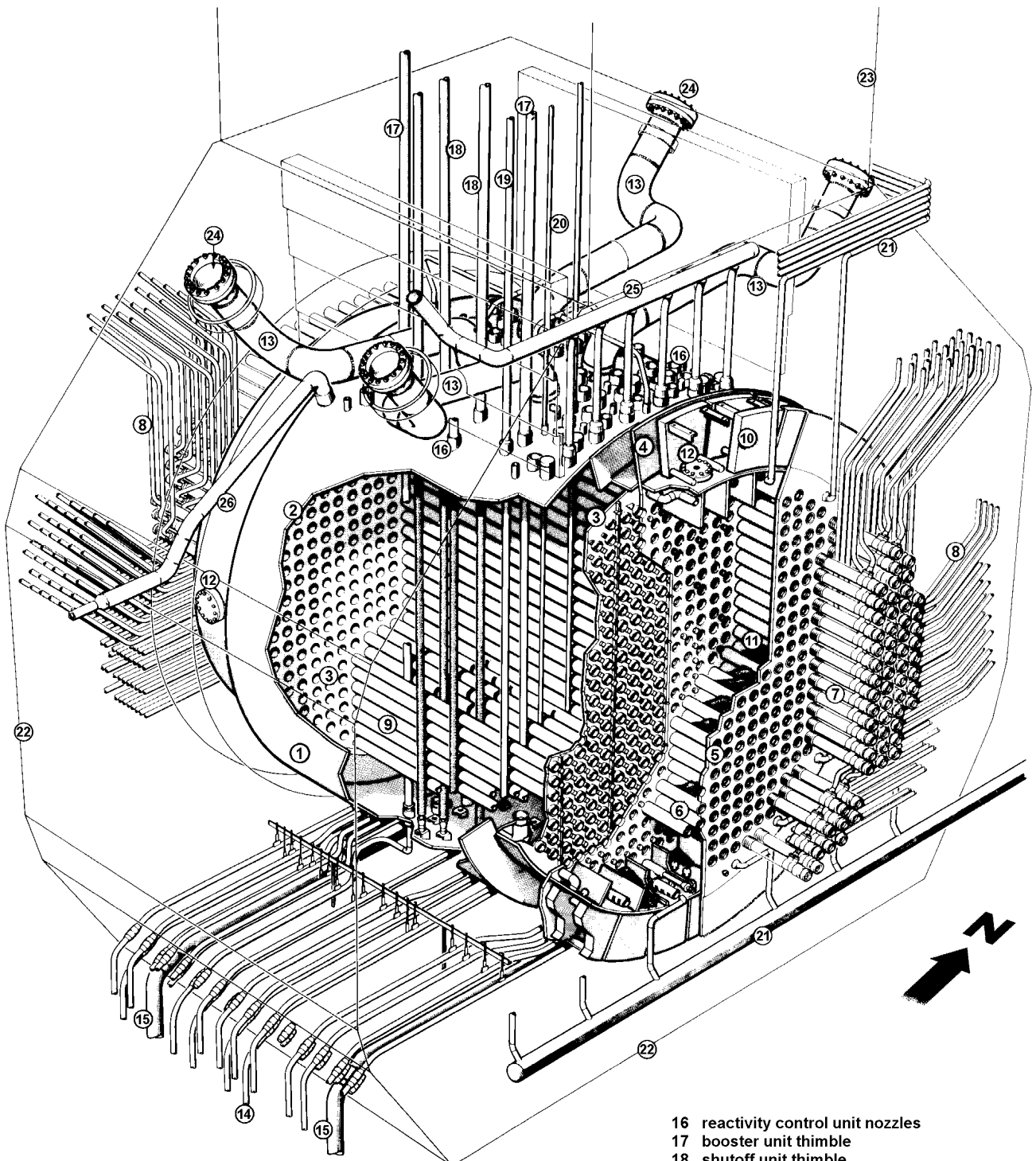


21-31200-200-00x

**Pictures
of the Bruce A
Calandria and Shield Tank
during fabrication
at Canadian Vickers**

**photos by
Ken Jay, AECL
1971 - 1973**



- | | | |
|-----------------------------|-----------------------------------|-------------------------------------|
| 1 calandria | 9 calandria tubes | 16 reactivity control unit nozzles |
| 2 calandria shell | 10 shield tank solid shielding | 17 booster unit thimble |
| 3 calandria tubesheet | 11 endshield steel ball shielding | 18 shutoff unit thimble |
| 4 endshield baffle plate | 12 manhole | 19 liquid zone control unit thimble |
| 5 fuelling tubesheet | 13 pressure relief pipes | 20 flux detector unit thimble |
| 6 endshield lattice tube | 14 moderator inlet pipes | 21 shield cooling system piping |
| 7 fuel channel end fittings | 15 moderator outlet pipes | 22 shield tank |
| 8 feeders | | 23 shield tank extension |
| | | 24 rupture disc |
| | | 25 moderator inlet header |
| | | 26 moderator overflow pipe |

