

Safety Arrangements for your visit

- **There are no scheduled fire drills!**
- **If the fire alarm rings, proceed to the fire exits**
- **The assembly point is across the small roundabout at front of building**
- **Await instructions from your host**
- **Thank You**



Magnox North



Trawsfynydd Site

Constructing Excellence Wales

TSIF as a Demonstration Project – Peer Review

Trawsfynydd Decommissioning Site, June 2nd 2010

Presenters: Don Mitchell, Edwin Bond, TSIF team members

Peer review – Agenda

- Introduction CEW – David Clague
- Introduction TSIF/Magnox North – Don Mitchell
- Background – Edwin Bond
- Main Presentation – TSIF/Magnox Team
- Q & A

Background - Why we had to change!

Prior to 2005, Magnox

- Operated a very traditional approach
 - Self Perform
 - Many Contracts/Transactional
 - Little Learning
 - Not Incentivised
- Series of Disputes
- £30M to £60M business
- There must be a better way!

A Better Way!

- Informed by Latham, Egan, NAO, OGC
- Welsh Water model
- Lifecycle Partnership – Design to Demolition
- High Commercial Risk areas targeted
- NEC contract chosen

TSIF Frameworks History

- 4 Framework contracts awarded in late 2005. The partnership became known as TSIF.
- After the initial 3 years of the Frameworks a 12 month extension awarded for 2009/10 following a successful audit by the NDA based on the NAO Gold Standard HC30.
- A further (5th year) extension was awarded for 2010/11, based on audit and review of performance

