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Mu2e Production Target Remote Handling

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The CD-2 conceptual design for the Mu2e production target remote handling system will be a robotic machine that is capable of performing the target exchange autonomously. After entering the target hall from the side through a sliding/shielded door, the robot is being designed to perform the following tasks: locate and remove the target access window from the end of the vacuum chamber, place that window into a radioactive storage cask, reach forward 12 feet to remove the target from inside the vacuum chamber, place that target into the cask, retrieve a new target and reach out 12 feet again to install it into the vacuum chamber, retrieve a new access window and install onto the end of the vacuum chamber, then exit the room. These tasks are to be accomplished using a machine-vision guidance system, along with several motorized and pneumatically operated motions. The presentation will provide a detailed description of the robotic system design and will include many pictures from the 3D CAD model.

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