Optimization Checklist

- **RTD**
  - Check insulation resistance 50 VDC > 200 megohms at 20°C
  - Check ice point resistance 100 ±0.12 ohms or ±0.06 ohms
  - RTD and transmitter matching
  - Frequency of checks – process dictates the intervals

- **Connection head**
  - Wire insulation
  - Shielding
  - General condition, corrosion, discoloration, threads, cracks
  - Corrosion on terminal connections
  - Water inside the connection head
  - Conduit seal for hazardous atmospheres

- **Transmitter**
  - Wires connected securely
  - Check output at zero and span

- **Environmental considerations**
  - Fan blowing on sensor location – can be bad
  - Insulation covering the external portions of sensor - good
  - Sunlight - solar heating right where you don’t want it
  - Wash down

- **Thermowell**
  - Bore cleaning
  - Heat transfer compound
  - Product buildup on wetted portion
  - Cracks in flange weld or leaky gasket
  - RTD bottoms in well and spring loads

- **Controller**
  - RTD temperature coefficient is set correctly in controller
  - 3 or 4 wire circuit connected correctly with correct wire type
Replacement Checklist

- RTD
  - Choose the correct temperature coefficient. Most common is a .00385 conforming to IEC 60751 or ASTM E1137
  - Interchangeability – choose class A for better accuracy
  - 3 or 4 wire – 4 wire provides better accuracy
  - Choose correct length to match thermowell or provide significant immersion to avoid stem conduction – for a direct immersion probe minimum immersion = 10x probe diameter + sensitive length

- Thermowell selection
  - Corrosion
  - Erosion
  - Wake frequency and strength
  - Time response
  - Immersion length

- Connection head
  - Ease of probe removal for calibration
  - High quality terminal block
  - Wash down
    - Add an epoxy coating or other corrosion preventive coating
  - Hazardous atmospheres

- Transmitter
  - Mount RTD with transmitter to minimize lead length for 3 wire circuits
  - Matching to RTD

- Environmental
  - Sunlight
  - Water
  - Forklift proof