



# TECHNICAL NOTES

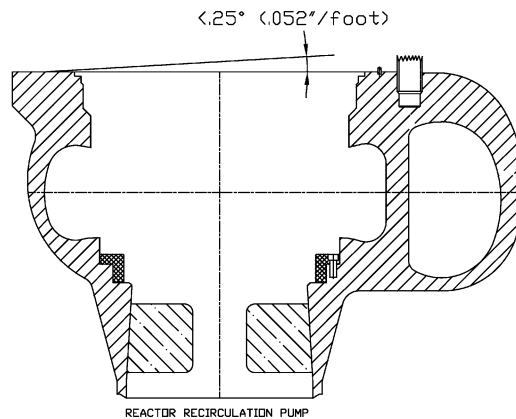
## Primary Pump Case Level

### Equipment

Byron Jackson reactor recirculation pump installations in BWR plants

### Situation

A condition in which the reactor recirculation pump case is out of level can affect operation and cause wear in the internal running clearances during startup and shutdown of the pump



### Technical Discussion

The level of the top face of the reactor recirculation pump case must be established during the initial setup of the pump. The mounting arrangement of the pump case allows adjustment during installation, prior to assembly of the pump and motor and operations of the plant. Measurement of the level in two directions should be verified during the installation of the pump case. The acceptance criteria is 0.25 degree.

When the rotating element is operating at low speed during startup and shutdown, the product lubricated pump bearing does not provide a centering force. If the pump case is out of level, the rotating element can suffer heavy wear in the bearing and wear ring surfaces during this period. This wear will be minimized if the pump case is close to being exactly level.

### Recommendation

Measure the level of the pump case top face in two orthogonal directions during installation of the pump case. Adjust the pump case supports to achieve a maximum out-of-level condition of 0.25 degree. Consideration should be given to support movement during the plant heatup.