

Project Risk ID	Title	Summary	Mitigation	Post Mitigation
RT-131-ND-005	Design Changes from MOD1	IF the MOD0 test results indicate major design changes are needed, THEN there will be an increase in cost and schedule	Plan for some design evolution during the 2x2 program (between module 0 tests and modules 1-4). Plan for some design evolution between the 2x2 and Full-scale ND module demonstration stages.	Med 30% 6 mo, \$ 20 k Negligible
RT-131-ND-083	Integrated End-to-end Simulation	IF a complete simulation including the geometry and charge and light response is delayed or incomplete, THEN dependent analysis risks will be realized.	Develop alternative simulation paths in parallel, including simplified parametric models	Low 50% 5 mo, \$ 0k Significantly Substandard
RT-131-ND-086	Key Staff/hiring	IF key staff is lost, THEN cost and schedule will increase	1. Documentation and cross training. Understand and mitigate single point failures	Low 36% 3 mo, \$90k Negligible
RT-131-ND-087	in-kind labor	If in-kind labor is not realized, THEN costs will increase and schedules could be delayed	Agreements from partners  Find additional in-kind staff from other partners or new countries	Low 35% 3 mo, \$ 127.2 k Negligible
RT-131-ND-066	uneven lar supply in row of modules	IF LAr flow is inhomogeneous, THEN the electron lifetime may differ between modules changing the energy resolution, and the heat load in a module may increase	Design apertures into the LAr supply to provide equal flow to each module	Low 25% 2 mo, \$0k Significantly Substandard
RT-131-ND-063	Bern Resources	IF there are Bern people or funding resource delays, THEN the cost and schedule will be impacted	Investigating resources needed to complete the work versus committed resources by Bern	Low 25% 3 mo, \$ k0 Negligible