-04 Injection Region Upgrade	70%	1,747			X
AIP-06 Accelerator Cooling Upgrade	74%	2,047		X	
AIP-08 LEBT Chopper Upgrade	79%	787		X	
AIP-13 SRF Cavity Processing Capability	35%	1,561			X
AIP-14 HVCM Fire Mitigation	67%	1,203		X	
AIP-16 Beam Instrumentation	44%	2,529	X		
AIP-17 MEBT Rebuncher RF	30%	1,025		X	
AIP-18 Vacuum Controls Systems	78%	530		X	
AIP-19 Timing Controls Systems	22%	733		X	
AIP-20 Remote Handling	27%	3,420		X	
AIP-21 New HVCM	76%	2,119			X

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AIP-02 HVCM Upgrade	77%	1,703			X	HVCM improvements and test stand focused on power ramp-up and availability.
AIP-04 Injection Region Upgrade	70%	1,747			X	Upgrades in the injection stripper foil mechanisms, shielding and beam chambers to improve availability through increased equipment reliability and improve power ramp-up through lower beam loss.
AIP-06 Accelerator Cooling Upgrade	74%	2,047		X		Increase cooling system reliability and decrease operational down time by improving control of the systems and by adding monitor capabilities to detect problem ahead of time and minimize corrosion and fouling of cooling systems.
AIP-08 LEBT Chopper Upgrade	79%	787		X		Faster pulsers with improved fault response to improve chopping ratios and increase system availability.
AIP-13 SRF Cavity Processing Capability	35%	1,561			X	Supports reliability and the power ramp up by constructing a vertical test area to provide cryogenic testing capabilities and a critical cavity cleaning facility to support maintenance of installed linac components, including repair of existing cryomodule
AIP-14 HVCM Fire Mitigation	67%	1,203		X		Increases reliability by making the HVCM systems less prone to catching fire and by installing longer lifetime capacitors.

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AIP16 Beam Instrumentation	44%	2,529	X			Supports the power ramp up by adding capability for measuring transverse beam emittance at the SCL exit, transverse beam profile in the ring and density of the electron cloud in the ring, and by installing a feedback system for damping transverse instabil
AIP-17 MEBT Rebuncher RF	30%	1,025		X		Increases reliability by replacing the existing MEBT rebuncher amplifier with a more reliable, higher power solid state amplifier.
AIP-18 Vacuum Controls Systems	78%	530		X		Increases reliability by reducing the number of control components. The new design has the flexibility to support PUP need for integrating additional cryomodules.
AIP-19 Timing Controls Systems	22%	733		X		Increases availability by providing all signals needed for a quick accelerator restart when there are problems with the control hardware and software.
AIP-20 Remote Handling	27%	3,420		X		Improves capability and availability of the target station by adding remote handling tooling for changing reflector plug and core vessel inserts.
AIP-21 New HVCM	76%	2,119			X	Improves reliability by redistributing the load to all modulators by adding another modulator to the SCL to provide 75KV from all the SCL modulators. Also allows operation at design klystron voltage for higher beam current.