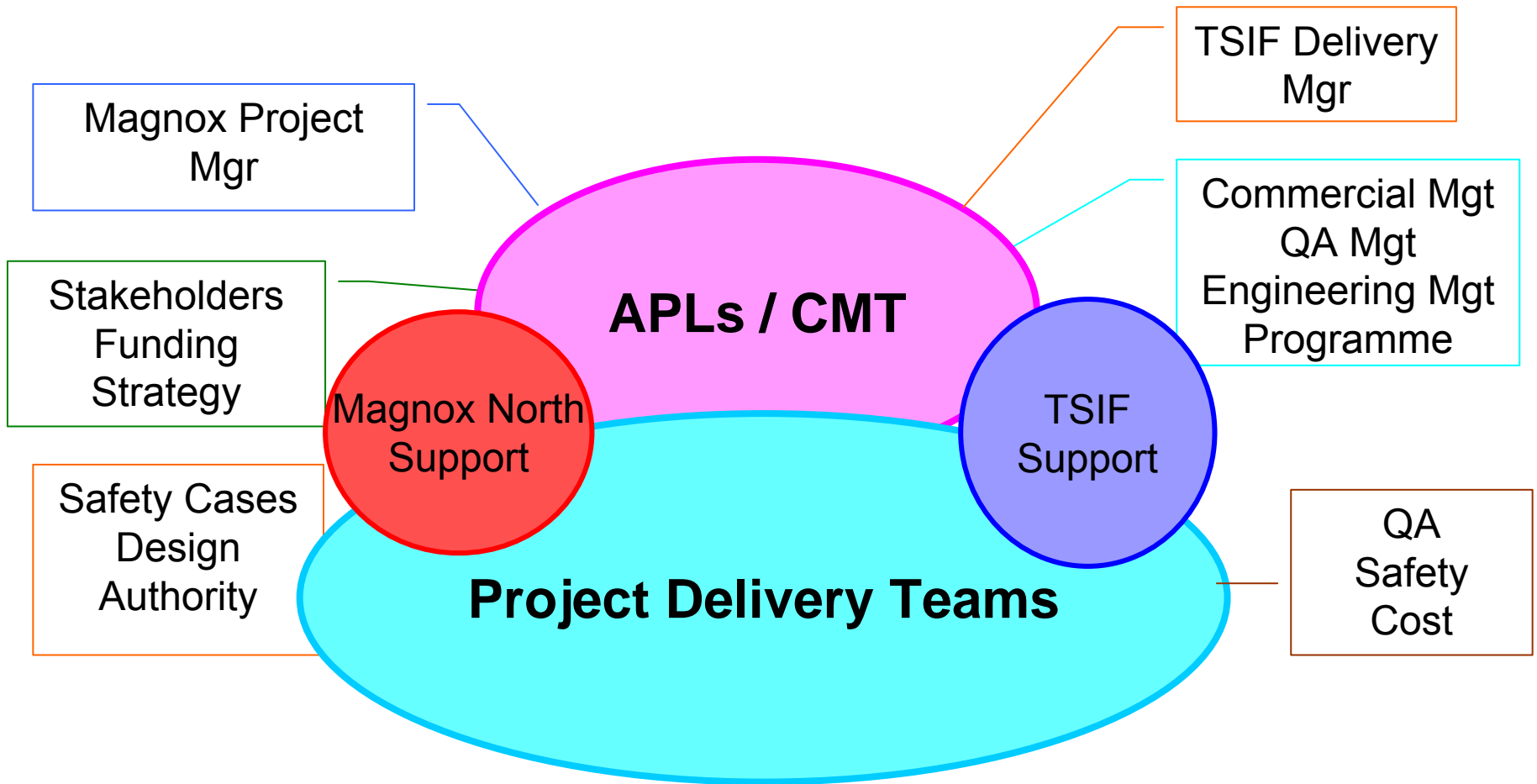
Why Magnox North moved to Frameworks

- The Benefits that Magnox North expected –
 - Programme certainty
 - Improved long term relationships
 - Flexibility and responsiveness to providing solutions
 - Integrated approach to solutions
 - Learning from Partners, reach-back
 - Economies of Scale – cost benefits
 - Best value product and service through value engineering
 - Better sharing and management of risk
 - Innovation and Organisational Learning

TSIF Working Arrangements

- Magnox employing four partners
 - Aker Solutions, Amec, Costain, VT Group
 - NEC3 Option C – Incentivised Target Cost
 - An overarching Strategic Agreement
 - A TSIF Charter was developed and actively followed
 - Steering Group established with Director level reps from Magnox and TSIF partners
 - Core Management Team established for ‘delivering’
 - TSIF Delivery Manager accountable to Magnox NEC PM
- The TSIF partners do not work in ‘silos’ but resource each project on a ‘best athlete’ basis

The 5 partner Organisation



TSiF Charter



 Aker Solutions

Ray

Our Vision

To Set The Standard For Nuclear Decommissioning


Andy White



Ann Wyllyll

Our Purpose

To safely decommission the Trawsfynydd Ponds Complex, working together and exceeding the expectations of our Customer, Magnox North.


John Claw

Our Goals

- Cause no harm to people and continue to improve our HSE performance
- Deliver the work for less cost and ahead of schedule
- Introduce Innovation to deliver the projects more effectively
- Continue to develop an efficient and effective supply chain
- Bring in Best Practice from a range of different industries
- Create an environment where people can give their maximum contribution
- Develop TSiF beyond the Ponds work packages at Trawsfynydd
- Achieve a fair and commensurate return for all participants
- Eliminate duplication and waste

Our Values

We will work closely with our Customer, British Nuclear Group, to assist them in achieving their goals by

- being safe and environmentally friendly
- honouring our commitments
- maintaining a fair and just culture
- developing trust, honesty, integrity and respect
- developing people to their potential
- promoting teamwork
- practicing straight talking
- ensuring responsibility and accountability
- generating a culture in which we will celebrate success



Magnox North

PJ Spry

The Journey Continues – Sept 2008 to the present

The following slides will cover;

- Trawsfynydd Decommissioning - the projects
- Achievements to date
- Realisation of benefits
- Lessons Learned

Trawsfynydd Decommissioning

- Characterisation of nuclear wastes
- Identify and develop the Best Solution
- From Concept to Detail
- Procure, Construct, Install and Commission
- Operations to recover and package nuclear wastes
- Decommission and Demolish
- Site restoration
- Zero accident/injury culture
- Achieve this collaboratively!

Nuclear waste (low level and intermediate level)

- Dry wastes
 - Fuel Element Debris (FED)
 - Miscellaneous Activated Components (MAC)
 - Miscellaneous Wastes (desiccant, walnut shells, oily rags, solid ILW, contaminated gravel)
 - Scabbled concrete
- Wet wastes
 - Sludge (from corrosion)
 - Resin beads (from Ion Exchange beds)

R2 MAC Project

- From this...

Waste Pile during Active Commissioning of R2



R2 MAC Project

- To this...

Empty Vault September 2008 –
18 Tonnes of Waste collected



Ponds Scabbling Project

- From this...

Cooling Pond drained with Brokk control systems installed ready for insertion of Brokk Scabbling Machines



Ponds Scabbling Project

- To this...

Cooling Pond with second scabbling pass (20mm – 40mm Depth) underway



Active Waste Vaults Project

- From this...