Figure 1



Figure 2 Endshield lattice tubes



Figure 3 Milling the inside face of the calandria tubesheet



Figure 4 Endshield assembly

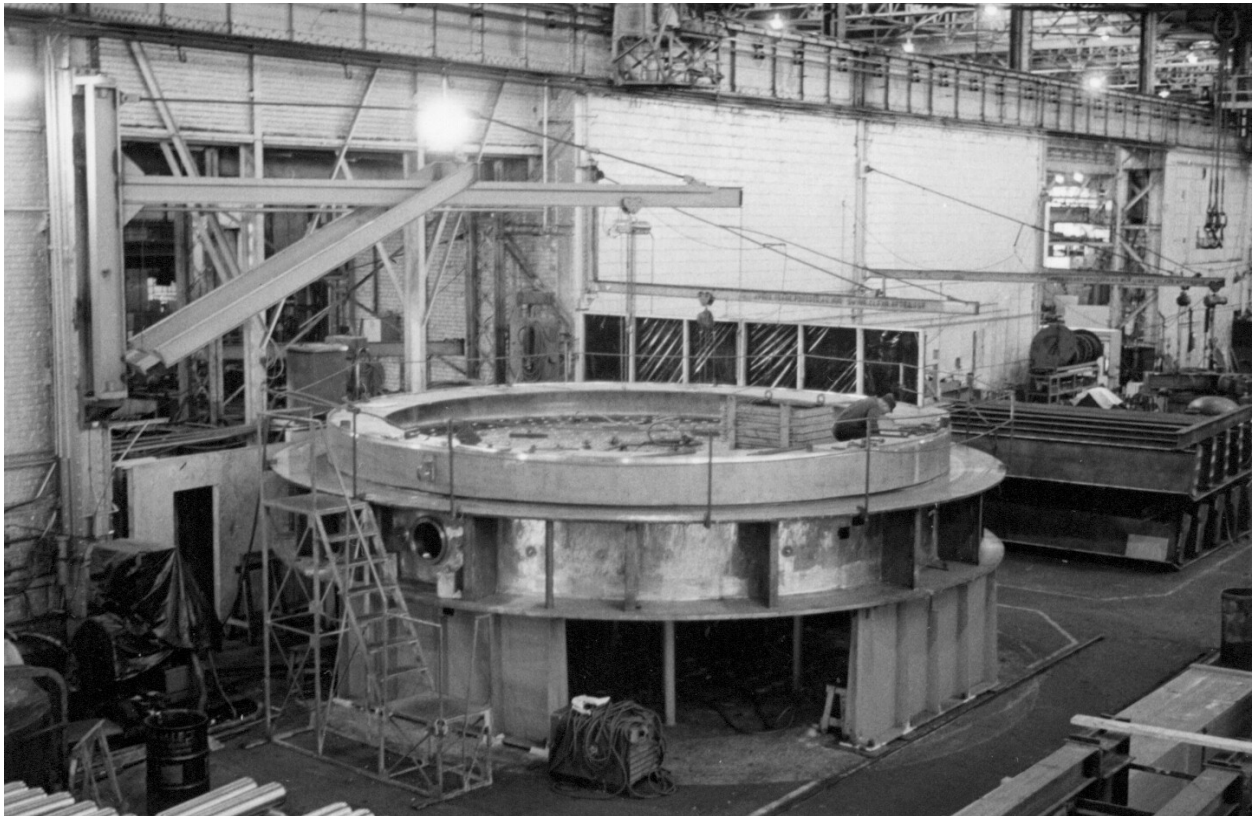


Figure 5 Endshield assembly

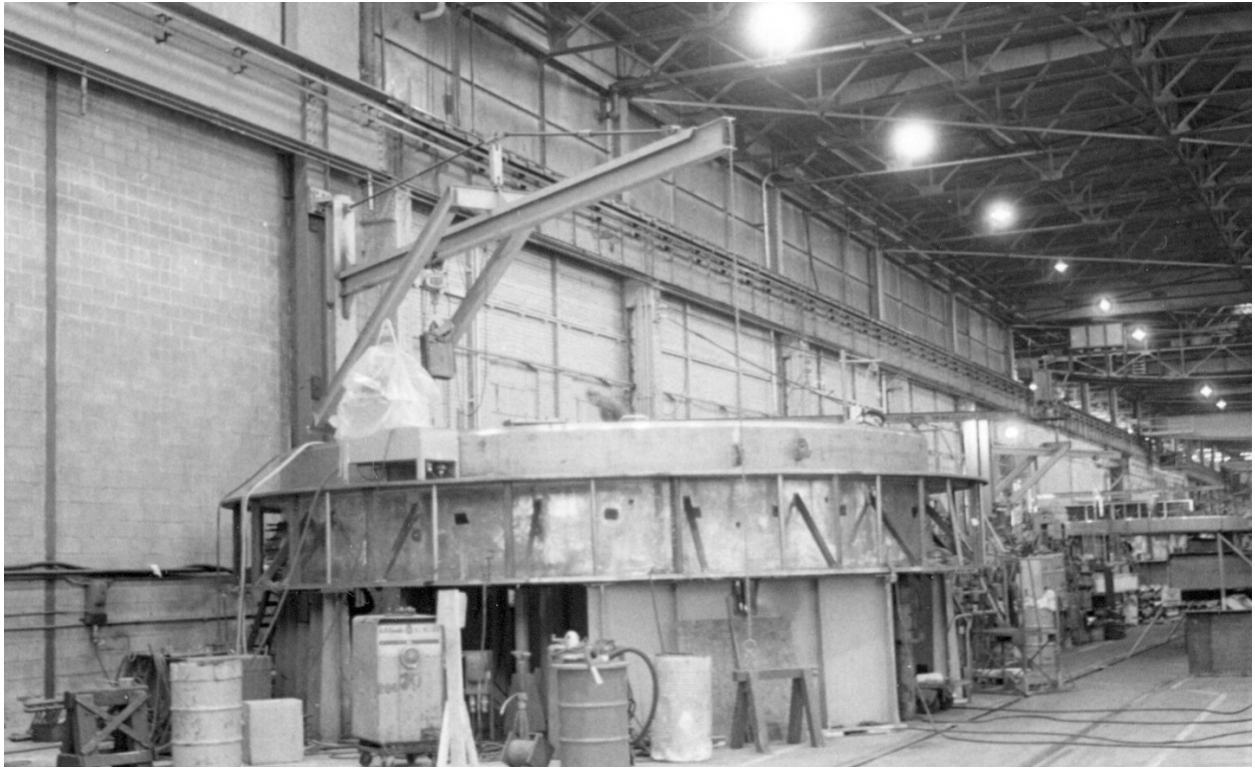


