***Integration of high eta RPCs RE3/1 & RE4/1***

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21 Dec 2016

**Dimensional volume available**

Studies of real “Z” space, evaluate clearance to MEs and shielding.

Define overlap possibility.

Nominal envelope of chamber dependant on technology. Possibly split volumes to ease manufacture, access and installation.

**Mounting locations**

RE3/1 directly on YE3 IP side

RE4/1 on ME4 mounting posts. A rear mounting plane on the CSC posts with the chambers attached to this frame.

**B field constraints**

Forces on chambers

Volume deformation & constrained mountings

**Alignment** The methodwill be a function of the special resolution capability.

**Services** Routing, cable/pipe sections, Rack space

Gas Piping and Rack installation using present mixer system in UGX. New rack on near side of YE3 for RE3/1 & RE4/1

Cooling Routing and power dissipation. A new installation will be required due to significant additional load

HV Rack space USC. X sections in Main and Mini cable chains are extremely limited. Alternative is proposed by TC.

LV Rack space UXC. Control will be lead through mini cable chains

Signal Fibres PP and routing to USC. Blown from UXC up to PP on YE1. Patch cords through the mini cable chains.

DCS Fibres.

**Installation** Crane in with light weight installation jig. This will be verified in 904.

**Commissioning**  Cherry picker access required for cooling and gas systems validation. Verification of connectivity, function and control for electrical and photonic elements.

**Parameter description**

Dimensions, Vol etc

Gas Volume/flow rate

Channels

Power

Delta T allowed

Weight