A1 Vault full with Waste
Pantographs and Drums



Active Waste Vaults Project

- To this...

A1 Vault empty



Fuel Element Debris recovered from South Vaults



Pond Scabbling machine – deployed remotely



Remote Deployment Arm – Sludge/Resin Retrieval



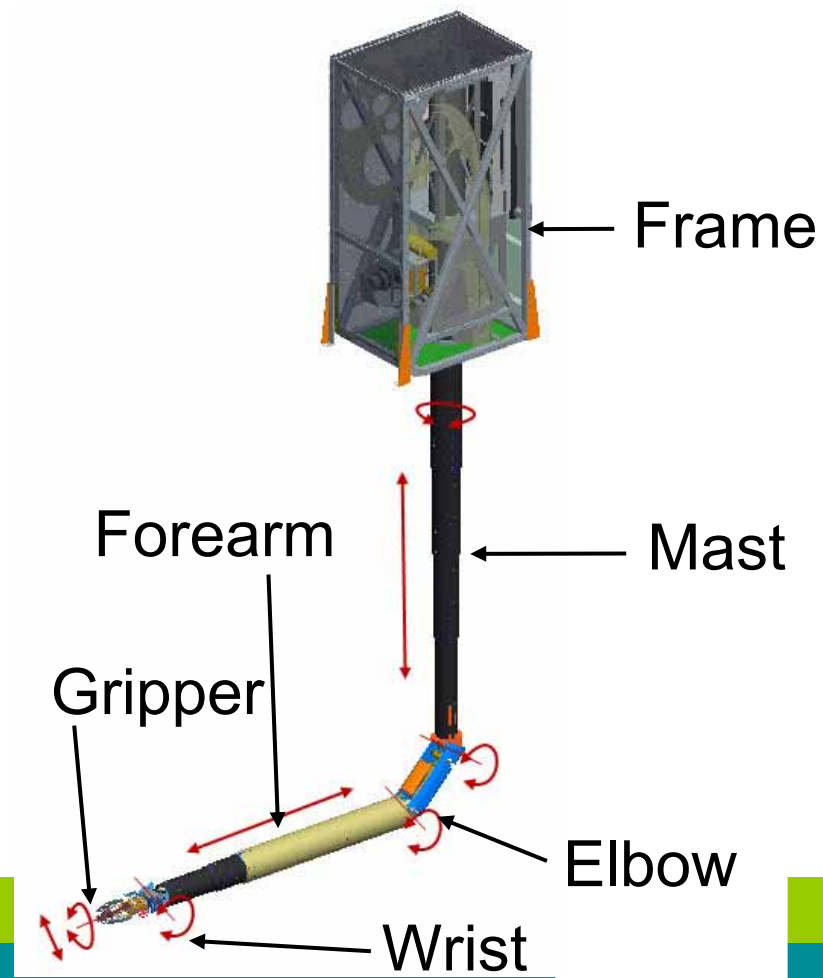
Sludge/Resin
robotic arm
assembled in the
USA and ready for
shipment to UK
later this summer.
The arm is in the
'folded' position

RDA Design Overview

- 7 Degrees of Freedom Power Manipulator

- 1) Mast rotate (Elec)
- 2) Mast Extend (Elec)
- 3) Elbow Piston 1 (Hyd)
- 4) Elbow Piston 2 (Hyd)
- 5) Forearm extend (Hyd)
- 6) Wrist Pitch (Hyd)
- 7) Wrist Rotate (Hyd)

