Aqueous Corrosion

150-250°C

$7\ U + 6\ H_2O\ (g) \rightarrow 3\ UO_2 + 4\ UH_3$

600-700°C

$U + 2H_2O \rightarrow UO_2 + 2H_2$

Reduction of Corrosion in Water

- **Metastable γ phase - U + 7% Mo**
  or, U + 7% Nb
- **Supersaturated α phase - U + 3% Nb**
  U +1.5 % Nb + 5% Zr
  U + 3 % Nb + 0.7 Sn
- **Intermetallic Compounds U_3Si**