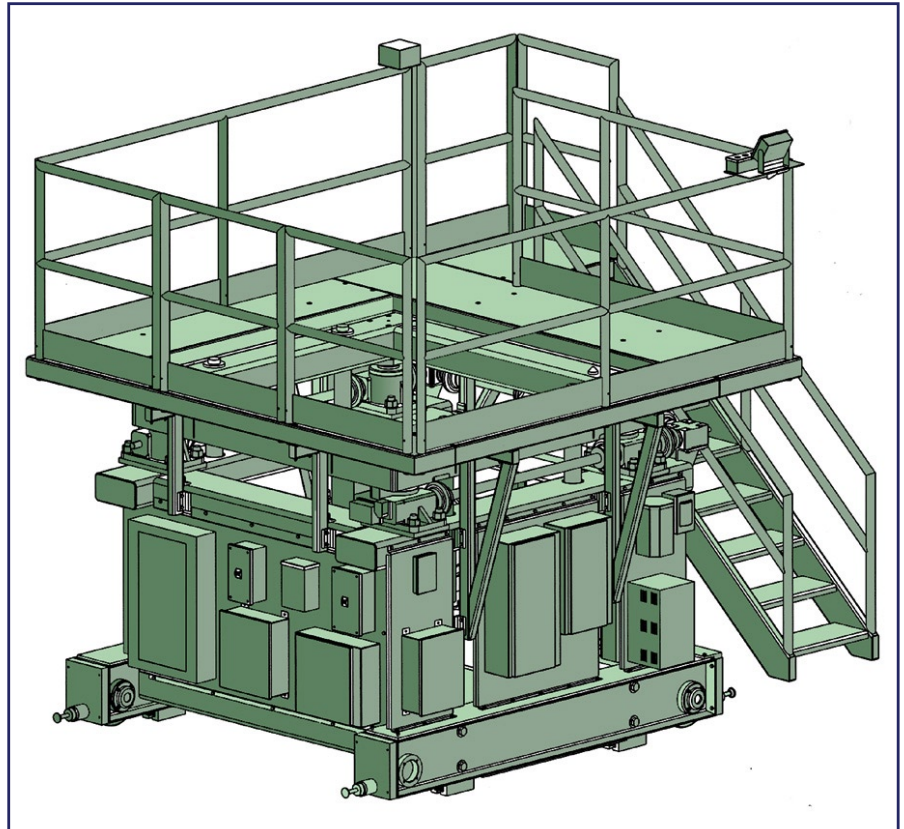


Merrick & Company completed the Title II design for a new Cask Transfer Cart (CTC) for the Hot Fuels Examination Facility (HFEF) at Argonne National Laboratory-West. The CTC accommodated twelve different shielded casks used for transferring irradiated and potentially contaminated materials, including Remote-Handled Transuranic wastes, between the HFEF receiving truck bay and the HFEF hot cells.

This project had several significant aspects:

- A loaded road cask was received in a horizontal orientation, rotated to vertical, and lowered via a bridge crane onto a rail-mounted transfer cart.
- The CTC was moved horizontally along rails and accurately positioned (ie, to within 1/8 inch) under one of several different hot cell penetrations.
- The canister within the cask was remotely lifted with a cable-mounted grapple from the cask into the hot cell above.

The CTC accommodates casks up to 32 tons and 194 inches long. The CTC is seismically qualified for the HFEF Design Basis Earthquake and was designed to interface with the existing facility configuration to the maximum possible extent. The CTC is remotely operated (via PLC) from a central control station and powered through a sliding contact busbar arrangement. Machine design was accomplished using Pro-ETM solid modeling software.



Merrick also completed Title II design for modifications to the HFEF Cask Transfer Tunnel in conjunction with the design of the CTC. The tunnel was widened by more than one foot and deepened from four feet to nine feet. This design required cuts, removal, and modifications of existing concrete structures while maintaining the facility's seismic qualifications to Performance Category 3 standards. The facility modifications were designed to maintain required differential pressures between various HVAC zones.