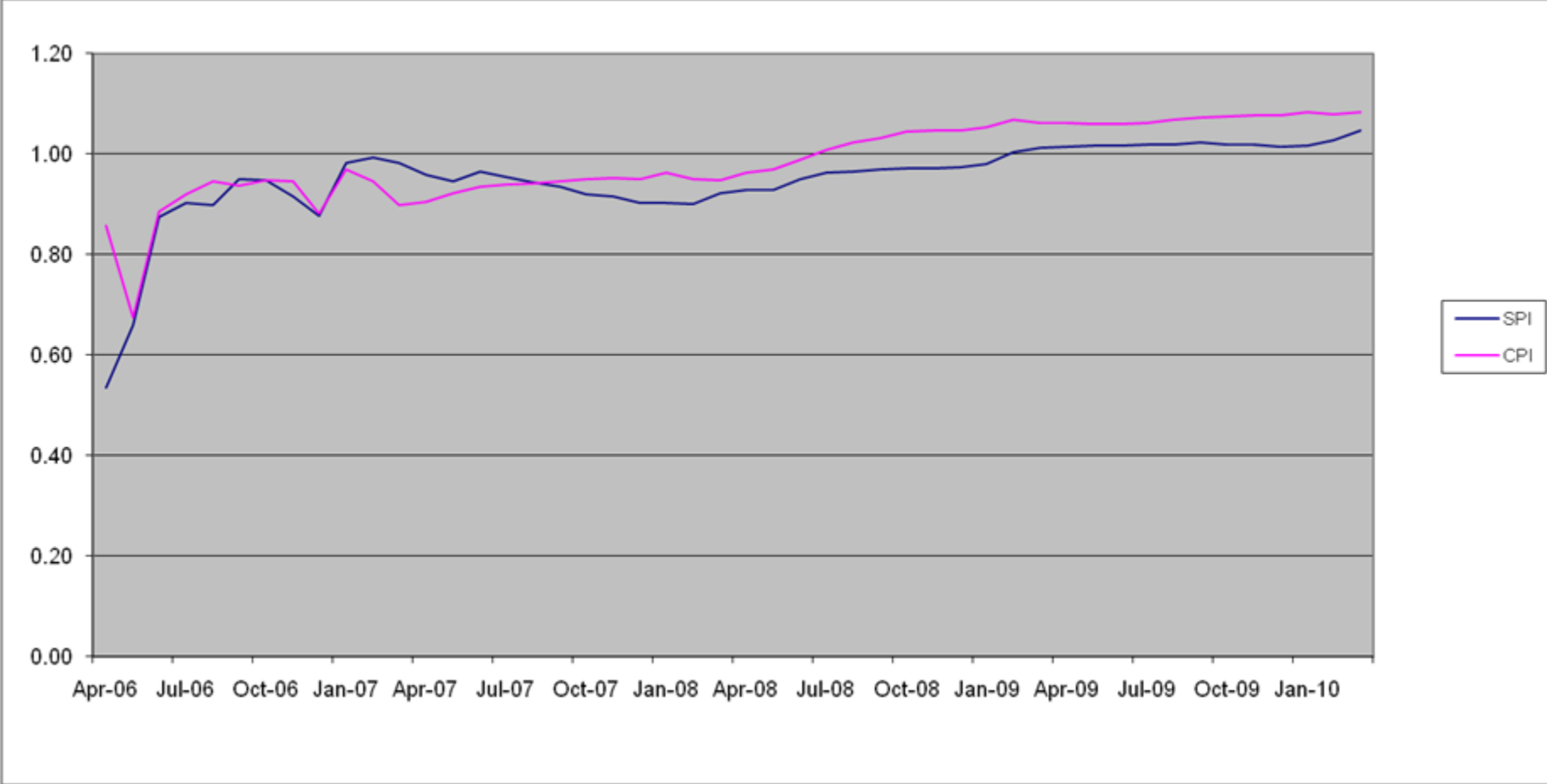
PLUS Gripper (Hyd)