Figure 6 Endshield assembly



Figure 8 Making the lattice tube to tubesheet weld



Figure 9 Making the lattice tube to tubesheet weld

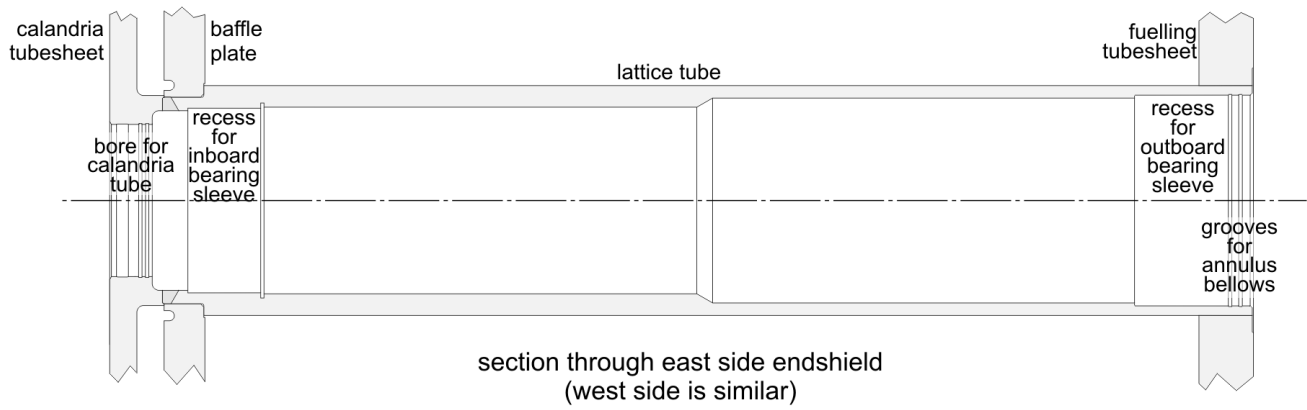


Figure 10

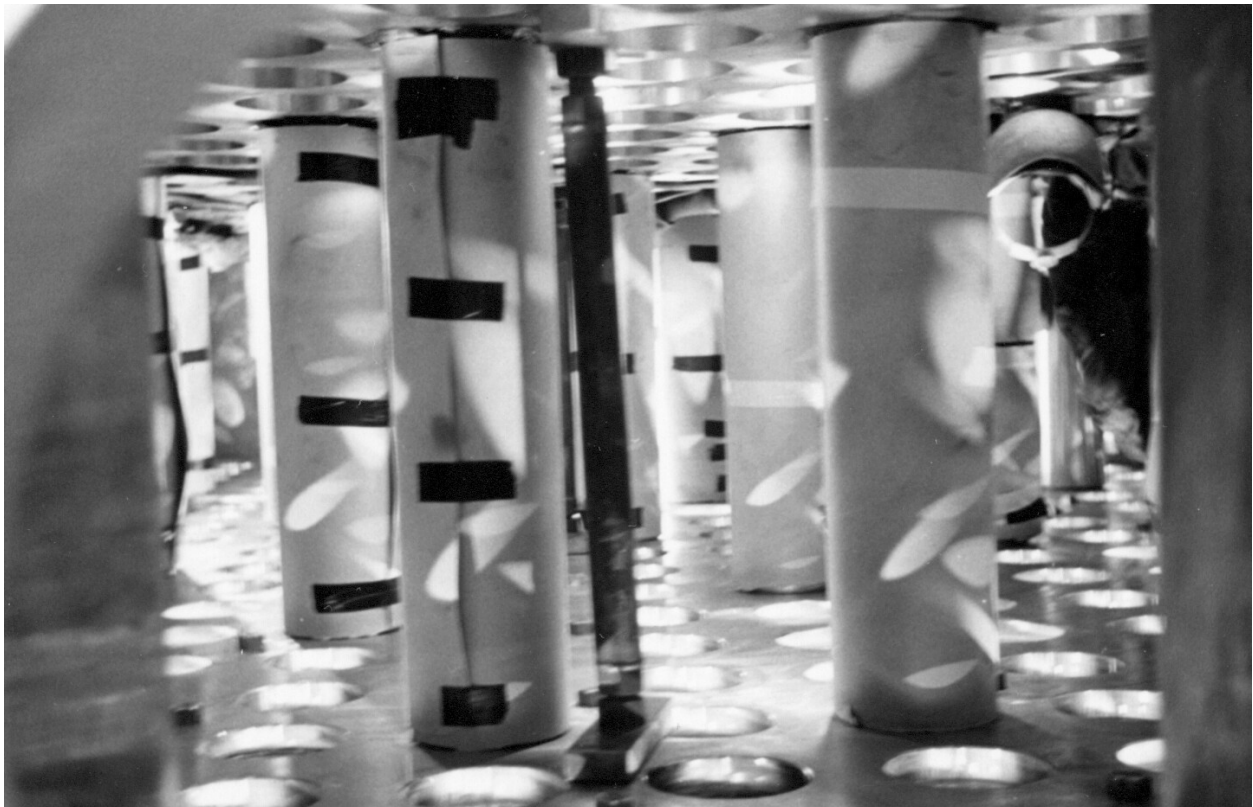


