



STEP Spherical Tokamak for Energy Production

11 July 2023

Whole Plant Partners, Webinar 5

The delivery model discussed is subject to approval.

UKAEA reserves the right to:

- Postpone or cancel the planned procurement activity at any stage and at any time.
- Amend, clarify, add to or withdraw all or any part of this document at any time.

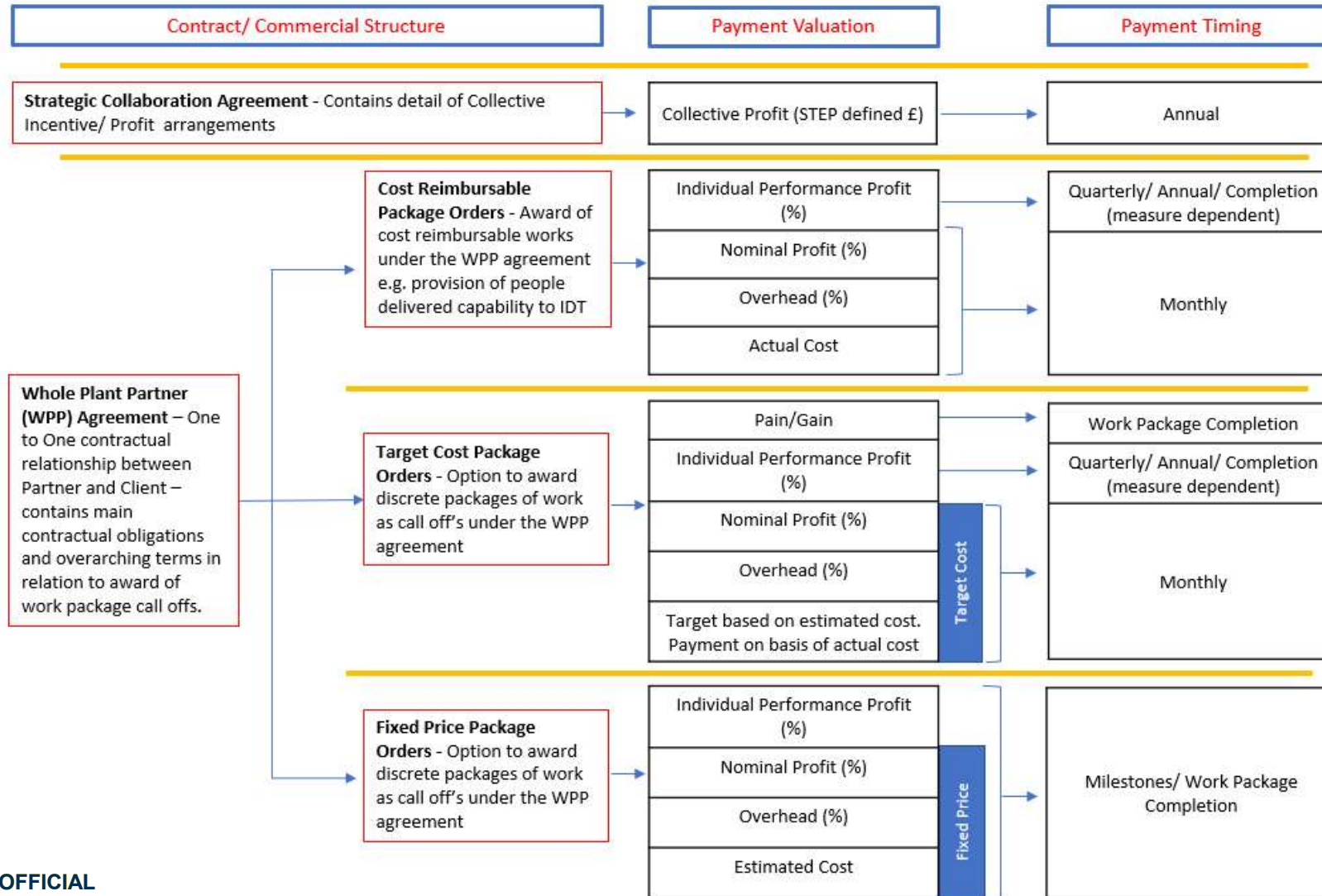
Focused Session on Incentivisation and Pricing

