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# Town of Munster, IN | 335kW Landfill Gas Generator Replacement

## Clarke Energy Proposal IN0037 LC05

## February 29, 2024

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Our Ref: IN0037 LC05 Thursday, February 29, 2024

Mr. Mark Heintz
Town of Munster (IN)
10121 Calumet Avenue
Munster, Indiana, 46321

**Town of Munster, IN – 335kW Landfill Gas Generator Replacement**

Dear Mr. Heinz,

Further to your recent inquiry, enclosed is Clarke Energy's proposal for the equipment supply, engineering, installation, and project management of a replacement landfill gas generator plant for the proposed installation at the landfill in Munster, IN. This proposal includes a CHP option for thermal recovery of the exhaust and engine cooling circuits, providing a total efficiency of 78.7% and exceeding the minimum requirements for the Investment Tax Credit (ITC).

A partnership with Clarke Energy will provide the following commercial benefits:

1) **The efficiency, reliability, and robust performance** of INNIO's Jenbacher gas engine is the cornerstone of the Clarke Energy solution.

2) **With over 1.4GW of renewable power generation installed globally**, Clarke Energy's experience with alternative fuels is second to none, which will ensure the design is tailored to meet your site's specific needs.

3) **Local service** center in Northwest Indiana to swiftly support your operation throughout a long-term service agreement.

We trust this offer is in line with your requirements and look forward to discussing the project with you soon. Please do not hesitate to contact our sales team with any questions regarding our proposal.

Sincerely,

Clarke Energy USA, Inc.

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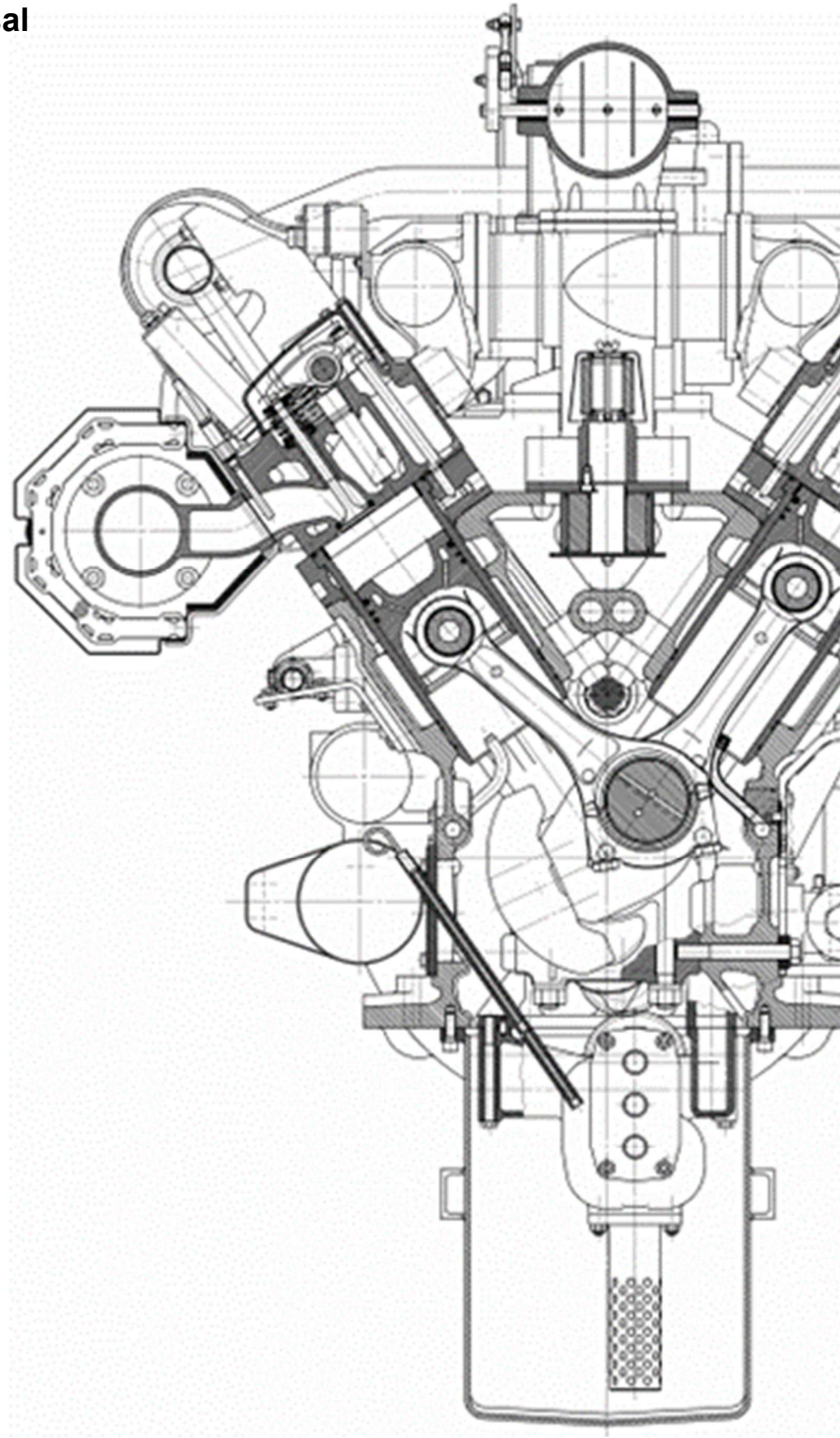
# Contents of Proposal





# Executive Summary

$1,144,413

**Capital Cost**

## Energy Efficiency

Quality CHP is the most efficient use of energy out (electrical, heat and / or cooling) for energy in, therefore immediately reducing carbon footprint.

## Supporting Net-Zero

Carbon capture and utilization products are available today and the portfolio of options for retrofit will continue to increase.

## Ready for Hydrogen

Jenbacher engines are capable of operation with a mix of Hydrogen and Natural Gas as well as 100% Hydrogen. We have several case studies for unit's operation on Hydrogen

## Energy Resilience

CHP can be configured as a safety net too, to prevent loss of production should a grid event occur. As the network increases its reliance on Wind and Solar and reduces its Thermal stations (Coal, Nuclear and older gas fleet) grid outages / instability will become more frequent.

# Clarke Energy Overview

Clarke Energy, a KOHLER Company, is a multi-award-winning global business specializing in providing market leading engineering, installation and maintenance of distributed power generation solutions.

**Engineer**
We have comprehensive engineering resources to support your project with capabilities in computer aided design, mechanical and electrical engineering.

**Install**
Our dedicated, experience team will support you in delivering quality through the project management, installation, and commissioning of your project.

**Maintain**
We value the provision of reliable maintenance services for your equipment, delivered efficiently through our extensive network of service engineers.

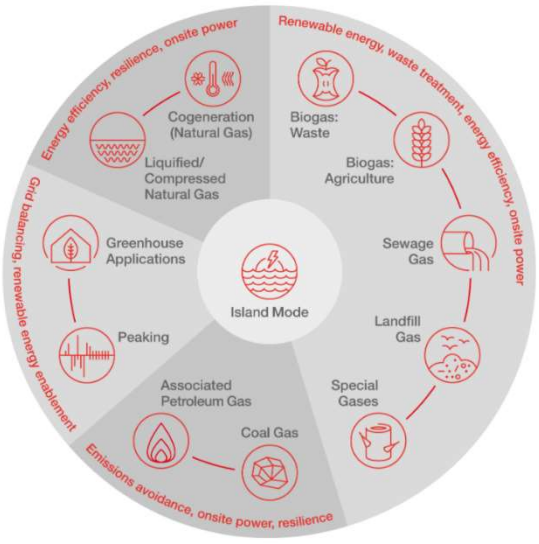
Our specialty is gas engine power stations and combined heat and power technology. We are expanding this offering to incorporate additional and complimentary renewable energy generation and storage technologies.

**Our goal is to maximize return on investment for our customers:**

- High efficiency power generation – maximum output for fuel
- Maximize availability: Quality technology, installations and spare parts
- Novel financial solutions where available

**Risk reduction for customers' projects:**

- Turnkey delivery of power generation solutions:
- Localized commissioning and service teams along with OEM approved spare parts
- Contracted long-term maintenance agreement



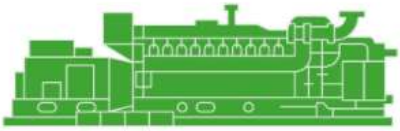
# Clarke Energy Overview

**Global Reach with Local Focus**

| >8.0GW | >1.4GW | > 1GW | 1,300 |
|---|---|---|---|
| Global installed base | Renewable electricity globally | Peaking and flexible globally | people employed |

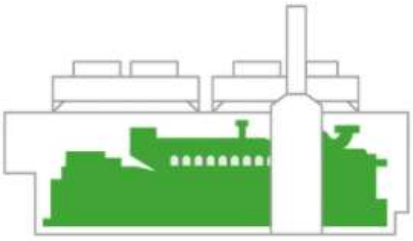
**Flexible Delivery Model and Tailored Scope of Supply**

Clarke Energy can supply a single engine through to full turn-key multi-engine plant



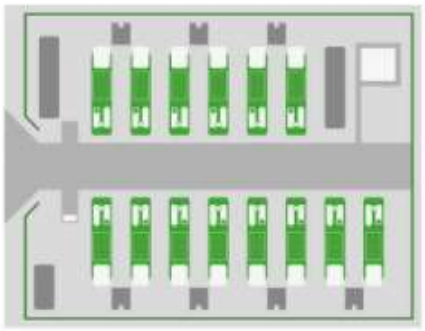
**Gas Gensets**

Jenbacher gensets configured to produce electrical power only offering savings over grid imported power.



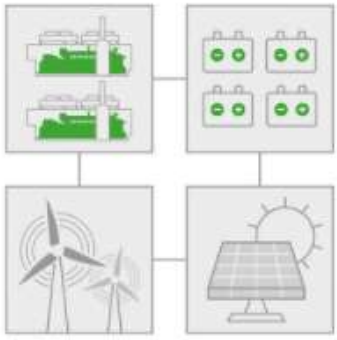
**Combined Heat and Power Plants**

Jenbacher gas engine module configured for both recovery of electricity and heat, offering greater savings.



**Power Plants**

Clarke Energy can take on the engineering, procurement, and construction (EPC) scope through turnkey installations.



**Hybrid Energy Systems**

Clarke Energy can take on a greater scope and incorporate different power generation technologies offering more resilient solutions.

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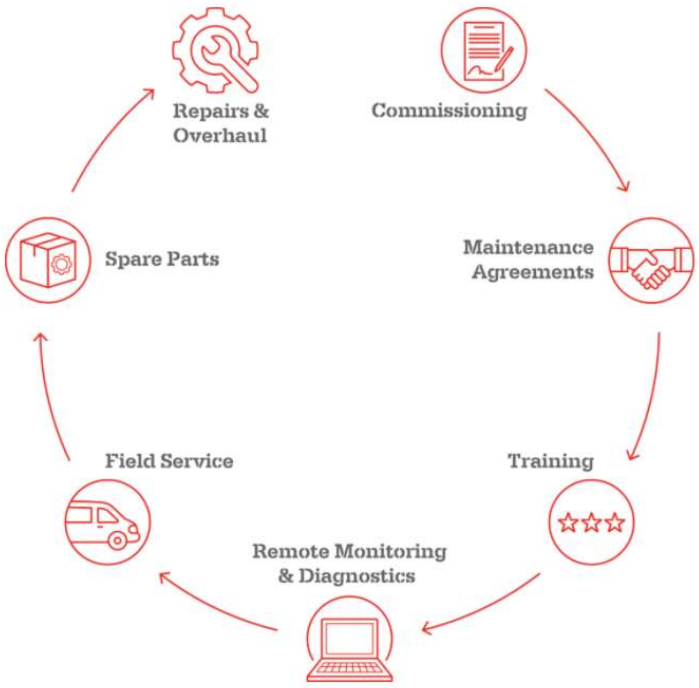
# Clarke Energy Overview

Clarke Energy's ethos is ensuring the highest levels of equipment availability, this should translate to maximize return on investment for our customer assets. We achieve this by having localized service teams in each country we operate, and local stores of genuine original equipment manufacturer (OEM) approved parts. Our teams are trained to the highest standards, and we offer training programs for our customers and staff. Explore the service lifecycle of an engine from the options below.




**>500**
Engineers on the ground across the world

**>$20m**
Jenbacher spare parts holding

**29**
Authorized Jenbacher service provider in 29 countries

**1989**
Began trading as a service company in 1989

**Commissioning**
Engines commissioned by local Clarke Energy service engineers.

**Maintenance Agreements**
Peace-of-mind to the customer with risk mitigation.

**Technical Training**
Manufacturer approved technical training in multiple languages.

**Remote Monitoring**
Engine performance diagnostics from an offsite location.

**Field Service**
Comprehensive network of local field service engineers.

**Remote Monitoring**
Engine performance diagnostics from an offsite location.

**Overhaul & Repair**
Scheduled and unscheduled maintenance for highest levels of engine availability.

**Maintenance Agreements**
Peace-of-mind to the customer with risk mitigation.

# Project Outline

Having evaluated the information provided, we propose the following gas engine generator set..

| Quantity | Model | Total Electrical Output | Generating Voltage | Electrical Efficiency | Thermal Efficiency |
|---|---|---|---|---|---|
| 1 | JMC208 GS-L.L (C821) | 335kW$_e$ | 480V | 36.0% | 42.9% |

**Base Scope**

INNIO's type 2 Jenbacher JMC208GS-L.L (Version C821) generating set producing a nominal electrical output of 335kW$_e$, with an electrical efficiency of 36.0% at full load. The plant will generate at 480V, 3 phase, 60Hz with all synchronizing equipment complying with grid code requirements. Clarke Energy's base proposal will include the removal of the existing JGC320 onsite, demolition of existing stack and heat recovery skid, and placement and installation of new 335kW$_e$ containerized generator solution.

Clarke Energy has additionally included an exhaust gas heat exchanger and plate heat exchanger for recovery of the exhaust gas and high temperature engine cooling circuit. By including these thermal components into the project, the total efficiency (electric + thermal) will exceed the 65% minimum to qualify for the Investment Tax Credit (ITC).

The genset will be packaged off site into a fully weather-proof, acoustically lined steel container, complete with a forced draught ventilation system to provide the required cooling and combustion air for the generator set. The containerized plant will be designed to achieve an overall noise level of 65dBA @ 10m.

Our proposed gas engine is supplied based on a maximum Nitrogen Oxide exhaust emission <1.1g/bhp.hr based on a dry exhaust with 5% $O_2$. Lower emissions may be available on request.

Clarke Energy's proposal offers mechanical and electrical engineering and contracting to remove the existing unit then place and assemble the proposed unit. The labor to assemble the new unit will meet or exceed the county's prevailing wage and will have minimum 15% labor performed by apprentices.

The full extent of our supply is defined in the Scope of Supply that follows:

# Capital Works Price

| BASE SUMMARY | | | |
|---|---|---|---|
| **Item** | **Quantity** | **Equipment/Service** | **Price ($)** |
| **1** | **1** | **Jenbacher 335 $kW_e$ Containerized CHP Units**<br>*Landfill gas operation*<br>*Engine and exhaust heat recovery*<br>*Interface plate heat exchanger*<br>*Commissioning*<br>*Glycol/water fill for engine cooling circuits*<br>*First fill of engine lubricating oil* | **$611,375** |
| **2** | **1** | **Transportation**<br>*DDP delivery* | **$78,988** |
| **3** | **--** | **Site Works**<br>*Demolition of mechanical and electrical connections to existing JGC320*<br>*Removal of existing JGC320 containerized genset*<br>*Offloading and placement of proposed CHP container*<br>*Assembly of proposed JMC208 container*<br>*Mechanical, electrical, and civil works to install proposed JMC208 with prevailing wage and apprentice labor* | **$398,125** |
| **4** | **--** | **Engineering and Project Management**<br>*Design of containerized CHP solution*<br>*Design of site integration*<br>*Project management from order to commissioning*<br>*Site supervision during unloading and installation* | **$55,925** |
| **TOTAL PROPOSED PRICE** | | | **$1,144,413** |

NOTES

- Price valid for 30 days
- All freight listed as estimate; actual freight will be billed at cost + 10%
- Based on exchange rate of €1.00 < $1.10
- Sales tax excluded
- Subject to site survey
- Warranty = 12 months from start up, 8,000 operating hours or 18 months from delivery, whichever is soonest
- Payment Terms as follows:

  Gas Engine and Auxiliary Equipment Supply

  a) 35% of the Contract Price to be paid within 30 days of firm order.
  b) 60% of the Contract Price to be paid on the date of the Jenbacher factory exworks.
  c) 5% of the Contract Price to be paid on completion of commissioning or 90 days after date of the Jenbacher factory exworks.

# Scope of Works

| Description | Clarke Energy | Excluded |
|---|---|---|
| **CHP Scope of Supply** | | |
| 1.1 CHP Supply | | |
| Gas Engine Generator Set | X | |
| Spark ignition gas engine | X | |
| Self-excited self-regulated three-phase generator | X | |
| Flexible coupling, bell housing, base frame | X | |
| Cooling system | X | |
| Automatic lube oil replenishing system | X | |
| NFPA 37 fuel gas train | X | |
| Starting batteries | X | |
| Electric jacket water preheating | X | |
| 40-foot container | X | |
| Acoustically lined for 65dBA at 32' (10m) in free field conditions | X | |
| Separate control room with interconnecting cabling | X | |
| Forced air ventilation system, c/w weather louvers, intake filtration, motorized dampers, attenuators, temperature sensors, and inverter for fan speed control | X | |
| Roof mounted exhaust silencer and dump radiator | X | |
| LV synchronizing switchgear installed in container control room | X | |
| Gas and smoke sensors inside engine and control rooms | X | |
| Mechanical completion of lubricating oil, high temperature, and low temperature piping, internal to container | X | |
| Roof mounted exhaust gas heat exchanger | X | |
| Pre-fabricated piping for connection to roof mounted equipment | X | |
| Electrical completion of power and control wiring, internal to container | X | |
| Insulation of roof top components (silencer, oxi-cat, stack up to 8') | X | |
| | | |
| 1.2 CHP Control System | | |
| Genset/Module control panel (GCP/MCP) (Dia.ne XT4) including motor starters and controls for engine auxiliaries | X | |
| Modbus card | X | |
| Island mode software | | X |
| Black start software | | X |
| Export control software | X | |
| Gas and smoke detection, alarm, and shutdown system | X | |
| Synchronizing device, automatic | X | |

# Scope of Works

| Description | Clarke Energy | Excluded |
|---|---|---|
| | | |
| 1.3 Lubricating Oil System Supply | | |
| Fresh oil day tank, internal to container | X | |
| Sump extension tank, internal to container | X | |
| Fresh oil bulk storage tank – 500G | | X |
| Waste oil bulk storage tank – 500G | | X |
| Lubricating oil pumps and control panel | | X |
| | | |
| 1.4 Delivery Terms | | |
| Genset DDP delivery | X | |
| | | |
| **Site Mechanical Works** | | |
| 2.1 Craneage | | |
| Crane mobilization to remove existing JGC320 genset and auxiliaries | X | |
| Crane mobilization to unload and place new proposed generator, maximum 52,000# | X | |
| | | |
| 2.2 New CHP Mechanical Installation | | |
| Removal of existing generator | X | |
| Demolition of existing rooftop components | X | |
| Demolition and disposal of existing connections from JGC320 to ORC heat recovery skid | X | |
| Placement of removed generator onto customer provided truck or into parking lot for removal by customer at a later date | X | |
| Double handling of removed JGC320 genset | | X |
| Demolition and disposal of ORC heat recovery skid and exhaust stack | | X |
| Offloading and placement of new CHP container | X | |
| Provide and install 50/50 polypropylene glycol into genset cooling circuits | X | |
| Install high temperature, low temperature, and exhaust piping | X | |
| Place and assemble rooftop components<br>-Radiator<br>-Silencer<br>-Exhaust gas heat exchanger<br>-Stack<br>-Decoupling plate heat exchanger | X | |
| Insulate rooftop components and piping | X | |

# Scope of Works

| Description | Clarke Energy | Excluded |
|---|---|---|
| