# **Red-Bag**



Long Bolts

# **Long Bolt Usage**



## **Usage**



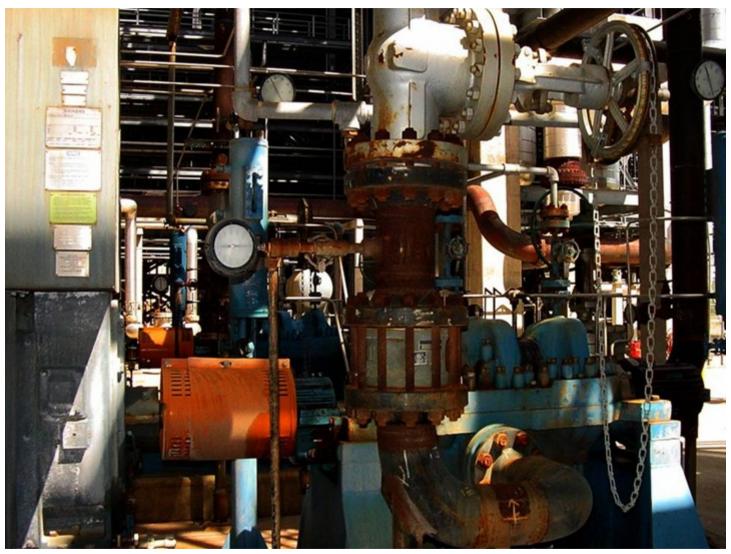
Could be a butterfly valve ...

# **During HAZOP**



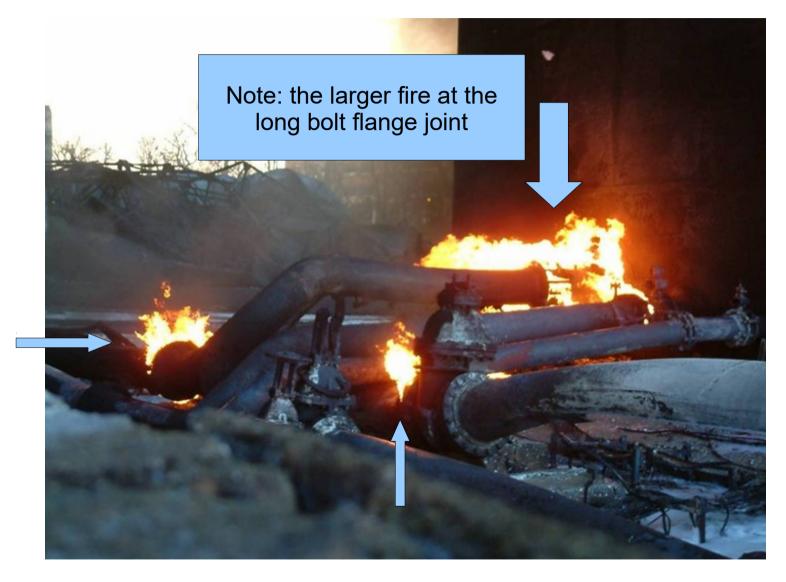
A local fire might be considered ...

#### **Effect**

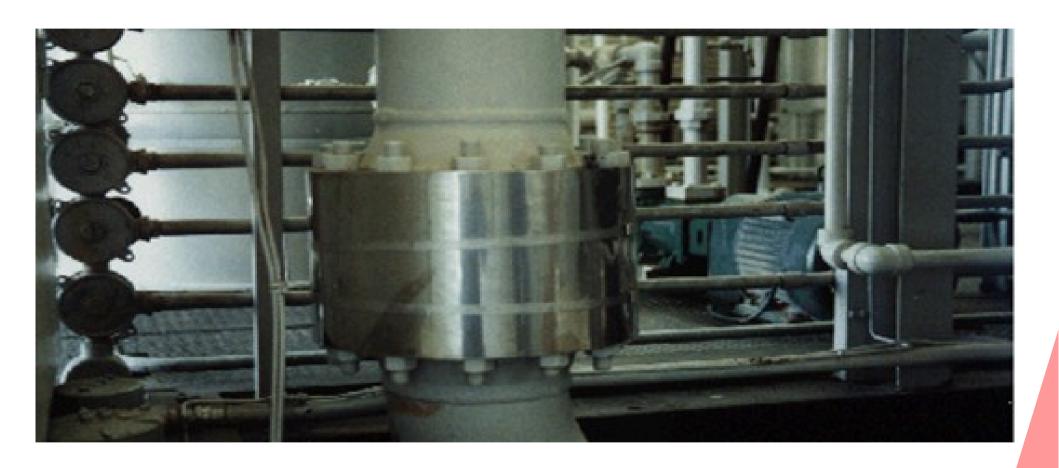


What will be the effect on long bolts?

### **Thermal Expansion**



### **Possible Solution**



### **Possible Solution cont'd**