Figure 11 Inside the endshield, during lattice tube installation

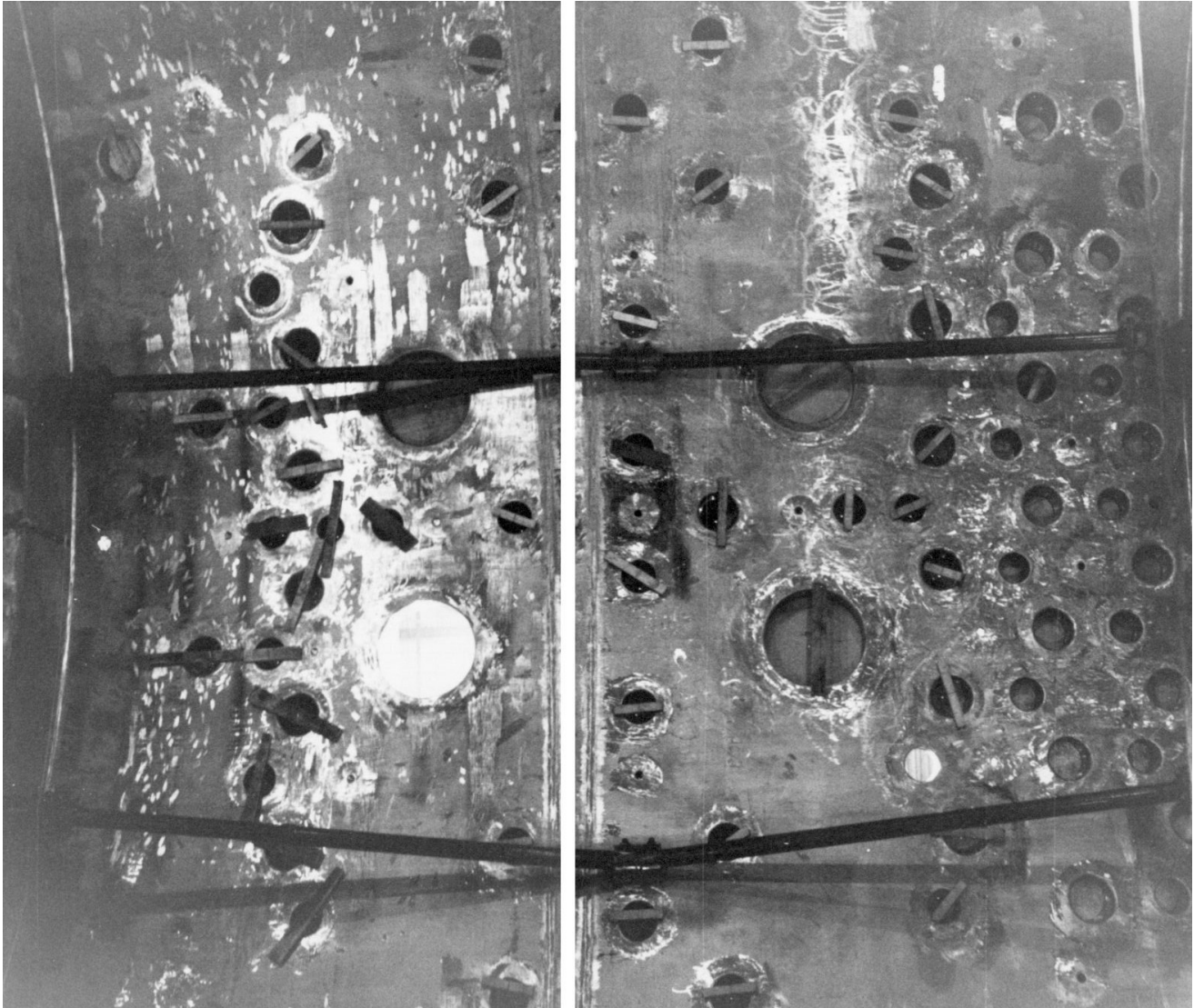


Figure 12 Inside the calandria, looking upwards at the inside top.
The four large holes are for the moderator discharge ports,
smaller holes are for reactivity control units.



