



Air Command, Space Command

Request for Information (RFI) relating to:

Operate, Maintain & Sustain (OM&S) the Solid-State Phased Array Radar (SSPAR) at RAF Fylingdales

VERSION NO:	v2
DATE ISSUED:	TBC
PROJECT:	RAF Fylingdales OM&S
FILE REFERENCE:	20240308-RFI for EME on OM&S-O
UK PROTECTIVE MARKING:	OFFICIAL

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Section 1 - Key Information

RFI Legal Information

- 1. This procedure relates to the In-Service Capabilities Management Team, Request for Information (RFI) exercise on behalf of Space Command within the Ministry of Defence.
- 2. The information contained in this document and any further information relating to this RFI is supplied on the condition that:
 - a. neither the Secretary of State nor any of its agents, servants, officers or affiliates (the "Representatives") shall be liable for any error, omission or inaccuracy in respect of such information; or any loss or damage of any kind incurred or sustained as a result of your reliance on such information.
 - b. the laws of England and the English courts shall have exclusive jurisdiction in relation to any dispute arising under or in connection with the RFI.
- 3. This Request for Information is being conducted as part of Early Market Engagement, and industry participation in this process is entirely optional. No funding will be provided by the Secretary of State and the Secretary of State will not be liable for any expenditure incurred by industry whilst participating in the Request for Information process.
- 4. You should be aware that the national legislation and European Union law and treaties applying to this procurement might change. The Secretary of State does not take responsibility for any such changes or other external factors that may affect this Request for Information.
- 5. The submission of a response to this Request for Information, shall constitute your unqualified acceptance of and consent to the foregoing provisions.

RFI Security Information

- 6. The following security information should be read and understood before responding to this RFI:
 - The security classification of this RFI is OFFICIAL.
 - The security of the anticipated future procurement referred to within this RFI, is deemed of critical
 national importance. The highest level of classification of this project is currently SECRET UK/US
 EYES ONLY but it is expected to expand to ABOVE SECRET for future requirements, this will impact
 on any future competitive activity anticipated with this project. Hence the Official Secrets Act and
 other relevant legislation will also inherently apply. Effective security will need to be designed,
 implemented and assured throughout the life of the project.
 - Further information on HM Government (HMG) administrative system for protecting assets is available from the <u>Government Security Classifications Policy (www.gov.uk)</u>.
 - Further information on HM Government (HMG) security standards for staff with access to government assets is available from the <u>National security vetting: clearance levels (www.gov.uk)</u>.

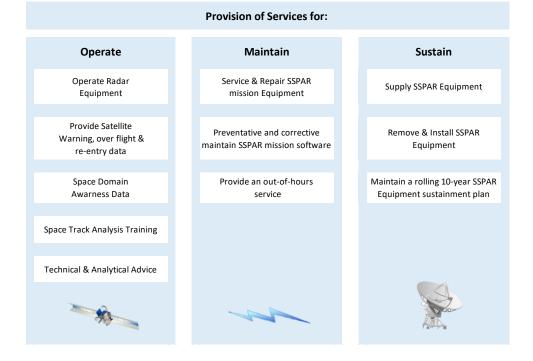
Information Management

7. All responses to the question set will be treated as commercially sensitive and respondents may answer as many or as few of the questions as they wish.

- 8. Only Official responses should be sent to the email address specified below.
- 9. The Project Team shall treat any information received in response to this RFI with confidentiality and ensure it is not shared with any industry partners.
- 10. The outcome of the information will be consolidated and used to help inform decision making and any Defence evidence-based reports and documentation as required by the Project.
- 11. No commercial sensitive information of any kind received in response to the request, will be disseminated outside of the MoD.

Target Organisations

- 12. The focus of this RFI is on organisations that can provide the services as detailed in Annex A Statement of Requirements Summary.
- 13. Figure 1 below, provides an illustrative view of the capability required.



Section 2 – RFI Information

Background

- 14. The current contract providing Operational and Maintenance (O&M) Support Services to the Solid State Phased Array Radar (SSPAR) at <u>RAF Fylingdales'</u> is drawing to an end.
- 15. The MoD is therefore considering its options to run a future competitive procurement to select a followon service provider. The options being considered to inform the future Statement of Requirements are:
 - **OPTION 1 Limited managed Service**: Requirement covering Operate and Maintain services only, with the Authority placing tasking requests as required for Urgent and Sustainment Activities.
 - OPTION 2 A Partially Managed Service: Requirement covering Operate, Maintain & Sustain services. The anticipated future Sustain Programme is provided in <u>Annex D OM&S Refurbishment</u> <u>Programme</u>. With the Authority only placing additional tasking requests for Urgent unforeseen Activities.

- **OPTION 3 A Fully Managed Service**: Requirement covering Operate, Maintain & Sustain services, with the Authority placing minimum tasking requests for urgent unforeseen Activities. The provider ensures all assets are sustained within their economic life.
- 16. This RFI is seeking to understand and gain additional market knowledge of the implications of running a competitive procurement for the above options.
- 17. To facilitate this, the MoD would like to invite industry to provide feedback on the objectives of this RFI, utilising their experience, knowledge and the data set provided. This feedback will ensure a robust procurement is held in relation to the questions shown in Section 3 Information Requested

RFI Objectives:

18. The MoD Objectives for this RFI are as follows:

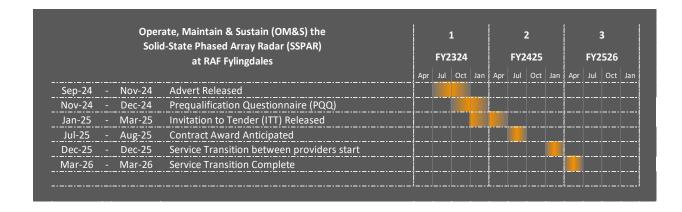
- Pre-warn industry on the anticipated future competition for the Operate, Maintain & Sustain (OM&S) Support Services to the Solid-State Phased Array Radar (SSPAR) at RAF Fylingdales.
- Develop MOD's understanding of market needs to become a more intelligent customer.
- Assess the market appetite for the proposed future procurement activities.
- Seek information from industry to reduce the risk of possible delays in progressing the requirement to market.

Industrial Engagement Approach

- 19. We welcome feedback from Target Organisations, in response to the Section 3 Information Requested. Respondents may answer as many or as few of the questions as they wish.
- 20. When responding, please ensure that appropriate rights of distribution are in place for all information shared in response to this RFI.
- 21. The content of individual responses (or lack of response) will not be in any way prejudicial to future procurement processes and is for MOD information only.
- 22. This early market engagement exercise will encompass the following activities:
 - Solicit information from Industry via this RFI.
 - Project Team to collate Industry responses.
 - Project Team to review and assess Industry responses and determine if the Authority wishes to seek further clarification via addition RFI.
 - Project Team to consolidate their assessment(s) and articulate the outcomes into an Early Market Engagement report for internal Defence use only.
- 23. Please be aware that the description, services and all other project related aspects detailed within this document are subject to change by the Authority without notice or consultation.

Indicative plan for the anticipated competition

24. The timeframes provided below are indicative dates that the project is currently working towards for the future procurement. These dates are provided for illustration purposes only, as they will be subject to change during the project's lifecycle and as the project schedule is matured.



Section 3 – Information Requested

25. The fundamental services for Solid-State Phased Array Radar (SSPAR) at RAF Fylingdales has generally remained the same, however the Authority recognises that the last contract was awarded over a decade ago. Therefore the Authority invites industry from Target Organisations, to respond with suggestions and/or recommendations on the following question set:

Question 1 – Competition data:

- 26. We are seeking views on the fitness for purpose of the competition data as outlined in Annex B OM&S Procurement Data Proposed and Annex C OM&S Asset Information.
- 27. Focus should be given to:
 - Creating a data set that supports a level playing field, providing suppliers an equal opportunity to compete and
 - Identifying relevant data that will fundamentally support industry's ability to create meaningful and competitive proposals for the anticipated OM&S procurement.
- 28. **Question 1 Competition data**: Please provide recommendations for improving the proposed data set, outlining your reasons/the benefits for your recommendations?

Question 2 – Option 2 Estimated Costs:

- 29. The Authority is intending to extend the current SSPAR service to move from limited managed service (Option 1) service to a partially managed service (Option 2). Option 2 will include a long-term plan for SSPAR equipment to be refurbished, replaced and tech-refreshed over the life of the contract. The rolling Sustainment Programme will be developed by the Authority, based on asset information routinely provided by our service provider.
- 30. We are seeking industry insight to verify the Authorities proposed budget outlined in Annex E Rough Order of Magnitude (ROM) Estimated Costs is appropriate to deliver the new requirement for a Sustainment Programme as detailed in Annex D OM&S Refurbishment Programme.
- 31. Question 2 Option 2 Estimated Costs: Based on the forementioned information, please provide recommendations for improving our cost estimate, outlining your reasons/the benefits for your recommendations?

Question 3 – Option 3 Estimated Costs:

- 32. The Authority is seeking to understand the anticipated difference in Rough Order of Magnitude (ROM) Estimated Costs between a partially managed service (Option 2) and a fully managed service (Option 3).
- 33. Option 3 being a fully managed service, where the service provider is wholly responsible for developing and implementing a continual refurbishment, replacement and tech-refresh programme of work to ensure a 99.78% availability of equipment for the Solid-State Phased Array Radar (SSPAR).
- 34. **Question 3 Option 3 Estimated Costs**: Please could you provide an indicative idea of the Rough Order of Magnitude (ROM) cost differences between option 2 and option 3 as proposed by the Authority?

Question 4 – Transition Plan:

- 35. The Authority has drafted a plan to support the transition of SSPAR services from the incumbent provider to a new service provider. The plan provided at Annex F OM&S Draft Transition Plan allows for a three month period of dual running between service providers to ensure there is no drop in operational outputs, current service provision or equipment availability (required at 99.78%) during the transition.
- 36. **Question 4 Transition Plan**: We are seeking feedback on the suitability and any perceived risks relating to our proposed Transition Plan. Please outline your reasons/benefits for your recommendations or an explanation for any perceived risks?

How to respond to this RFI

- 37. Your response should be:
 - a) Submitted in Microsoft Word or PDF format.
 - b) No more than 30 pages.
 - c) No greater the 60MB (The MoD Gateway will not accept emails exceeding this size).

38. Responses to this RFI should be sent directly to mailbox:

Air-CommercialGroupMailbox@mod.gov.uk

39. The subject heading (Title) of your email should for in the format of:

20240530 RFI SSPAR Fyl – Suppliers Name¹

40. The closing date for RFI responses is:

Friday 31 May 2024.

- 41. Please be aware that the MOD is <u>not</u> seeking promotional materials (sales pitches) in response to this RFI.
- 42. Thank you for your interest and your participation in this exercise is appreciated.

¹ Enter the name of your company.

Annex A - Statement of Requirements Summary

The services required to operate, maintain, and sustain the SSPAR capability.

1) <u>RAF Fylingdales'</u> has two primary missions, which comprise of:

- Missile Warning &
- Support to Missile Defence.

2) These missions are delivered to a wide range of customers, including US Strategic Command (US STRATCOM); Integrated Tactical Warning and Attack Assessment (ITW/AA) forward users; Missile defence users in the US; UK Space Operations Centre (SpOC) etc.

3) RAF Fylingdales' secondary mission is Space Surveillance, which contributes to the US Space Surveillance Network (SSN) and the UK SpOC.

4) Operations also provide data which contributes to the satellite warning service, over flight and re-entry roles the UK SpOC delivers to the MOD and UK forces deployed worldwide.

5) Therefore, Ballistic Missile Early Warning System (BMEWS) Site III at RAF Fylingdales has the unique function of providing missile warning, missile defence and mission data, and up to SECRET analysis simultaneously to the UK and US (with an aspiration to go ABOVE SECRET in the future).

6) These services are currently supported by approximately 54 contractor staff with SC clearance, with 4 staff needing DV clearance.

Operate Services Required

7) Civilian 'operations' personnel to support the MOD responsibilities at RAF Fylingdales. To provide the following functions:

8) **Technical and analytical advice** for the following missions at SECRET, with an aspiration to work at ABOVE SECRET in the future:

The Ballistic Missile Early Warning (BMEW) mission. Providing:	 Missile Launch Analysis and Reporting: detect and provide warning & attack assessment of missiles. analysis all missile events for US & UK Higher Authorities. False alarm or anomalous events: determine causes and consequences of events. 						
The Missile Defence mission	For example, analysing the role the capability has played in a missile launch event.						
	1] Manoeuvres and observations of high interest objects due to their						
The Space Surveillance and	ability to manoeuvre.						
Tracking (SST) mission -	2] Conjunction Threat Analysis (CTA): Assess the risks of possible						
Satellite Warning Service to the	conjunctions.						
United Kingdom. For example,	3] Space Domain Awareness (SDA) in support to UKSpOC.						
providing:	4] Operate the UK Enhanced Spacetrack Processor (ESP); To maintain						
	Space Surveillance mission.						

9) **Space Track Analysis Training** – To train and assure the military UK Space Command personnel operating at RAF Fylingdales to conduct the Space Track Analysis role to a standard enabling them to work on shift unsupervised in conjunction with their contracted colleagues. The aim of this is to build and grow the pool of qualified military Space Track Analysts.

Maintain Services Required

10) **Maintenance and Systems Engineering.** The BMEWS is a 24/7, strategic missile warning system. The RAF Fylingdales SSPAR mission equipment and software are supported by the US. Modification and replacement of those system is the responsibility of the US. However, routine first and second line preventative and corrective maintenance of those mission systems is carried out by a contracted party (paid for by the UK MOD). The responsibility to modify, replace, conduct corrective and preventative maintenance on the SSPAR's ancillary (Real Property Installed Equipment) systems is currently provided by Serco, and paid for by the MOD. Annex A provides more detail on the maintenance activities the winning contractor will be responsible for.

11) **US tasking on the MOD's UK contractor for upgrades to the mission system.** In support of software and hardware of mission equipment, the UK contractor (currently Serco) is periodically tasked to assist in the successful delivery of those tasks. These requests for support by the USSF, of the UK MOD's Contractor will be directed through UK Space Command. These supporting activities are ad-hoc and are above & beyond the OM&S contract and so are typically conducted out-of-hours (over-time). If not able to be conducted out-of-hours, the time/cost (charged to the US) is taken off the monthly OM&S invoice. On average these upgrades occur 4 times per year for a period of 1 week with varying levels of UK MOD contractor support required.

12) **Systems Engineering and programme/project support and management of complex systems**. Provide the expertise through suitably qualified and experience personnel to maintain the mission systems with technical knowledge and expertise on; Multi-function Radar, Phased Array Radar, **real**-time software programming, Object Oriented Programming, Cyber Security, Commercial off the Shelf software, orbital mechanics and Space Environment.

13) **Communication Information Systems.** Provide engineering support of radar, computer & comms info systems (CIS) including the SSPAR, UK Missile Warning Distribution Systems (UKMWDS), Space Track Processor, SSPAR trainer.

Sustain Services Required

14) **Sustain.** The SSPAR building and a significant number of the ancillary systems were built or installed over 35 years ago. For some pieces of equipment, the technology is now obsolete and when it becomes unserviceable, there will either be no direct replacement available or a very expensive/long lead time solution available to rectify it. Therefore, there has been a heavily invested programme of 'Tech Refresh' / 'Sustainment' in place over the past 3 years (leading up to Summer 24) to improve the resilience of the SSPAR. In the final two years of the contract, there will be another 'Tech Refresh' / 'Sustainment'. Following on from that, a 5-10 year plan will be created to 'Tech Refresh' / 'Sustainment' the remaining aging equipment. Annex B provides an indication of the sustainment plan until 2030.

15) **Sustain Planning**. The incumbent supplier will be expected to develop and maintain a rolling 10-year sustainment plan.

Annex B - OM&S Procurement Data Proposed

1) The proposed data set which will be available to bidders as part of the tender pack will include deliverables, performance, systems & services data both current and historical as follows:

a) Any information produced under the contract required by law associated with re-competition, such as TUPE etc. Although this is specifically referred to in point below.

b) An asset list (Annex C, imbedded excel document) providing the following information:

- i) Short description of asset
- ii) Maintenance Type
- iii) Maintenance (Workorder/Job plan description & frequency)
- iv) Details with respect of use (Category)
- v) Location
- vi) Maintenance history (Last Complete)
- vii) Ownership

c) Information relating to assets:

- i) Trends in Corrective & Preventative Maintenance (Annex C)
- ii) Refurbishment Programme for Assets (Annex D)

d) A limited² set of technical documents relevant to the system and services to the extent necessary to enable a follow-on contractor to continue to perform all or any part of the services and use the system to deliver services.

e) Copies of any licence of Third-Party Intellectual Property Rights referred to in the IPR Register and details of the licence terms in the current contract.

f) All employment information relating to the current contractor's employees to meet TUPE and Labour Relations Regulations. Subject to any restrictions in obtaining any appropriate consents (insofar as such restrictions and consents are provided in or required).

2) Please note, the current contractors commercially sensitive information will not be shared.

3) Site visits to RAF Fylingdales will be permitted as part of the procurement process.

² Limited due to the Technical Assurance Agreements in place with the US that allows only certain organisations to discuss the technology.

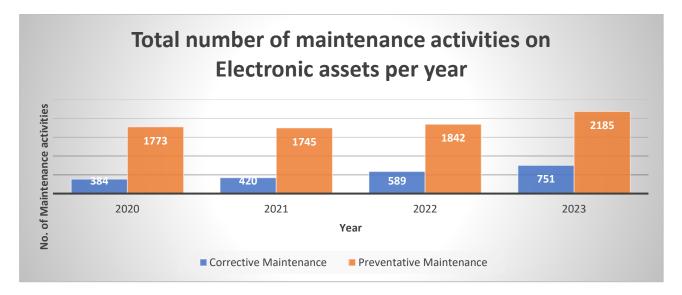
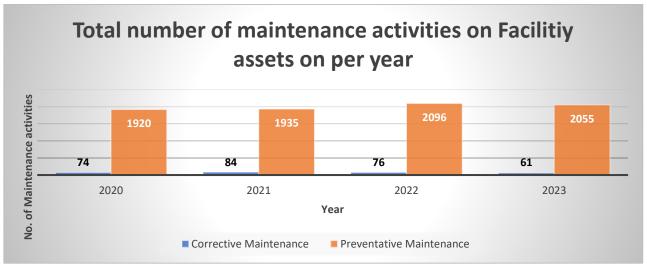
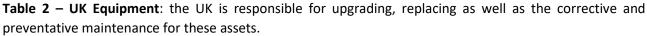


Table 1 – US Equipment: the US is responsible for upgrading and replacing these assets with the UK providing corrective and preventative maintenance.

Note that there is no Preventative (scheduled) maintenance on the SSPAR's Solid State Modules (SSM) on each of the three Radar faces. There are approx. 2800 modules per Radar face. These are however subject to Corrective Maintenance (CM). The 40% and 27.5% increases shown in the Corrective Maintenance activity from 2021 to 2023 is driven by the aging equipment. An additional contributor factor is the Solid State Modules (SSM) replacement programme which disturbs the modules and has increased their failure rate. The SSM replacement programme is due to complete in 2025, that alongside the Sustainment programme is anticipated to reduce the increase in Corrective Maintenance (CM) actives shown in years 2022 & 2023, back to normal levels from 2026/27 onwards.





This embedded excel document is a list of the equipment that the UK is responsible for maintaining along with the frequency and type of Preventative (Scheduled) Maintenance carried out. The document will also be provided as a separate attached to this RFI, if readers experience difficulties in accessing.



Annex D - OM&S Refurbishment Programme

Serial No	Description	Completion Date
1	Replacement of SPE Cooling Medium	Mar 2023
2	Replacement of 6 x DSC UPS Units	Aug 2023
3	Replace LV Switchgear - Anti Icing Sub station	Sep 23
4a	Replace obsolete Fire Panels	Jun 23
4b	Replace obsolete Fire Panels	Jul 23
5	Replacement Compressors	Aug 23
6	Replace LV Switchgear - Transmitter sub-station	Oct 23
7	Replacement BMS Field Equipment	Aug 24
8	Replace LV Switchgear - Area B sub-station	Jul 23
9	Replace LV Switchgear - Area A sub-station	Aug 23
10	Rotor Starter	Sep/Oct 23

Table 1 O&M sustainment activities completed this financial year.

Table 2 OM&S Planned sustainment activities from Apr 2024 to Mar 2026

Serial No	Description	Anticipated Completion Date					
1	Study into re-design of Chiller plant heat exchanger	Spring 24					
2	Replacement of final 25 LV switchgear breakers	FY 24/25					
3	Motor Generator Viscous Damper set end of life replacement, MG Service and Inspection & MG control and monitoring upgrade.	FY 24/25					
4	Direction Finding equipment replacement	FY 24/25					
5	Static transfer switches	FY 24/25					
6	MG Set Heat Exchanger replacement	FY 25/26					
7	Building Management System replacement	FY 25/26					
8	SPE emergency generator mid-life Service	FY 25/26					
9	Chiller plant heat exchanger replacement	Spring 25					
10	SSPAR supply, extract and purge fans replacement	FY 25/26					
11	SPE controls replacement	FY 25/26					
12	Elec Distribution Boards replacement	FY 25/26					
13	SSPAR Array Flow Switches	FY 25/26					
14	SPE Exhaust replacement	FY 25/26					
15	SSPAR battery replacement	FY 25/26					

Serial No	Description	Anticipated Completion Date
1	SPE heat exchanger replacement	FY 26/27
2	Array Face Unit Heaters	FY 26/27
3	Level 3 Air handling units	FY 26/27
4	SSPAR Fire Bells Upgrade	FY 26/27
5	50 Hz Converter	FY 27/28
6	Replace SPE Duct Heaters	FY 27/28
7	Replace Cooling coils on remaining AHU's	FY 27/28
8	BMS upgrade to existing pneumatic system	FY 28/29
9	Humidifiers	FY 28/29
10	LV switchgear auto sequential closing controls	FY 29/30
11	Replace air receivers	FY 29/30
12	BMS field equipment	FY 29/30

Table 3 OM&S Anticipated sustainment activities for Apr 2026 to Mar 2030.

More refined list expected to be created in time for document set as part of the Tender pack.

Annex E - Rough Order of Magnitude (ROM) Estimated Costs

The table below is the Authority's Rough Order of Magnitude (ROM) Estimated Costs for the anticipated contact, proposed under OPTION 2 - A Partially Managed Service, as detailed in para <u>15</u>.

This includes an estimation of costs for the planned refurbishment of assets provided at Annex D - OM&S Refurbishment Programme.

Period Term Provision of Service	25/26 Transition	26/27 Year 1	27/28 Year 2	28/29 Year 3	29/30 Year 4	30/31 Year 5	31/32 Option Year 1	32/33 Option Year 2
Management	£30k	£600k	£600k	£620k	£640k	£660k	£680k	£700k
Operate	£95k	£1,900k	£1,950	£1,990k	£2,055k	£2,120k	£2,185k	£2,225k
Maintain	£75k	£1,500k	£1,600k	£1,640k	£1,655k	£1,720k	£1,785k	£1,825k
Sustain	£0	£1,000k	£1,025k	£1,050k	£1,075k	£1,100k	£1,125k	£1,150k
TOTAL	£200k	£5,000k	£5,175k	£5,300k	£5,425k	£5,600k	£5,775k	£5,900k

Annex F - OM&S Draft Transition Plan

Activity	Prepa	Preparation					Transition p			period				
Onboarding	from Contract Award	to Contract Start	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Contract start up meeting														
Governance - Implementing the governance that was pre-agreed.														
DRAFT Transition plan reviewed and agreed stage 1														
Transition plan finalised and impleneted based (stage 2)														
Governance - KPIs reporting, project boards, escalation routes etc														
Governance - Interim boards for dual running period.														
Technical Assurance Agreement (TAA) Required														
UK Security clearences required														
Time to obtain MoDNet accounts/access														
TUPE - understand the scope of activities														
TUPE - transition over of staff														
TUPE - HR details - transition of Pay, pensions, benefits etc.														
Training section				I										
Training of new staff														
Training - (Ops and Maintenance) licences to operate														
Training (Ops and Maintenance) - schedule of training														
Training (Ops and Maintenance) - training manuals available														
Training - professional/personal competance of Operations (incl certificates)														
Training - professional/personal competance of Maintenance (incl certificates)														
Training (Ops and Maintenance) - Proving that they follow GDPR and doing it														
Handover of equipment section														
Site Survey to afirm site handover														
Transition of exisiting bespoke IT systems to MoDNet.														
Transfer of IPR for Enhance Spacetrack Processor														
Handover of Electronic documents (Design docs, wiring diagrams)														
Handover of GFI and GFA (Maximo)														
Migration to new Maintenance task scheduler and tracker.														
Audit of Maintenance task scheduler to ensure correct data migration.														
Handover of Physical documents (including Intelectual property list)														
Handback of GFA (inc Mod Net Laptops)														
Identification of supplies and excess equipment and offered to the follow-on														
contractor, or identified for disposal. The master inventory will be agreed and														
signed off at the point of transfer to the follow-on contractor Handover of equipment, tools & software Non GFA - To be agreed as part of the														
Exit & Transation plans.														
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