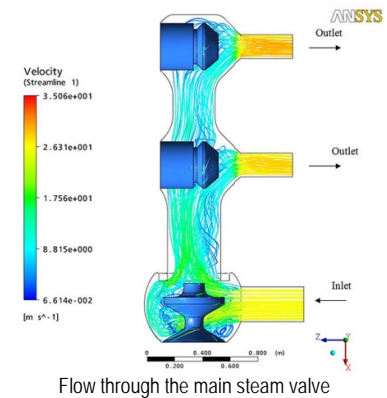
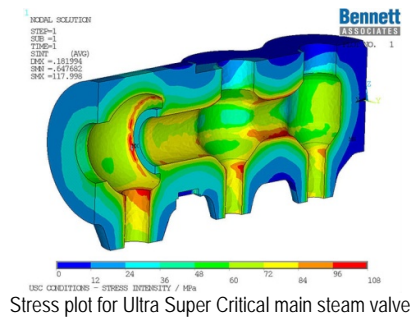


# Ultra Super Critical Main Steam Valve Design

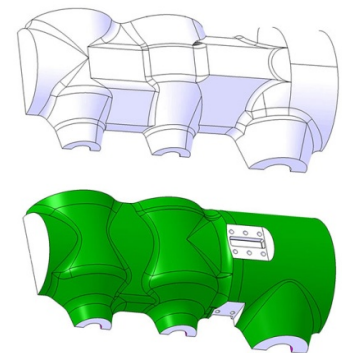
Location:	Stoke-on-Trent / China
Client:	Goodwin Steel Castings Ltd / Harbin Turbine Company (HTC)
Value:	£14,500

The drive to increase the efficiency of new power stations means that ever higher steam pressures and temperatures are required. Working with Goodwins, Bennett Associates have developed several large main steam valves for a client in China.

- Assessed the preliminary valve design from HTC and then improved the design to meet the required creep life of the component.
- Modelled the flow through the valve to determine heat transfer coefficients on the inner surfaces to allow us to assess how the whole body heated up during start up cycles.
- Worked with Goodwins to assess their high temperature casting steel to produce acceptable design criteria.



Bennett Associates (originally founded in 1984) was acquired in 2008 by Atkins; bringing their proven technical expertise to the UK's leading engineering consultancy.



Valve Models  
As Drawn (Top), Optimised (Bottom)