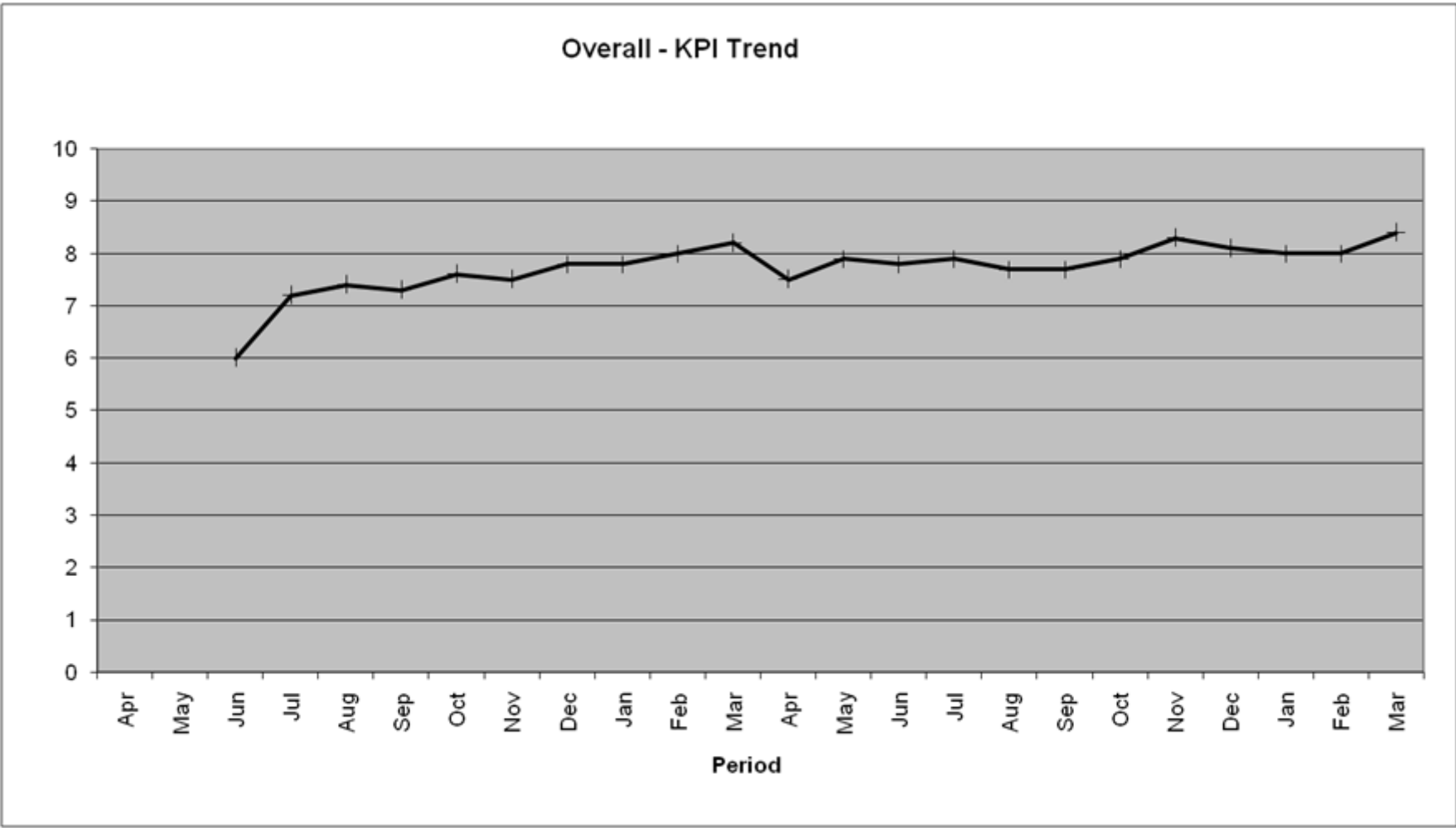
Demonstration Project – TSIF Themes

- Predictability of Cost and Schedule
- Integrated Teams
- Customer needs
- Whole Life Value

