

15 December 1975

RF Lines (New Linac)

Preliminary specifications (to be detailed for a future tender) :

- Quantity : 1 set, comprising 5 individual lines;
- Nominal impedance : 50.0Ω ;
- VSWR at input, for matched load : 1.1 max.;
- Frequency : 202.5 ± 2 MHz;
- Equivalent maximum peak pulse power (matched load) : 15 Megawatt

pulse duration	1.2 msec
pulse repetition	500 msec
duty factor	1/400
average power	37.5 kW
- Attenuation : 0.1 dB maximum
- Line size : a line size around 9" or 230/100 mm, stub supported, seems to be the best choice. Bead support would require larger diameters and in addition special precautions in the trombone sections, to prevent sparkovers due to lost metal particles.

Individual line description

- total nominal length (not including supporting stubs, both trombones in minimum position) :

13,3 m	line 1	(Tank 1)
12,5 m	line 2	(Tank 2, upstream)
13,6 m	line 3	(Tank 2, downstream)
13,4 m	line 4	(Tank 3, upstream)
12,0 m	line 5	(Tank 3, downstream)
- mechanical compliance of the lines :
a displacement of 5mm in any direction of the position of the output flange (near to the Tank) shall be achieved with a force of less than 30 kp .
- trombone sections : each line shall comprise two trombone sections for the adjustment of the phase (T1) and for positioning of the amplifier output loop (T2).
 - T1 : double trombone, stroke 2 x 750 mm.
manually adjustable; flange provided for future mounting of motor and shaft encoder.
 - T2 : single trombone, stroke 1 x 100 mm
adjustment manual together with amplifier loop.