

RFQ Installation Status

Sept 28, 2015

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Background

- PXIE RFQ was shipped from LBL on Friday 9/11/2015



Pictures – handling at FNAL



Removal from curtain truck

Pictures – handling at FNAL



Placement on low-boy flatbed

Pictures – handling at FNAL



Removal from the low-boy in the CMTF building

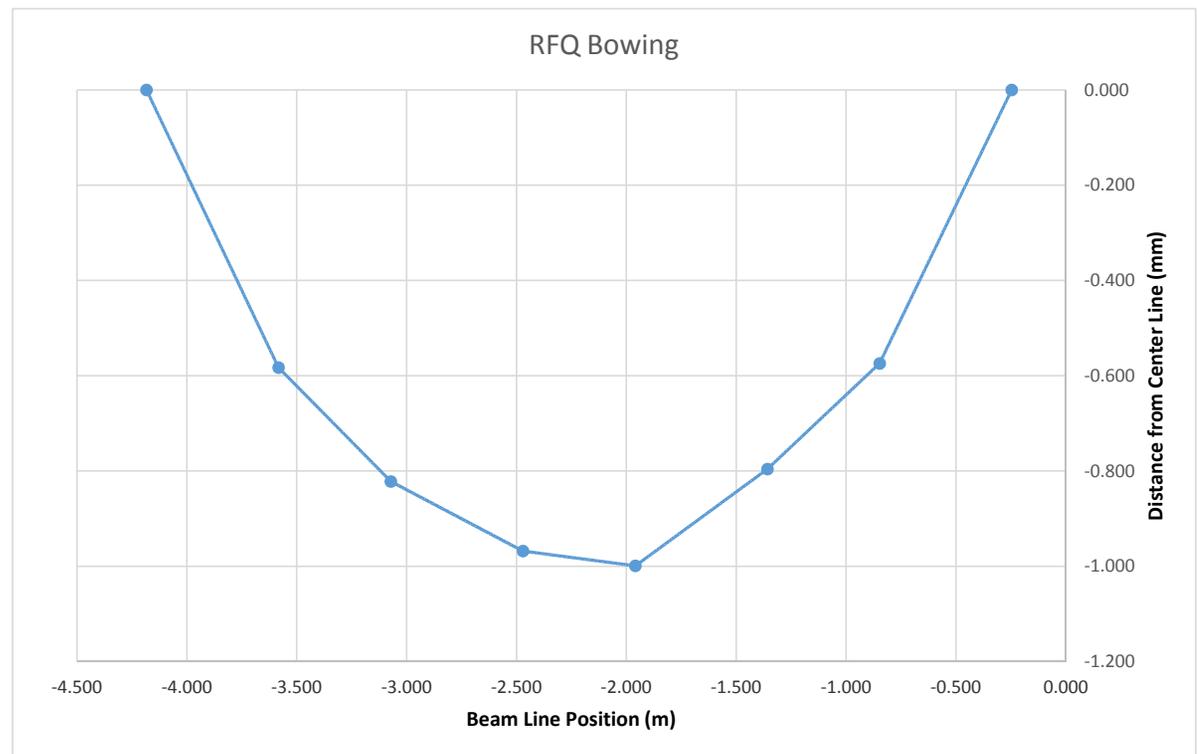
Rotated Upstream Endplate

- Endplates were installed rotated by 90° relative to specifications.
- Upstream endplate successfully rotated (extra guide pin holes).
- Measurement of sensing probes confirms field flatness measured at LBNL.



RFQ Horizontal Bowing

- There is a slight horizontal bow in the RFQ measured by survey.
- Entrance angle is about 1mR and displacement is 1mm with entrance and exit points aligned with straight beam line.
- RFQ will be aligned with beam line according to plot; LEBT and MEBT correctors will compensate for angle.



Pictures – RFQ in rough place

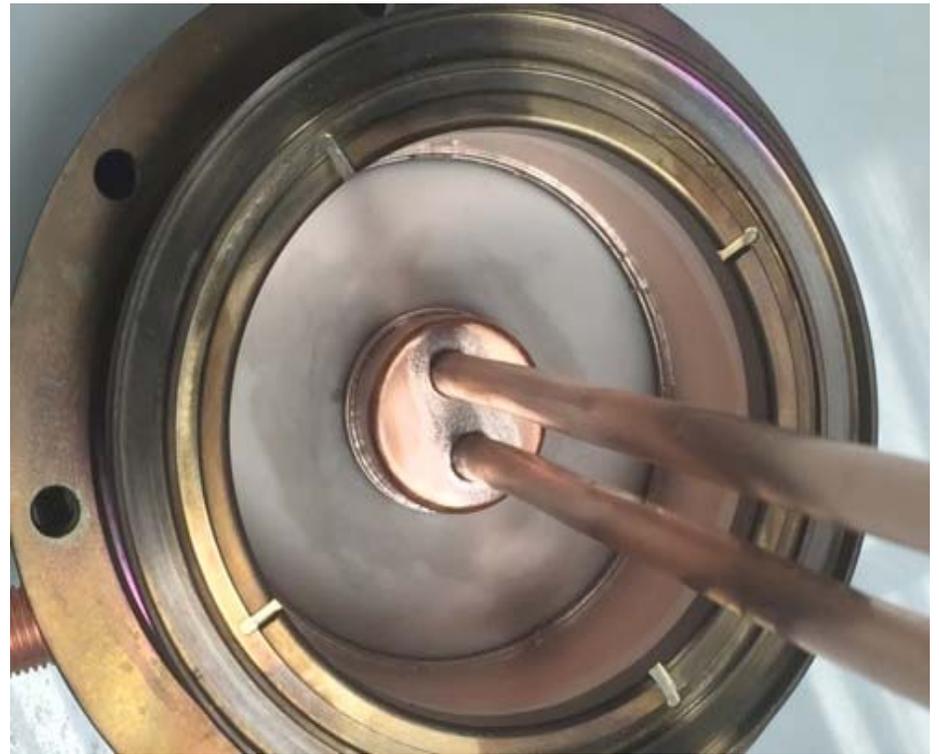
- Alignment crew will arrive Wed or Thurs to place RFQ in proper location.
- Vacuum work will continue once turbo pumps arrive later this week or early next week.



RFQ within about 1" of final location downstream of MEFT.

Input Couplers

- Some issues with brazing vacuum interface (required 2 repair brazes).
- Surface of ceramic looks contaminated with flashing on copper. Mega has asked for advice on cleaning methods.
- They estimate middle to end of Oct for delivery of two couplers.
- We requested non-vacuum components for sizing to reduce critical path delay.



RFQ Water Cooling System

- All RFQ wall mount water cooling hardware in place.
- Rest of manifold will go in when RFQ is in place.



RFQ Water Cooling Skids



- RFQ vane and wall skid construction nearly complete.
- Pipe fitters just need to connect chilled water from RFQ chiller.

Next Steps in the PXIE Enclosure

- Set RFQ into final position and connect to LEBT.
- Install coupler components; measure and order final RF 6" coaxial line.
- Install water manifolds, tubing, and instrumentation.
- Install and tune input couplers with vacuum transition.
- Install final RF transmission system and fanback.
- Pump down RFQ and LEBT.
- Test HV hold-off of input couplers.
- Condition RFQ (est. start 11/23/15).