Figure 13 Inside face of calandria tubesheet, bore for calandria tube



Figure 14 Inside the calandria, during calandria tube i

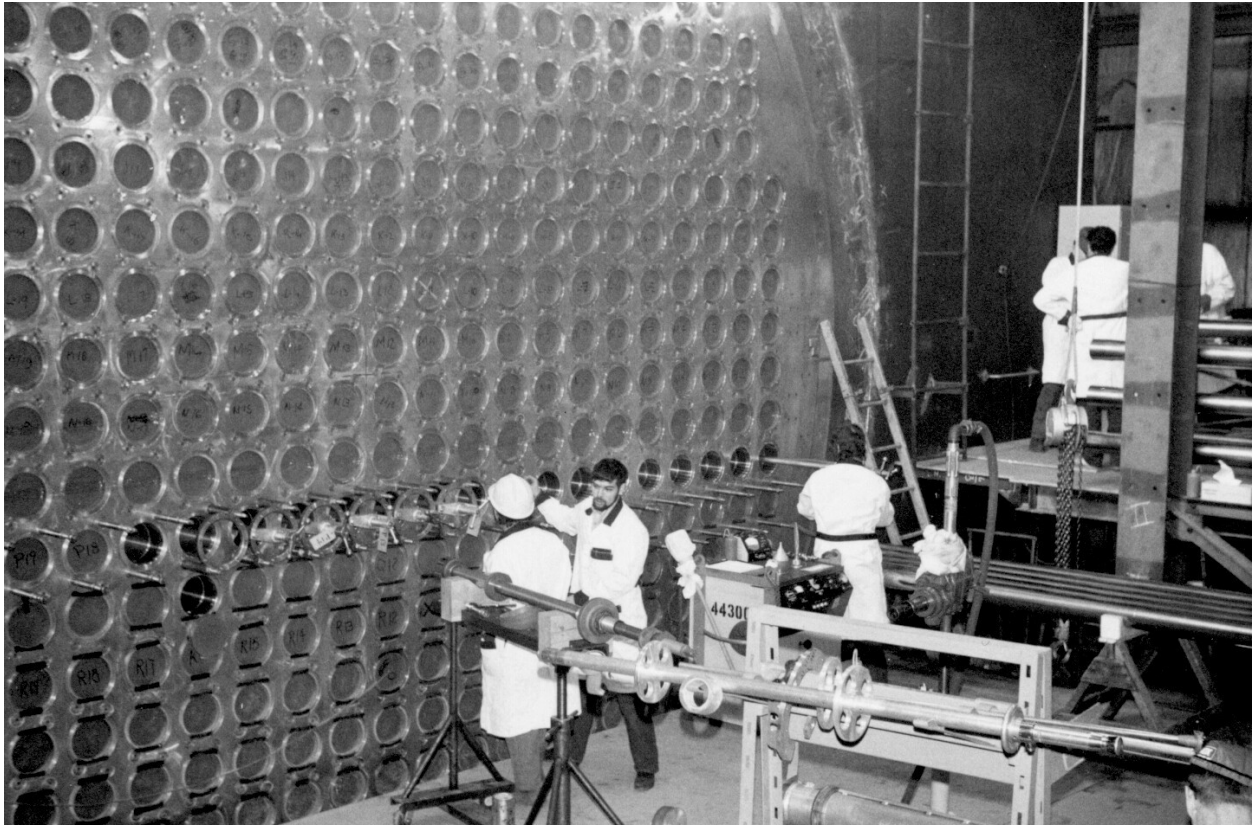


Figure 15 Calandria tube installation.

