

***SMiRT 16***  
***Leadership Forum***

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# **Structural Mechanics Challenges**

- Improving plant reliability
- Supporting life extension/license renewal
- Next generation nuclear reactors

## *Improving Plant Reliability*

- Structural aspects of equipment performance
- Reactor vessel and internals
- Reactor coolant system piping
- Evaluating identified conditions

## *License Renewal*

- Vessel and internals aging
- Metal fatigue
- Containment fatigue
- Metal corrosion allowances
- Inservice flaw growth analysis

## *Next Generation Reactors*

- More challenging operating conditions
- Alternate heat transfer mediums (versus US LWR designs)
- Passive versus active safety systems

## *Conclusions*

- Structural mechanics issues will continue for operating nuclear power plants
- Design of the next generation reactors will bring new challenges