



NHA Meeting Birmingham AL

- Inventory Maintenance Items
- Maintenance Planning
- Outage Planning

Inventory Items

- Frequency of use
- Procurement lead time
- Impact of unavailability
- Quantity discount

Potential inventory items

1. Gate end seals
2. Shear pins
3. Packings / seals (shaft, gate, blade)
4. Brushes / brush rigging
5. Bearings / bushings (guide, thrust, gate)
6. Pole / ammortiseur connectors
7. Governor (pumps, valves, motors)
8. Wear rings
9. Valve seals
10. Brake shoes
11. Wicket gates / arms / linkage
12. Field poles
13. Runner

Maintenance planning

- Scheduled
- Emergency

Scheduled maintenance

- In-house workforce planning / execution
 - scope definition
 - resource definition / allocation
 - schedule

- Contracted workforce planning / execution
 - scope definition
 - division of work / supply
 - schedule

Emergency maintenance down-time / cost minimization

- In-house workforce - planning / execution
 - resource availability / definition / allocation
 - schedule impact

- Contracted workforce - planning / execution
 - blanket contract in place
 - resource availability / mobilization queue
 - time and material
 - schedule impact

Outage planning

- Self executed
- Contracted

Planned outage

- In-house workforce planning / execution
 - Long lead definition / procurement / responsibility
 - scope definition
 - resource definition / allocation
 - schedule

- Contracted workforce planning / execution
 - project control / support division (in-house costs)
 - firm price vs. time and material
 - scope definition
 - division of work / supply
 - schedule

Engineered reliability.