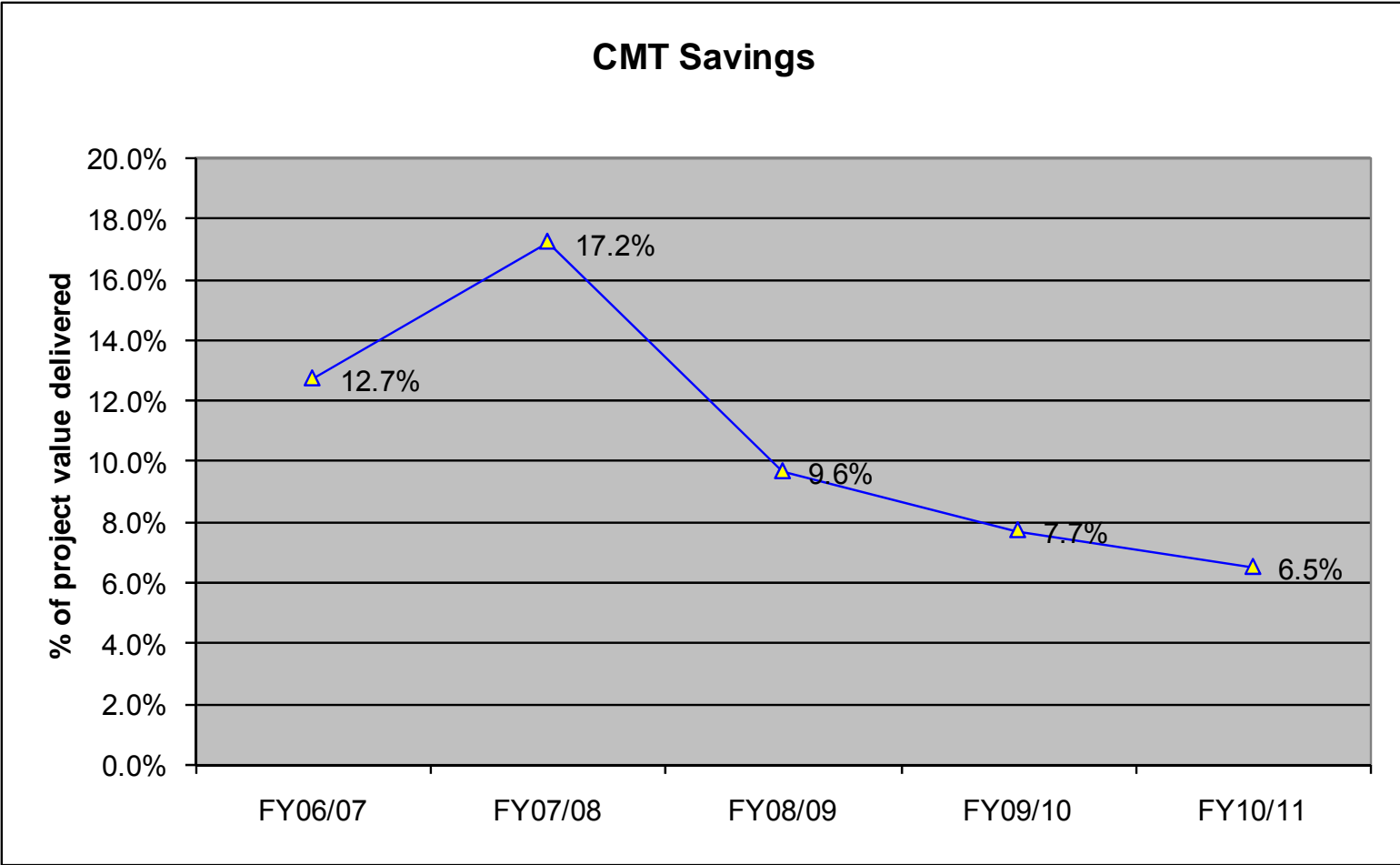
Predictability of Cost and Schedule



Customer Needs 7 KPI areas - trended



Customer Needs – cost reduction



Delivering Benefits

- Magnox and TSIF delivery programmes fully aligned
- Good progress made co-locating client and contractor project resources
- Approx £17m of full life savings identified by client and contractor working together developing innovations and efficiency
- Client and contractor jointly developed successful site acceleration business case proposal aiming to deliver circa £150m whole life cost saving - TOP
- Daresbury Park project office established to service site acceleration programme
- Develop local supply chain e.g. Mon Maintenance Services

TSIF Safety Record – to end March 2010

Health and Safety:

- 1,300 days without an OSHA reportable incident
- 1,300 days without a RIDDOR reportable event
- 270 days since the last First Aid Case
- 775,000 man hours have now been worked by TSIF, with 630,000 man hours since the only lost-time incident.
- 2 Consecutive RoSPA Gold Awards, 2009 and 2010

Realisation of benefits

- TSIF consistently delivering ahead of schedule
- TSIF consistently delivering at less cost
- Absence of conflict – NEC3 “mutual trust ...”
- Innovation and best practice across all projects
- Customer focus but in a “win-win” frame
- Risk sharing based on ability to manage the risk
- Long term relationship – 5 partner commitment
- Integrated team working
- Collaborative solution development
- Value engineering delivering significant savings

Lessons learned

- Did not measure/benchmark early enough – KPIs introduced for 3rd year and beyond Performance dashboard also developed
- Under-estimated resistance to change in workforce – delayed team integration
- The importance of behaviours – training essential
- Unrealistic expectations early on – be realistic and honest
- Nuclear industry funding cycle hampered TSIF model – difficult to deliver whole life benefits with annualised funding
- Co-location of contractor/client teams delivered rapid benefits – site accommodation was scarce though
- Keep the faith, and maintain focus on the mission – it's a long game

Continuing the journey

- Site decommissioning scope to re-compete later this year – TSIF partnership committed to the site
- TSIF partners exploring collaborative opportunities elsewhere – building on Traws success
- Further efficiencies available from deeper integration
- Continuous improvement programme under development
- Further enhance competence/skills/knowledge in both client and contractor organisations
- Respond and adapt to the tightening fiscal climate

Summary

- Established against the need to change
- Egan principles followed closely
- Now operational for >4 years
- Benefits being delivered
- Lessons learned informing future arrangements
- Exciting acceleration opportunity from TOP
- All 5 partners remain committed

Demonstration Project Peer Review

Q & A Session