Sho Dutta – STEP Director of Commercial and Supply Chain

Sarah Palmer – Head of STEP Strategic Supplier Relationships

Martin Southworth – STEP Commercial Lead

The Commercial Structure



Example KPIs / Performance Scores

Example Programme (Collective) KPI Scorecard

PPO Ref	Programme Performance Objectives (PPO)	Yr. 1 Weighting	Yr. 1 Performance	Yr.1 Weighted Performance
1	Maturity of plant design	25%	80%	20%
2	Confidence in predicted design performance	15%	80%	12%
3	Overall schedule duration, and confidence in that estimate	15%	80%	12%
4	Overall programme cost, and confidence in that estimate	15%	80%	12%
5	Delivery to the jointly agreed Integrated Master Schedule	10%	80%	8%
6	Development of a fusion supply chain	10%	80%	8%
7	Delivery of UK economic value	5%	80%	4%
8	Delivery of social value	5%	80%	4%

Yr.1 Programme Performance = 80%

Example Package Order (1)

ME&I detailed design work

Package Order 1 KPIs	PPO ref flow down
Effective collaboration with CP (undertaking constructability assessments) and FP (validating design information etc.)	1,2
Production of fully costed estimate to P60 by x date	4
Production of outline design by x date	5
Supply chain engagement - early engagement with 2nd tier supply chain, obtaining input from specialist organisations and identifying innovations in solution development	6

Package Order 1 Performance Score = 90%

Example Package Order (2)

Mechanical Vacuum Pumping System – Package Order Definition

Package Order 2 KPIs	PPO ref flow down
Scope optimisation ensuring comprehensive in requirement, effective stakeholder engagement, schedule and cost estimates are tested and robust.	1
Cost target - Zero variations against target	4
Schedule measure - performance in delivery against target	5
Supply chain engagement - early engagement with 2nd tier supply chain, obtaining input from specialist organisations	6
% of Tier 2 spend with UK based organisations	7

Package Order 2 Performance Score = 88%

Yr. 1 Profit - Worked Example

1. EP individual Performance Summary

	EP individual Performance Profit %	Package Order Performance Score	Adjusted Package Order Performance Profit
Package Order 1	6.00%	90%	5.40%
Package Order 2	6.00%	88%	5.28%

2. Calculation of In Year Profit Payments

	Package Order 1	Package Order 2	Totals
Actual Cost	£1m	£1m	£2m
Nominal Profit (£)	£20k	£20k	£40k
PO Individual Performance Profit (%)	5.40%	5.28%	
PO Individual Performance Profit (£)	£54k	£52.8k	£106.8k
Total In Year Profit Payments			£146.8k

Example Bid Back Values	Nominal Profit	2%
	Individual Performance Profit	6%
	Overhead	15%
Example UKIFS Defined Collective Profit Value per WPP		£250k

3. Calculation of Maximum Total Profit

Yr. 1 Actual Cost	£2m
Total Bid Back Profit % (Nominal + Individual)	8%
Profit Cap (Total Bid Back Profit x 2)	16%
Maximum Total Profit (Yr. 1)	£320k

4. Calculation of Collective Profit Payment

Yr.1 Programme Performance Score	80%
WPP Collective Profit Amount	£200k
Total In Year Profit Payments	£146.8k
Total EP profit entitlement (Yr. 1)	£346.8k
Has entitlement exceeded the cap?	Yes
Total Profit Headroom (Collective Profit Payment value)	£173.2k
Collective Profit Carry Forward	£26.8k

RFI2 Outputs

Area of Analysis	Comment
CP Profit	<ul style="list-style-type: none">• Mode and median range for the CP are both 10% - 15% with most outliers falling below the 10% level• Circa 80% of CP respondents to RFI2 identified a required profit % of 15% or below
EP Profit	<ul style="list-style-type: none">• Mode and median range for the EP are both 15% - 20% with a secondary grouping within the 10% - 15% range• Circa 80% of EP respondents to RFI2 identified a required profit % of 20% or below
CP Overhead %	<ul style="list-style-type: none">• The median range for the CP is 9% - 28% (Mode n/a)• Circa 75% of CP respondents to RFI2 identified a required overhead % of 25% or below
EP Overhead %	<ul style="list-style-type: none">• The median range for the EP is 23% - 38% (Mode n/a)• Circa 80% of EP respondents to RFI2 identified a required overhead % of 35% or below

