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LAMP proposed upgrade for DTL and RFQ amplifier systems

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At the Los Alamos Neutron Science Center (LANSCE) the first 100 MeV of acceleration are currently accomplished with a Cockcroft-Walton generator (750 keV), followed by 4 drift tube linac (DTL) cavities. Increasing obsolescence and reliability problems for this 52-year-old equipment have created the need for replacements and upgrades. The Los Alamos Modernization Project (LAMP) is developing a conceptual design for the Medium Energy Beam Transport (MEBT) and the Drift Tube Linac (DTL) using current technologies. This approach utilizes a Radio Frequency Quadrupole (RFQ) and six replacement DTL cavities. The current radio-frequency power amplifier plant is now 10 years old and has demonstrated high reliability. We propose an RF amplifier topology that leverages the existing system to provide the required power for this upgraded design.

Footnotes

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