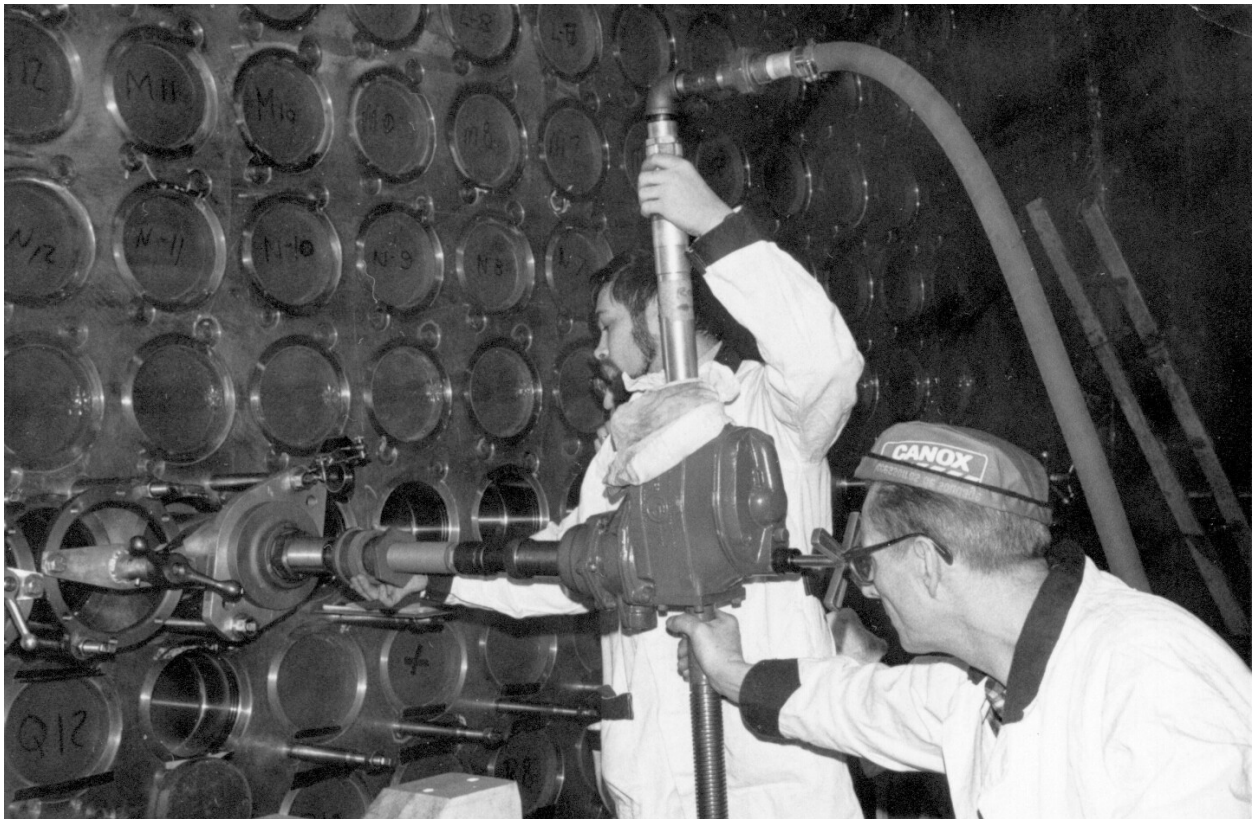


Figure 16 Calandria tube installation

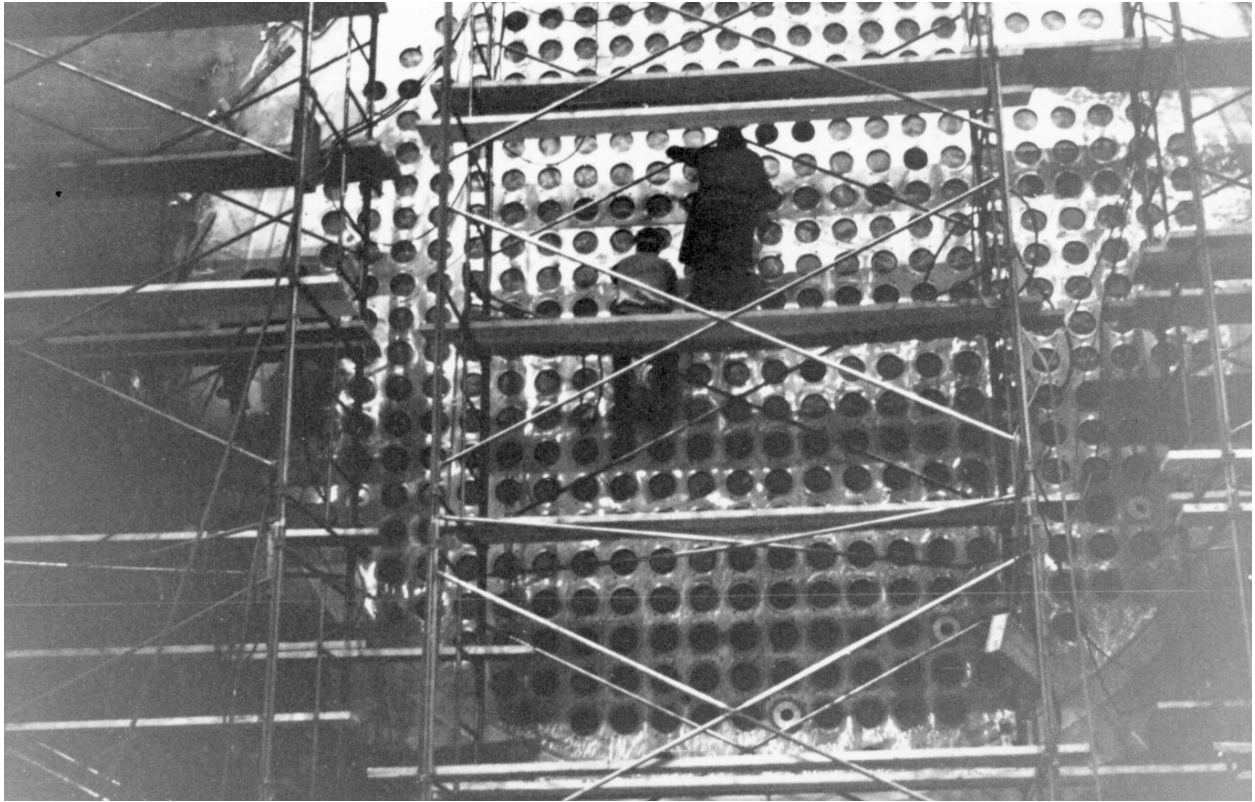


Figure 17 Calandria assembled, installed in shield tank.

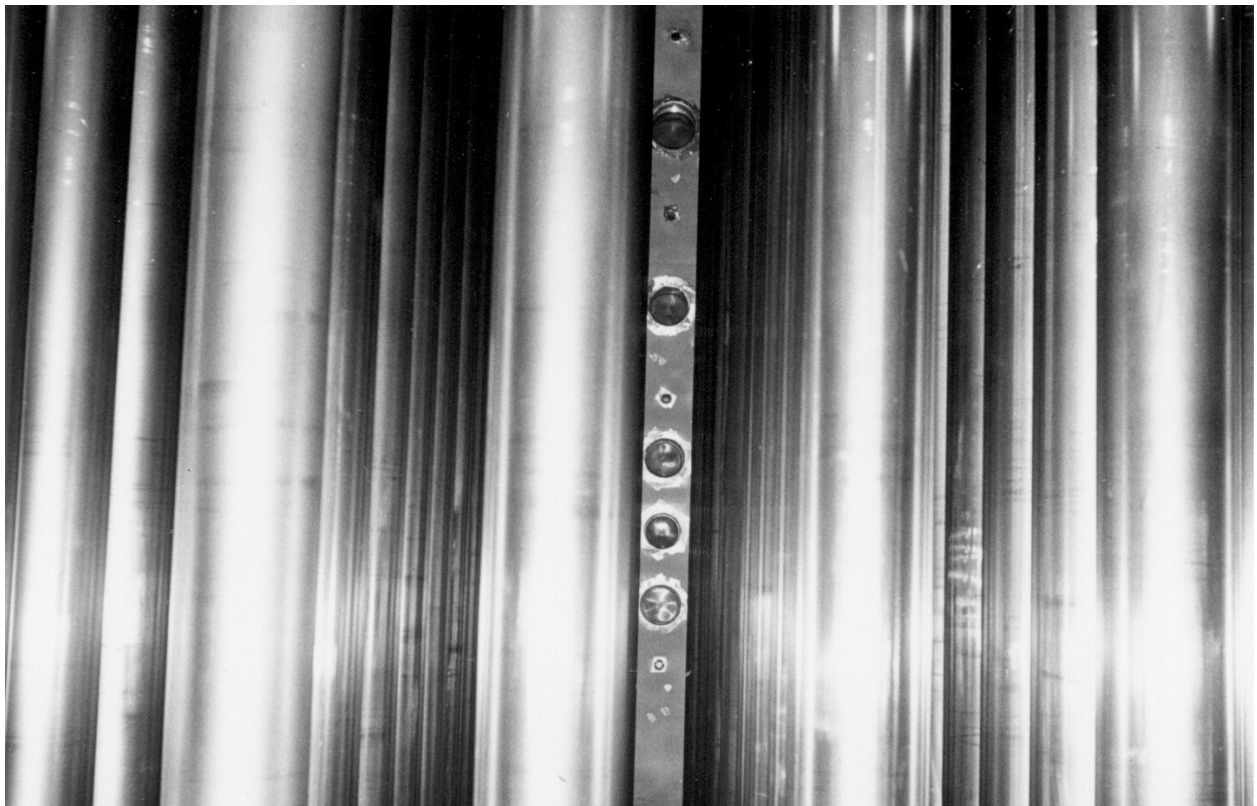


Figure 18 Inside the calandria, looking upwards between columns of calandria tubes.
The inside top of the main shell is seen, with holes for reactivity control units.