RFI2 Outputs – Variable Overhead

- Even split on preference for a mechanism allowing for variability in overhead recovery and those preferring a fixed % uplift.
- Reasons for preferencing variability either not applicable to the STEP project or can be mitigated;

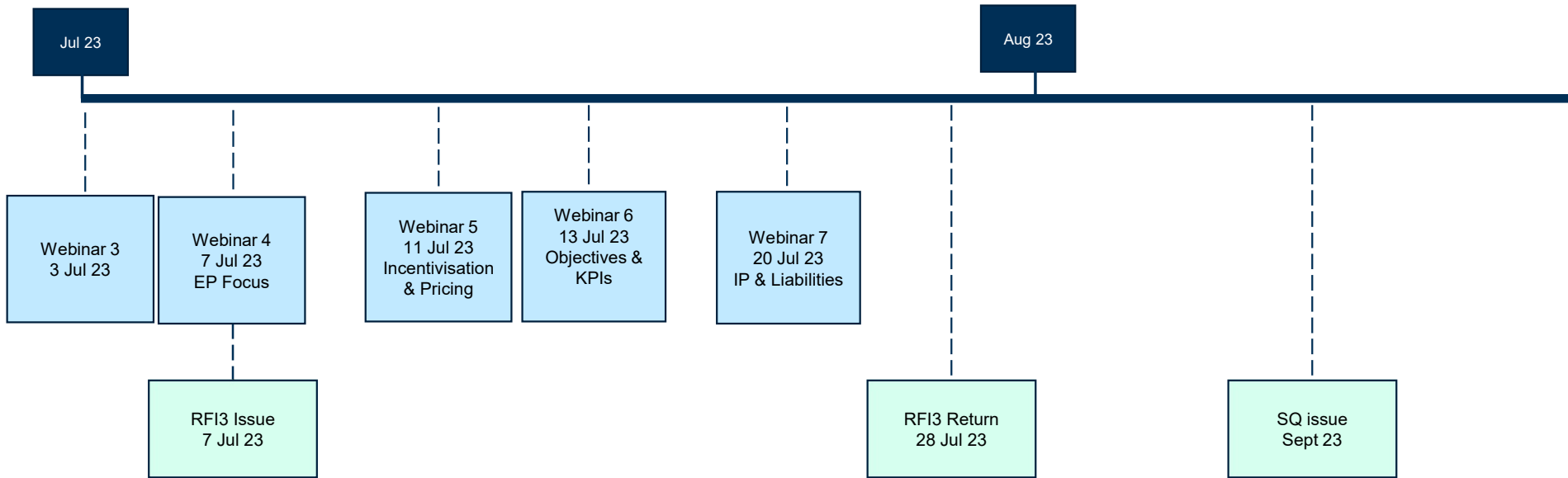
Reasons for variable overhead	STEP applicability or mitigation
<p>Technical specialisms attract a higher overhead. Examples included;</p> <ul style="list-style-type: none"> • Project Management / Project Controls • Technical, & BIM • 4-D Modelling • Cryogenic Engineering & Dosimetry • Super-Conducting Magnet Systems • Fusion Science & Radiation Protection 	<ul style="list-style-type: none"> • Some specialisms provided via secondments into the IDT (reduced overhead burden to Partners) • Other specialisms provided via subcontract arrangements (thus paid as actual cost) • Payroll burden for seconded resource included in rates e.g., pension contribution, National Insurance etc.
<p>Low utilisation/ productivity risk</p>	<ul style="list-style-type: none"> • Secondment arrangements (primary revenue stream in Tranche 2a) remove utilisation risk • Non-utilisation risk will still be live in relation to operational resource, but with a project of this size it is expected that a competent contractor should be experienced and sufficiently capable of managing productivity effectively. Furthermore, the payment of direct overheads (a.k.a. working area overhead) as defined costs provides a level of mitigation.
<p>Variability linked to revenue levels</p>	<ul style="list-style-type: none"> • 50/50 response with respondents who stated revenue wouldn't impact overheads acknowledged the anticipated value, longevity and collaborative intent of the WPP contracts as well as the treatment of direct overheads as defined cost
<p>Variability linked to package order risk profile/ form of contract</p>	<ul style="list-style-type: none"> • General feedback was that any required changes in overhead recovery linked to whether a contract is let on a cost reimbursable, fixed price or target cost basis, would be marginal / negligible.

Overhead Cost Allocation

Items for Inclusion in the Overhead %	Training not required for the STEP Project
	Insurances save for STEP specified insurance items
	Executive support and attendance at STEP project and non-STEP project meetings;
	General administration and general secretarial support
	General environmental, health and safety, security and quality
	Audit and procurement, not in relation to the STEP Project
	Advertising, business development, tendering, exhibitions, sales and marketing
	General finance, payroll, recruitment and human resources
	Taxation and group charges
	Technology, logistics, inventory and material control, research and development
	Entertainment, social events and hospitality
	Head office and area offices construction and rental costs, fit-out, maintenance, refurbishment and other contributions
	IT, including hardware and software, not in relation to the STEP Project
	Charitable donations and sponsorship
	Professional subscriptions, in excess of one per individual
	Pension scheme shortfalls, special contributions or discretionary payments, or contributions / provisions, for periods not in relation to this Appointment
	Severance payments not in relation to this Appointment
All legal services support save where explicitly agreed with the UKIFS	
Personal protective and safety equipment, not in relation to the STEP Project	

What's planned next? Sarah

STEP Pre-Market Engagement

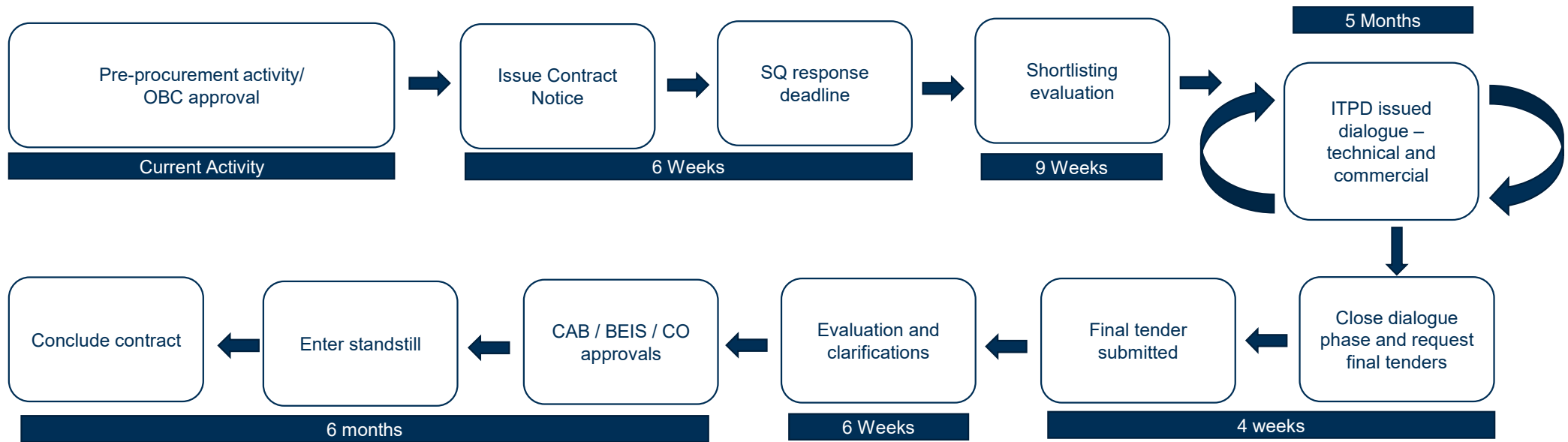


- **RFI2 responses** - Thank you! We are continuing to use the information and suggestions.
- **RFI3 to be issued W/C 3 Jul 23** - This will cover further information on programme governance, PMO capabilities, IP, acceptable tendering models, future investment, commitments to fusion and proposed Selection Questionnaire technical questions

Procurement Process Update

Following your engagement, we have been continuing to refine the procurement process to be as compliant and efficient as possible for all parties.

Based on our current planning, we expect to commence the procurement with the issue of the Contract Notice and Selection Questionnaire (SQ) in September 2023.



Thank you.

Any questions – procurement@step.ukaea.uk

If you'd like to find out more about fusion or UKAEA please take a look at these resources:

<https://www.gov.uk/government/organisations/uk-atomic-energy-authority>

<https://ccfe.ukaea.uk/>

www.step.ukaea.uk

<https://www.youtube.com/channel/UCyb9vG8oLE4XvZZLYpcDcFw>