

## Development of components for on Power refuelling of DHRUVA

a) **Seal & Shield Plug Assembly:** Seal and shield plug (SS Plug) (Fig. 1) is used for locking of fuel assembly with coolant channel in DHRUVA and installed using fuelling machine (FM). The new design of SS plug dispenses with manual intervention for locking/ unlocking as it can be checked for proper installation with FM. The safety latch of plug with its position feedback prevents inadvertent operation and provided additional safety.

b) **Extractor Assembly (Fig. 2):** To operate SS Plug, a compatible extractor is needed in the machine. The new design of extractor worked out having mechanism for engagement of extractor with plug, increased spring force to withstand drag force seen by fuel assembly which can inadvertently unlatch extractor with fuel during refueling.

Above assemblies are manufactured and demonstrated in shop simulating the channel geometry successfully.