Figure 19 Section of shield tank being assembled.

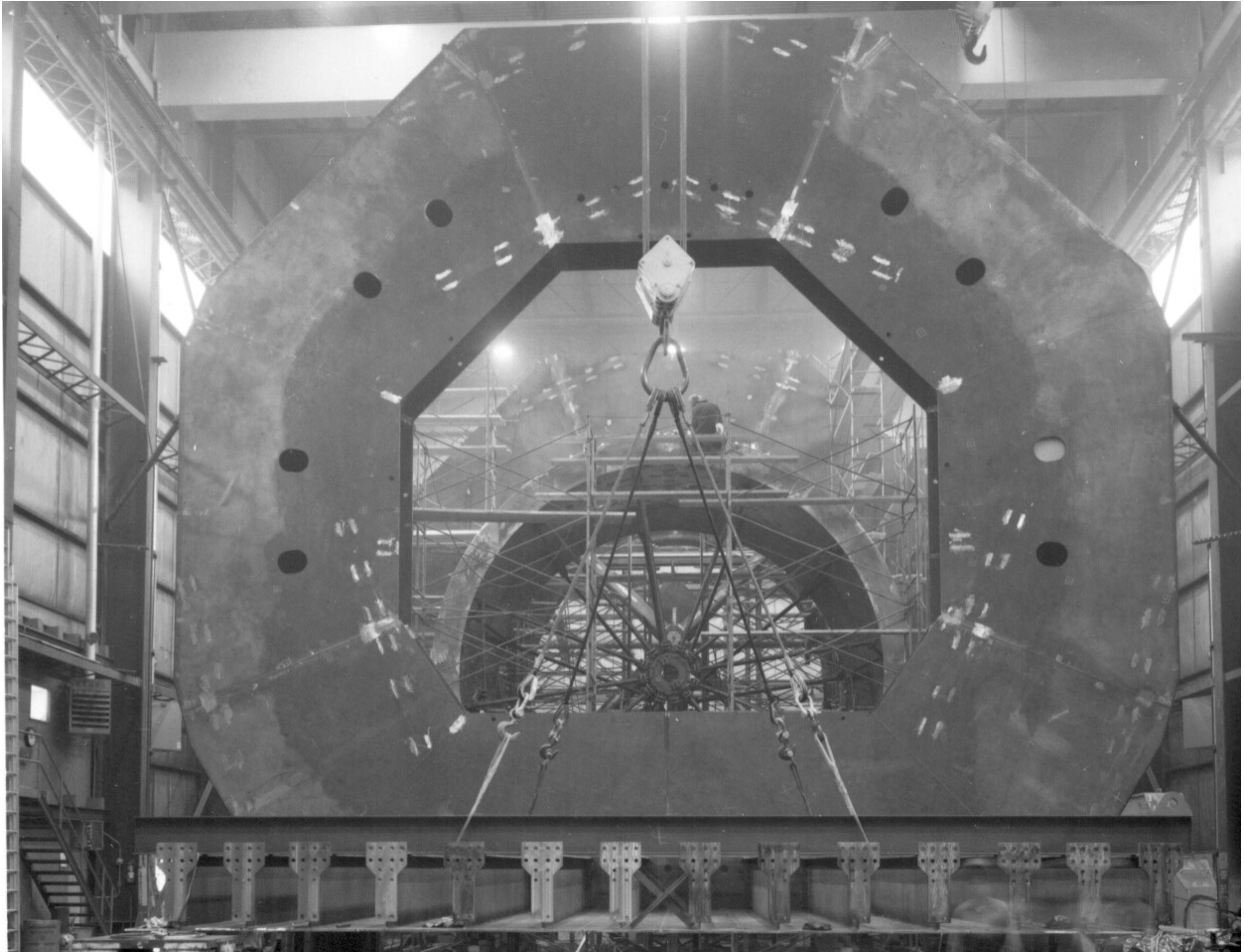


Figure 20 Two Bruce shield tanks being assembled.
The further one is more advanced – the opening for the calandria has been machined round.

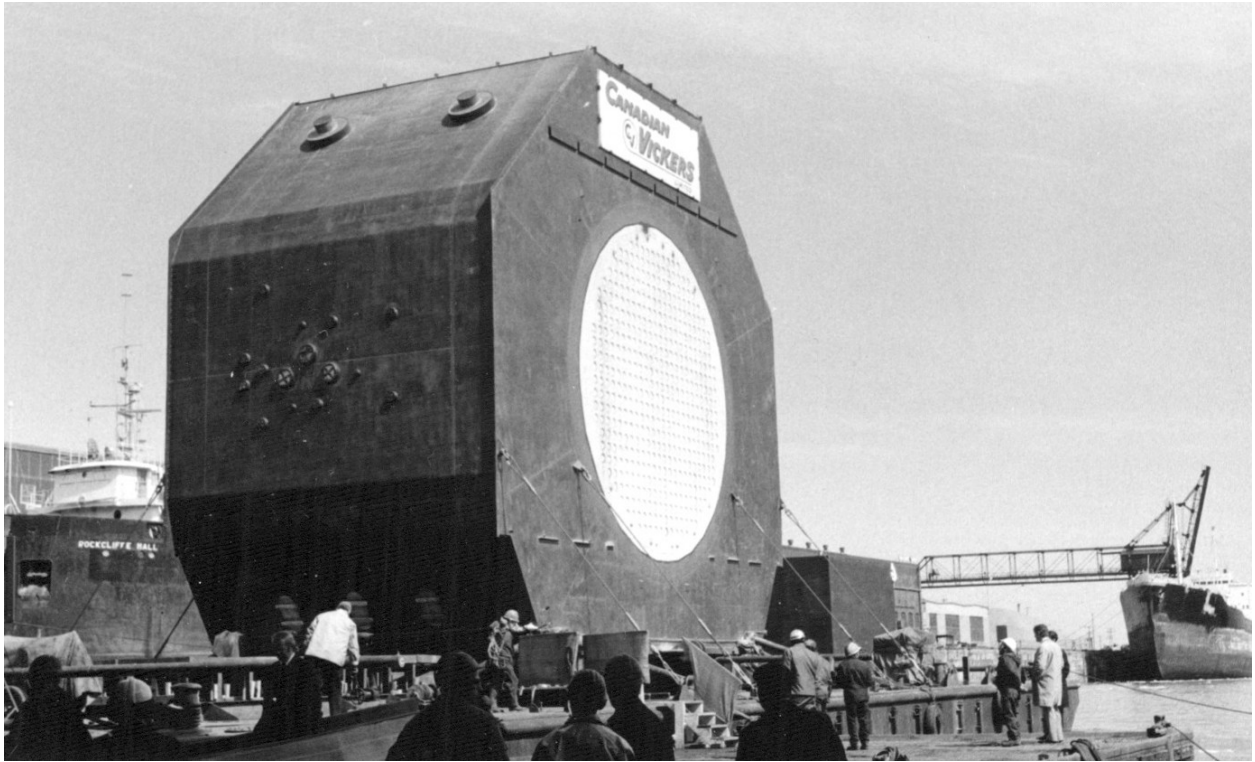


Figure 21 Calandria and shield tank assembly on a barge going through the Welland Canal.

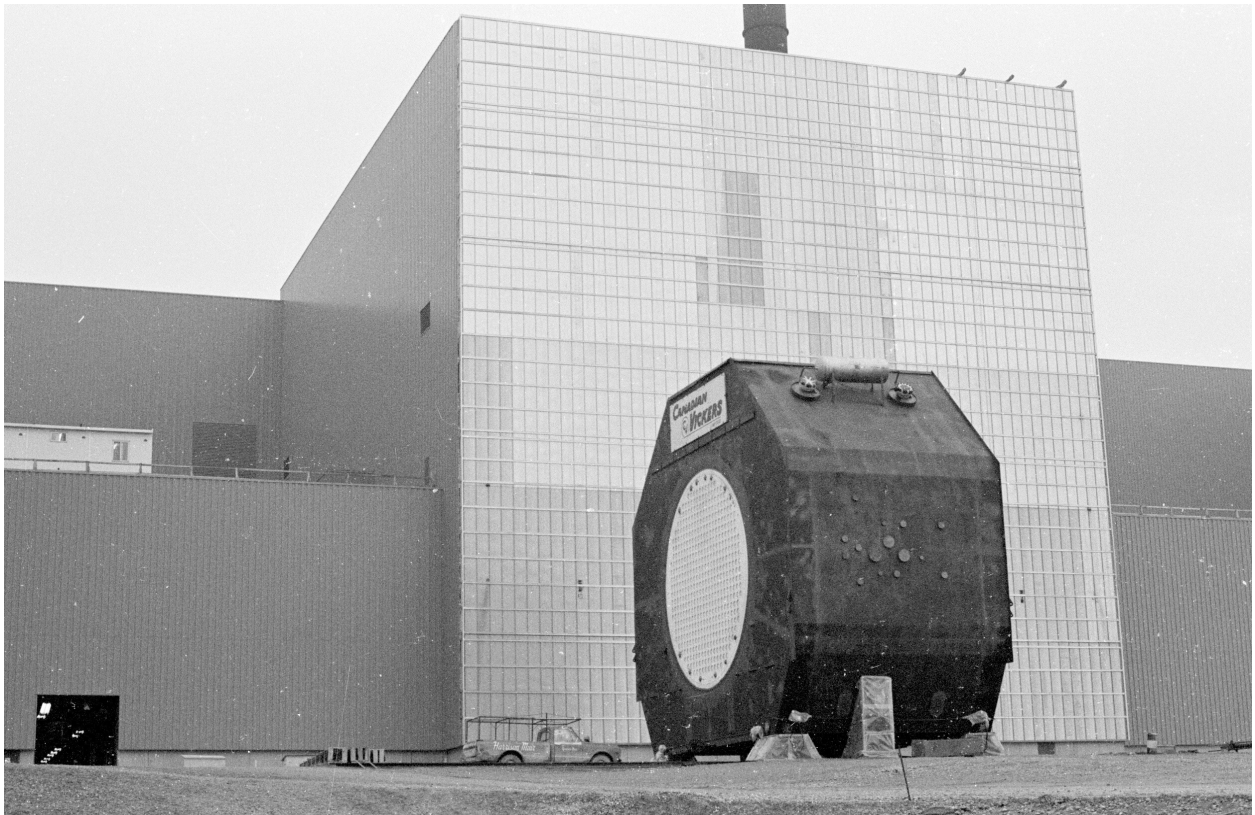


Figure 22 Calandria and shield tank assembly at Bruce, before being moved into the reactor vault.