

# Development of suitable welding technology for Dissimilar Metal Weld joint between ferritic low alloy steel and austenitic stainless steel

- Dissimilar metal welds (DMWs) are extensively used in primary heat transport (PHT) system of the light water reactors. In Indian advanced heavy water reactor, DMW would be used for joining the steam drum nozzle and the downcomer piping
- Structural integrity of the components/ systems with DMW joint has been a challenge to the design engineers.
- In view of several failures observed in DMW, studies have been performed to develop a suitability welding technology and consumables for preparation of DMW joint.
- Several weld joints have been prepared by manual gas tungsten arc welding (GTAW) process with conventional V-groove and automatic hot wire gas tungsten arc welding
- It is found that automatic hot wire gas tungsten arc welding with narrow gap produce minimum weld residual stress and have improved ductility and fracture toughness of different zones of weld joints

