Nuclear Industry: Station Improvement Project

CARPE DIEM INTERNATIONAL

Executive Summary: Station Improvement

- Improve:
  - Equipment Reliability
  - Fuel Route: Fuel Build and Reactor replenishment
  - Outage

Challenges

- One of the Stations in the Fleet had challenges to its operational efficiency due to emergent technical deficiencies that impacted on its safety case, in such a way that additional inspections and techniques needed to be introduced.
- The techniques doubled the process time to refurbish fuel elements and refuel the reactors

Results

- Helped to improve fuel build throughput from 1 element/week to 2.4 elements/week through:
  - Improved fuel build Cycle Time
  - Improved Equipment Availability
- Developed new availability measurements based on MTBF and MTTR
  - Helped prioritise equipment reliability - identied lifting equipment as priority issue
- Supported introduction of RCM – Reliability Centred Maintenance

Nuclear Industry: Station Leadership Team Transition

CARPE DIEM INTERNATIONAL

Executive Summary: Station Leadership Team Transition

- **With the start-up of the business stream to build new nuclear stations and consequent re-assignment of Senior Managers from Station Leadership Teams it became necessary to promote and transition new talented managers into mature, high-performing Station Executive Teams**

Challenges

- **To transition Station Lead Team(s) under MoC (Management of Change) commitments**
- **To develop individuals and new teams quickly so that a seamless transition was achieved**

Results

- **Station Lead Team(s) quickly became high-performing teams**
- **Continued high level of operational focus**
- **Continued improvements with good WANO and Regulator reviews**

Nuclear Industry: Company Regeneration

CARPE DIEM INTERNATIONAL

Executive Summary: Company Regeneration under banner of 'Safe, Profitable and Proud'

- Foundation Fundamental of PiP (Process Improvement Program) to implement: Organisation and Structure, People and Leadership, Culture Change
- Improve key Nuclear Industry benchmark results including: Loss Time Accidents/Accident Frequency Rate, Reportable Events (especially Human Performance based events, Unplanned Auto-trips) through:
- Implementation of a culture of improved Nuclear Professionalism
- Development of Leadership Skills throughout Company
- Provide Change Management coaching and support

Challenges

- Company re-emerging from Government ownership to be re-listed on Stock Exchange
- Life-time extension of Older Power Stations
- Need to improve all aspects of company operation under banner ' Safe, Profitable and Proud'
- Need to improve company benchmarks within WANO (World-Wide Association of Nuclear Operators)

Results

- Nuclear Performance Benchmarks (WANO and Company KPIs:
- Accident Frequency Rate reduced by 40%
- Unplanned Auto-trips reduced by 30%
- Nuclear Reportable Events reduced by 38%
- Non-Outage Defect Backlog reduced by 55%
- First Station Life-time extension approved by Company and Regulator
- WANO Review acknowledges Company turnaround as Exceptional

'Bill Coley Quote'

Nuclear Industry: Outage Improvement

CARPE DIEM INTERNATIONAL

Executive Summary: Improved Outage Planning and Delivery

- To support the delivery of improved outages emphasising safety, quality, time, cost
- For PWR to be in WANO top decile

Challenges

- Achieve 0 LTAs (Lost Time Accidents) during Outages
- Improve unplanned Outage overruns by 20%
- Quality: Reduce Rework by 20%

Results

- Achieved 0 LTAs
- Rework reduced by 30%
- PWR time improvement from 55 days outage duration to <20 days and achieved top WANO Decile
- Oldest Station time improvement from >100 days to 73.5 days saving
- With a day of unplanned overrun costing +£800k/day and planned overrun costing +£250k/day overall savings were >£15m