Contract Specification

Title:	**CHP LTHW Heat Recovery Main Contractor**
Project Ref:	**BC24-002: CHP LTHW Heat Recovery**
Date:	**03/12/2024**
Procurement:	**John Nixon**
Owner:	**Anthony Clarke**
Client:	**The Pirbright Institute**

1 Scope of Works History

1.1 Document Location

N:\Capability Projects\Private\Operational Projects\BC24-001 ISO 11 Incinerator life extension\Procurement\Project Management

1.2 Revision History

Version	Date	Details	Author
2	**03/12/24**	Second Issue	DB
1	**02/12/24**	First Issue	DB

Changes from the previous version are highlighted yellow.

1.3 Approvals

This document requires the following approvals.

Name	Title	Version	Date
Anthony Clarke	Capability Operations – Project Sponsor	1	**02/12/24**
John Nixon	Project Finance – Procurement Buyer	1	**02/12/24**

1.4 Issue History

In addition to the approvers, this document has been issued to:

Name	Title	Version	Date
Part of 'Contracts Finder' Invitation to Tender	Part of 'Contracts Finder' Invitation to Tender	2	**03/12/24**
Part of 'Contracts Finder' Invitation to Tender	Part of 'Contracts Finder' Invitation to Tender	1	**02/12/24**

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3 Introduction

3.1 Document Purpose

The primary purpose of this version of the document is intended to:

- Give details of works required to potential suppliers so they can submit a quotation and programme of works.
- Fulfil the client brief and pre-construction information aspects of construction design management (CDM) regulations 2015.

For comparison only, this version of the document could be aligned with Royal Institute of British Architecture (RIBA) Plan of work 2020 Stage 1 (Preparation & Brief).

As the project progresses, this document will be updated to contain more detailed information on the proposed design and delivery of the works.

Should changes to the scope occur, these will always be recorded in meeting notes and the scope document will be updated and re-issued if appropriate.

This document details the envisaged requirements of the works but should not been seen as restrictive.

3.2 Summary Description of works

The contract is for a single supplier to provide:

- Work Package 1 – Mechanical & Electrical Installation & commissioning of CHP Heat Recovery system compliant with all current standards, as per the Tender Design provided for The Pirbright Institute (Pirbright), Ash Road, Pirbright, Surrey, GU24 0NF.
- Work Package 2 – Recommissioning of the Plowright building AHU & FCU circuits as per the specification outlined within the mechanical scope of works within the Tender Design
- Detailed design Work Package as outlined in Section 4.4

3.3 Specification Type

The specification for this contract will be of a performance specification type.

3.4 Contract Duration

The award contract duration will be **3rd February 2025 – 31st October 2025.**

3.5 Contact Details

The primary contact for queries relating to this Invitation to Tender process is:

John Nixon
Procurement Buyer
The Pirbright Institute
Procurement.department@pirbright.ac.uk

3.6 Location of Works

These works will take place at the following addresses:

The Pirbright Institute
Ash road,
Pirbright,
Woking,
GU24 0NF

4 General requirements

This section describes the general requirements related to delivering these works at The Pirbright Institute (Pirbright).

4.1 Health & Safety Requirements

All works related to this specification should be performed in line with site Health & Safety (H&S) rules and the Health and Safety at Work Act 1974.

The following documents are attached in Appendix E1 and detail the site rules to be considered when tendering and when works are performed on site:

- RISK-SOP-7: Management of Contractors
- R&A-COP-3: Contractor Site Handbook
- R&A-FORM-4: Pirbright Site Rules Overview
- EMS-WI-085: Permit to work
- EMS-FORM-100: Point of Work Risk Assessment (POWRA)
- EMS-FORM-098: Permit to Work Part A, Part B & Part C
- EMS-WI-87: EMS Lockout/Tagout Work Instruction
- EMS-FORM-126 RAMS for Planned Work on Bio Containment Systems (PWBCS)

If required, further training on the procedures detailed in the above documents can be given on site.

The above documents detail Pirbright's management of H&S for construction works, the following sections highlight aspects requiring particular attention.

4.1.1 Risk Assessments & Method Statements

Any works on the site must be preceded by a risk assessment and method statement (RAMS). These must be submitted to the Project Manager at least 5 days in advance of the works.

RAMS must be specific to the task and date of the works and should include a detailed step by step method.

RAMS are never "approved" but will be "reviewed" by Pirbright personnel, and feedback will be given. A permit to work will not be issued if the RAMS are deemed to be inappropriate.

Where appropriate, RAMS should be accompanied by drawings to help explain their context.

Details of the competent person performing works and their relevant training records should be included and/or referenced in the RAMS.

4.1.2 Tools and Equipment

Contractors should always provide their own tools and equipment they require to complete their works. Pirbright will not issue equipment to contractors.

Equipment which must be supplied by the contractor is as follows. Should tool be taken into areas where virus works take place, the equipment must be suitable for fumigation or can be disposed of. This would be risk assessed as part of the works. All items of test equipment must have a current calibration certificate.

Equipment used by contractors should be in good working order and comply with all relevant legislation.

Electrical equipment should be PAT tested.

Equipment brought into Pirbright's restricted areas will need to be suitable for fumigation or disposal, based on a specific risk assessment.

Where appropriate calibration, inspection and testing certificates of equipment being used should be issued to the responsible person before works commence.

4.1.3 PPE

Contractors should provide their own personal protective equipment (PPE). PPE used should be suitable for the works and specific type/specification of PPE should be detailed in the RAMS.

4.1.4 Barriers and Warning Signs.

Where necessary, areas of works must be cordoned off with suitable barriers and warning signs to deter unauthorised pedestrian/vehicle access during work activities.

Contractors must provide their own barriers and warning signs.

4.1.5 Access Equipment

Contractors should arrange scaffolding required. Pirbright preferred suppliers can be utilised. Contractors should ensure that scaffolding is inspected and tagged on a weekly basis once erected.

Contractors should provide all temporary access equipment required such as ladders. The equipment should be in good working order and should be of a class 1 (industrial) certification standard.

Contractors should provide mobile access equipment and driver/operator required. The equipment should be in good working order and copies of Inspection certificates (less than 12 months old) should be issued to the Pirbright responsible person before works commence. Copies of qualifications/training records/licenses for drivers operating the equipment should be issued to the Pirbright responsible person before the works commence.

Pirbright will not issue any of the above access equipment to contractors.

4.1.6 Lifting Equipment

Contractors should provide their own lifting equipment and driver/operator if required to complete works detailed in this specification. The equipment should be in good working order and copies of Inspection certificates (less than 12 months old) should be issued to the Pirbright responsible person before works commence. Copies of qualifications/training records/licenses for drivers operating the equipment should be issued to the Pirbright responsible person before the works commence.

Pirbright will not issue any of the above access equipment to contractors.

4.1.7 Equipment Certification

Where appropriate, evidence of inspection / testing / commissioning of equipment supplied or used for installation works should be provided.

4.1.8 Permits

All works performed by contractors require a permit to work.

See EMS-WI-085: Permit to Work WI and EMS-FORM-098: Permit to work (Appendix E1) for further details.

Note: The application of the safe system of work and permits to the construction works with relevant members of Capability EMS as advised by the project sponsor in advance of works commencing.

All works affecting Pirbright Bio-Containment systems must be carried out under EMS-FORM-126: RAMS for Planned Work on Biocontainment Systems (PWBCS).

4.1.9 Isolations

As detailed in the EMS Lock out/Tag out Work Instruction, Isolations must be performed under permit by Pirbright maintenance technicians and should be witnessed by the contractor performing the work who then add their own locks to the isolation.

4.1.10 Asbestos

The site asbestos register is available on request.

If any suspected asbestos is identified during the works, then works in the area should be stopped and it should be highlighted to the site contact, who will arrange sampling to take place.

4.1.11 Emergency Procedures

If an emergency event is discovered, such as a fire or medical emergency, the site gatehouse should be contacted for assistance on the emergency extension number 1000 or on radio channel 1.

On discovering a fire, the area should be evacuated, and all personnel should go to the fire assembly point. If safe to do so, fire alarm call points should be activated on the way out of the area.

In the event of a fire alarm, works should stop immediately, and contractors should make their way to their fire assembly point (to be given by the project manager).

4.1.12 Accident Reporting

Accidents should be reported to the Pirbright responsible person

4.1.13 CDM Regulations

The contractor will comply with the Construction (Design and Management) Regulations currently in force, where applicable.

4.2 Security and Site Access Requirements

RISK-SOP-7: Management of Contractors (Appendix E1) details site access requirements.

The following sections highlight aspects to be considered.

4.2.1 Photos

Photos on site can only be taken with prior agreement from the Pirbright responsible person. Any photos taken should not include any faces or vehicle number plates.

4.2.2 Site Access

To gain access to site, all contractors must have visitor forms raised for them by their site host before arrival on site, therefore a full names and dates of all personnel attending site must be provided at least 24h in advance.

Contractors must report to the gatehouse and present photo ID each time they access site. Photo card driving license and passport are the only forms of ID that will be accepted.

4.2.3 Site Inductions

An additional 30 min video induction and associated test should be completed by contractors working within any restricted areas.

4.2.4 Approved Contractors and Escort Requirements

Contractors must be fully escorted by Pirbright personnel unless there are approved contractors within the team.

Therefore, it is recommended that an appropriate number of contractors in each team should complete an institute security check (performed by Agenda). The cost of this is covered by the institute. This process can take up to 2 weeks to complete. To initiate this process, provide full names and an email address specific to the person to the site contact.

1 approved contractor may escort up to 3 unapproved contractors if working in the same area.

All contractors, including approved contractors must be escorted within restricted areas.

4.2.5 Vehicle Movements

Vehicle movements on site roads is subject to a speed limit of 10 mph which must be observed at all times extra caution should be taken by drivers on site roads due to shared use of roads by pedestrians, bicycles and vehicles.

Vehicle access to the site is through the main entrance at the north boundary of the site.

4.2.6 Welfare Facilities

Welfare facilities as well as a site office will be provided by the main contractor.

4.2.7 Working Hours

Contractors will be able to access site from 0700h – 1900h Mon - Fri. works outside of these hours need to be arranged with the Pirbright Responsible Person.

Consideration should be given to the use of temporary lighting requirements if working in poor light.

4.2.8 Construction site management

The construction site should be prepared and managed by the main contractor delivering the heat recovery work mechanical and electrical packages. The main contractor is to provide suitable welfare and site office during installation work packages.

Access to the construction site should only be to people who have completed a construction site induction.

This construction site induction should be created by the Pirbright project manager and agreed with the main contractor.

This induction will initially be delivered by the Pirbright project manager to the main contractors and internal personnel after which the induction can be delivered by the main contractor.

Note: The construction site management plan should be agreed with relevant members of Capability EMS as advised by the project sponsor in advance of works commencing.

4.3 Bio Safety Quarantine and Decontamination Requirements

There aren't expected to be any such requirements, however further details will be given on site if this changes.

4.3.1 Quarantine Requirements

Personnel and equipment working within restricted areas will be subject to a 3-day quarantine period. During this period, they or their equipment mustn't visit zoos, farms, safari parks or other locations likely to house susceptible species of animal.

Further details will be given in the restricted area induction. Quarantine of equipment will be subject to a risk assessment for the specific task.

4.3.2 Fumigation Requirements

Equipment used for the works within the restricted areas will need to be fumigated out, this is usually performed overnight so allowances must be made for collection of this equipment the next day or on the next visit. This also means that equipment taken into the restricted area should not include absorbent materials as these cannot be fumigated out, this often requires straps / packaging materials to be removed from equipment.

This also means that paper cannot be removed from restricted area (arrangements to scan and e-mail paperwork can be made in advance).

4.4 Design Requirements

4.4.1 Design Responsibility

Detailed design work for all mechanical, electrical, civils and controls works will be undertaken at Stage 4 Design. Final design responsibility will be a combination between the nominated Designer appointed by the client and the Main Contractor.

Design Responsibility of the Appointed Designer (TerraNRG) has been defined as:

Schematics, layout drawings & the overall system operation will be developed and maintained by the Appointed Designer.

The Main Contractor will likely identify areas that can optimise installation and will require updates to design which will be of value to the client and the project. If identified, the Appointed Designer and appropriate Capability EMS personnel will review these options against the design strategy to ensure it does not impact plant specification or operation. All changes will be logged within the Design Change Register to ensure a robust change management process. Sufficient evidence must be provided by the Main Contractor to understand any change of design and ensuring plant/equipment performance is not impacted.

4.4.2 Confirmed Contractor Design Responsibilities

Final civil design specifications and structural calculations to cover plinths, pipework penetrations and supports to be provided.

Validation analysis of pipework design including thermal expansion, insulation specification & pipework supports.

Review suitability of main equipment at Stage 4 Design.

All assembly/manufacturing drawings are provided by the Main Contractor and retained as part of the O&M documentation.

Sufficient evidence of design suitability for any proposed design changes from the contractor as outlined in 4.4.1.

4.4.3 Controls, Automation & BMS

Implementation of automation, controls & BMS works will be undertaken by the client's nominated contractor (Schnieder Electric). The Main Contractor will be responsible for the supply and mechanical installation of main controls and instrumentation equipment as outlined in the design equipment schedule.

Installation of the control equipment electrical supplies and control cabling will be the responsibility of the control & BMS contractor.

4.4.4 Standards and Specifications

All equipment supplied an installed should be manufactured, installed, tested and commissioned in accordance with all applicable national and international standards, manufacturer's instructions. These should be referenced in any quotation documentation and RAMS documents.

4.4.5 Design Review & SWIFT Analysis

The proposed construction design should be reviewed with appropriate Capability EMS personnel and external consultants. The Main Designer and any appropriate sub designers must attend and provide any information requested in advance.

4.4.6 Documentation

The common platform for all project documentation between contracting teams and the client (Pirbright) will be the cloud-based construction management software, “Procore”. System familiarisation and access will be provided to the Project Manager following appointment.

The following documentation should be issued before works commence:

- Structural, supports & civil works calculations & specifications
- Design calculations, or statements confirming they are not required.
- Relevant safety certificates for equipment being used to perform the works.
- Contractor Risk Assessment / Method Statements.
- Scopes / schedules of works
- Any lifting plans.
- Any waste storage / disposal plans.
- Other statutory documentation, as required.

4.5 Completion of works

The following sections detail what will constitute the completion of the works.

4.5.1 Inspection and Testing

Any records relating to the inspection, testing and commissioning of an installation should be provided to the project manager. Were appropriate, witnessing of these by a member of the Pirbright engineering team may be required.

4.5.2 Commissioning, Verification & Validation (CVV)

Commissioning of equipment must take place to prove that requirements as detailed by this scope of works have been successfully met. CVV requirements must be drafted during the Design development phase of the project and finalised during the detailed design phase of the project.

4.5.3 End Users Training

Appropriate end users training must have taken place to a level that the end user feels they can successfully operate and maintain any equipment.

4.5.4 Snagging Surveys

All works, they must be visually inspected by an appropriate member of the institute engineering team. Any snags identified shall be listed on a project snagging schedule by the project manager and reviewed with the main contractor and project sponsor to agree where responsibility for remedial works lies. Performance and documentation defects/deficiencies can also be recorded and traced on this schedule.

4.5.5 Project Information File (PIF)

Final handover to the Pirbright operations team includes the completion of a Project Information File (PIF). This includes information from the contractors. Details of what is to be included in the PIF are shown in the PIF check sheet included in Appendix E1.

All project documentation is to be handed overusing Pirbright's document naming convention

A full list of assets disinvested, and new assets will be provided in accordance with Pirbright's asset naming convention

Pirbright's document management system is the cloud-based "Procore" system and this will be used for the sharing of all design information, handover, etc to ensure traceability.

The Following documents apply and are included in Appendix E1:

- EMS-WI-230 - Technical Library Principles of Use
    - EMS Document Naming Convention
    - Procore Disciplines

The Pirbright appointed Project Management and design team (Terra NRG) will collate the PIF.

4.5.6 Operations Handover Workshops

Operational handover workshops should take place between once the activities in the sections above have been completed, this should be facilitated by the Project Manager and should involve the following people:

- Capability EMS Leader Operations and Maintenance
- Capability Operations Projects Manager
- Appropriate Capability EMS Specialist Equipment Owners
- Capability EMS BMS Owner
- EMS Technical Coordinator
- Maintenance Supervisor(s)

All project and Handover documentation will be accessed on "Procore", the cloud-based system which Pirbright use for their document and drawing management.

All documentation for review will be uploaded to Procore and will be organised according to Pirbright's stated document naming convention, which is attached in Appendix E1.

The main contractor may be required to attend these handover meeting(s).

4.5.7 Project Completion Sign Off

Once all the activities in the above sections have been completed, then a project completion sign off sheet should be signed by those that attended the handover workshops.

This marks the completion of the project, and any new equipment installed is now managed by Capability EMS Operations and Maintenance.

4.5.8 Waste Management

A project will not be signed off if waste from the works remains on site, contractors must dispose of waste from the works via appropriate means.

Pirbright waste streams must not be used without prior agreement.

It is envisaged that no Pirbright waste streams will be used for the delivery of these works.

All waste spoil created by the works must be removed from site by the contractor and disposed of in an appropriate manner. However, this must be confirmed in writing with the Pirbright Biosafety team as spoil from some areas of site must be stored and/or sampled on site before disposal.

Any waste skips/bins/collections must be arranged by the contractor.

Waste management for this project will be based on a risk assessment.

4.6 Commercial Requirements

Quotations will be gathered through the appropriate procurement procedure. Orders can only be placed with approval from the Project Sponsor (as budget holder).

Raising POs and co-ordination of any competitive Request for a Quote process will be by EMS Administration.

Contractor capability should be reviewed before works are awarded based on the requirements set out in the Invitation to Tender pack.

4.7 Project Management Requirements

4.7.1 Project Meetings

Regular project progress meetings between the project manager will take place with the main designers / contractors and any other relevant personnel required regularly. Technical Working Group meetings are held weekly.

4.7.2 Project Risk Register

A project risk register will be created and will be reviewed at Technical Working Group meetings.

The risk register should include design, H&S, cost and operational risks and details of mitigation measures to be taken.

4.7.3 Project Programme

A live project programme will be agreed in the detailed design phase and then further agreed once contractors are procured. Contractors should provide a delivery and installation programme associated with any works they are quoting for. The Project Manager should own and maintain the overarching project programme and Main Contractors/Designers should provide information on their elements of works as required.

4.7.4 Documentation Storage

All project documentation will be stored by the site contact the works in the project file on the Procore document management system (Pirbright Technical Library).

4.7.5 Project Co-Ordination

The following activities will ensure project co-ordination:

- Regular project management meetings, primarily between the Pirbright client representative and the main contractor/designer.
- Regular (weekly) Technical Working Groups with project stakeholders to drive progress.
- Regular site checks to see progress and ensure works are taking place in a safe manner.
- Toolbox talks: Main Contractor or Project Manager to conduct Toolbox Talks with all subcontractors as and when required to highlight any site issues for awareness.
- Regular updates from the Pirbright Project Sponsor overseeing the works to the Pirbright Capability Estates Management Services team.

4.7.6 Client Representative

Pirbright Project Manager will be acting as the Client Representative in terms of CDM responsibilities.

4.7.7 Governance and Working Groups

This project will be delivered through a Construction Management procurement route with the procurement of Work Packages to be managed by the Pirbright appointed Project Manager, through the Pirbright procurement department, using Pirbright's procurement process.

The following Working Groups and project boards will be required to deliver the project:

- Weekly Technical Working Group: Emphasis on Project and design technical issues and problem solving.

5 Particular Requirements

This section describes the particular requirements of each works package of the scope of works.

This is not restrictive or fully detailed and the designers/contractors should provide additional detail where required and suggest alternatives if appropriate.

5.1 Work Package 1: Mechanical & Electrical Installation & Commissioning CHP LTHW Heat Recovery

Project Overview:

A significant energy project, commissioned August 2022, was the Combined Heat and Power (CHP) plant. This currently produces circa 90% of the site's power and 25% of steam load, saving an estimated £1m pa at current (October 2023) energy prices. The CHP has available a further 828kW of Engine Heat via LTHW, and the objective of this business case is to utilise this currently wasted heat from the CHP to both heat Plowright and to provide DHW, saving circa 5,000,000kWh of Gas per year. (£415k pa at current energy prices, 1.7 years payback time). The project started in April 2024, with benefits realisation starting October 2025.

The contract is for a single supplier to provide the Main Contractor role and deliver Mechanical & Electrical Installation, commissioning of the CHP LTHW Heat Recovery project. As part of this tender scope a RIBA3 Design for Tender M&E package has been provided to enable vendors to price this work package.

Scope of Works:

The scope of works will involve:

- Preparation for a construction ready design as outlined in Section 4.4.
- Supply, manufacture, delivery and installation of Mechanical & Electrical works as outlined in the provided design pack within this ITT.
- Planning of works and required shutdowns to implement enabling works
- Working with nominated controls contractor to ensure implementation of control packages are planned accordingly into construction phase program
- Final commissioning on completion of system installation.
- On completion of commissioning, remove and dispose of any redundant plant & equipment
- Management of all subcontractors employed by the supplier to complete these works.
- Training and Operational Procedures
- On completion, an O&M is to be submitted which provides details of works from design to completion. The O&M should include all relevant items shown in the PIF and should include all drawings, point to point testing and SAT commissioning. A separate section should be provided to show details of the following:
    - Brief Description of the works being carried out.
    - Project Risk Assessment.
    - Key structural principals.
    - Hazardous materials used.
    - Information on the future removal of installed plant.
    - H&S information about equipment provided for cleaning or maintaining installed plant.
    - The nature, location and markings of significant services.
    - Information and as built drawings of buildings, plant and equipment.
    - Step by step activities to carry out the works.
    - Lesson Learnt, challenges met and how they were overcome.

A CDM Construction site will be set up as part of the overall project which will provide for the following:

- Site Supervision
- Site Office
- Welfare Office including changing areas
- CDM documentation / inductions / daily logs / management of RAMS

For this tender, the supplier is required to provide a cost for annual servicing of the newly installed heat recovery plant. The requirements for this service contract are:

- Spares List showing the itemised costs

Design Basis

As part of this tender scope a RIBA3 Design for Tender M&E package has been provided to enable vendors to price this work package.

Overview Work Package 1

- The overall work package to deliver both mechanical & electrical installation works in accordance with the RIBA3 design
- Provide required design support as outlined in Section 4.1

Inclusions

- Supply and delivery of all mechanical and electrical installation works
- Specification, Supply and installation of all supports, steelworks and access platforms associated with above items
- Site set up works required for above works
- Project, site and contractor management of above works
- Documentation associated with all above works
- CDM requirements associated with above works
- Operation & Maintenance training for above items
- All applicable general requirements as detailed in section 4

Exclusions

- Control & BMS works as outlined in Section 4.4.3
- Refer to the Mechanical & Electrical Scope of Works provided within the design package

5.2 Work Package 2: Recommission Plowright Heating Circuits

Overview Work Package 2

Existing heating circuits supplying AHU's & FCU's within the Plowright building are observed to be running inefficiently. It is proposed these circuits are re-commissioned to achieve variable flow to increase the temperature differentials as well as improving the heat recovery from the CHP system via the heat recovery interfaces within the proposed design. The delivery of these work will involve support from the nominated controls contractor as well as TPI BMS team to implement the heating system efficiency improvements.

Inclusions

- Survey of AHU's & FCU's secondary heating circuits
- Inspection and validation of existing pumps, AHU's & FCU mechanical controls
- Work with nominated controls contactor, TPI BMS & project team to recommission system
- Site set up works required for above works
- Site supervision and contractor management of above works
- Documentation associated with all above works
- CDM requirements associated with above works
- Operation & Maintenance training for above items

Exclusions

- Associated works specific to BMS control changes

6 CDM requirements

This section outlines the CDM specific requirements for the project. It envisaged that the project will not be notifiable and that all works can be managed through the sites Permit to Work system. The works have been summarised below

- Upper Plantroom North and East side of the Plowright building
- CHP & Energy Centre compound
- Energy Centre, East & North Plowright building roof areas

External works around the CHP may require to be fenced off whilst work is undertaken and can be managed through the Permit to Work system. Working within plantroom areas will be in line with the Permit to Work system and should not require works to be segregated whilst in progress. For work on roof areas these will also fall within the Permit to Work System.

6.1 Client Brief

This scope document forms the client brief.

6.2 Duty Holders

Client

The client is The Pirbright Institute; represented by the TPI project manager (David Bedford) and as such will:

- Appoint the main contractor and designer in writing.
- Take reasonable steps to satisfy themselves that appointees have H&S skills, knowledge and experience.
- Complete HSE notification if required and display the notification at a location all contractors can see it.
- Update HSE notification if required.
- Provide Pre-Construction information as required.
- Ensure a construction phase plan is drawn up before works commence and ensure it is updated throughout the project.
- Ensure a health and safety file is drawn up before works commence and ensure it is updated throughout the project.
- Take reasonable steps to ensure the main contractor and designer are fulfilling their responsibilities.

Principal Designer – This role will not be formally appointed to the contractor, but work will be carried out in accordance with the CDM Construction Site set up for this project

The Designer for each work package is TerraNRG Ltd.

The designers will:

- Manage all sub-designers.
- Produce a health and safety file and update it throughout the project.
- Provide pre-construction information as required.

Main Contractor

The Main Contractor for each work package is to be confirmed.

The Main contractors will:

- Manage all sub-contractors.
- Produce a construction phase plan and update it throughout the project.

- Provide pre-construction information as required.

6.3 Pre-Construction Information

This document forms the pre-construction information and will be updated and re-issued as appropriate.

6.4 Management Arrangements

Section 4 outlines the management arrangements for the project.

6.5 Notification to HSE

If applicable, HSE notification will be done by the client representative.

6.6 Construction Phase Plan

Separate construction phase plans for each work package will be written and issued by the relevant Main Contractor. This must be reviewed with the client before any works can begin.

The construction phase plan should include the following sections (relevant sections of this document are also referenced):

- The health and safety aim for the project
- The site rules
- Arrangements to ensure co-operation between project team members
- Co-ordination of their work, such as regular site meetings
- Arrangements for involving workers
- Site induction
- Welfare facilities
- Emergency procedures, such as fire and first aid
- The control of any of the specific site risks relevant to the project

6.7 Health and Safety File

Each work package should have a health and safety file maintained by the relevant main designer throughout the project and issued to the client as a standalone document on the completion of works.

It should include the following information:

- Brief Description of the works being carried out.
- Project Risk Assessment.
- Key structural principals.
- Hazardous materials used.
- Information on the future removal of installed plant.
- H&S information about equipment provided for cleaning or maintaining installed plant.
- The nature, location and markings of significant services.
- Information and as built drawings of buildings, plant and equipment.

6.8 Application of CDM to this project

It is envisaged that CDM will be applied to these works