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**US HL-LHC Accelerator Upgrade Project**

**RISK MANAGEMENT PLAN**

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| **Prepared by:**  Ruben Carcagno, HL-LHC AUP Deputy Project Manager, FNAL |
| **Reviewed and approved by:**  Giorgio Apollinari, HL-LHC AUP Project Manager, FNAL |

**Revision History**

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1. Risk Management Plan

The HL-LHC AUP risks will be managed according to the “Fermilab Risk Management Procedure for Projects” (US-HiLUmi-doc-89), with additional tailoring and methods specified in the sections below.

* 1. Risk Matrix Tailoring

Figure 1 shows the tailoring of the risk matrix adopted by HL-LHC AUP.



Figure 1: Risk Rank matrix based on a combination of risk probability and impacts

* 1. Risk Register

The HL-LHC AUP Risk Register is based on the web-based Fermilab Risk Register. This register can be found at: <https://fermipoint.fnal.gov/organization/ocoo/ippm/Lists/Risk%20Register/HL-LHC-AUP.aspx> (Access to this risk register requires a Fermilab Services Account.)

Guidelines to fill-in the risk register specific to the HL-LHC AUP project can be found in US-HiLumi-doc-148, and a snapshot of the Risk Register in pdf format can be found at US-HiLumi-doc-79

* 1. Risk Analysis

The project will use the Primavera Risk Analysis (PRA) tool to calculate the cost and risk contingency amounts with a 90% confidence level, using a summary P6 schedule. Both threats and opportunities will be included in this analysis.

The cost of schedule contingency is computed by multiplying the monthly “standing army” cost by the number of months in the schedule contingency. The standing army cost is the project Level of Effort (LOE) average cost of the last 12 months of planned activities.

* 1. Risk Management Board

The risk management board is composed of the Project Manager, the Deputy Project Manager, and Level 2 managers. The board shall meet at least monthly to review the risk register and assess risk contingency.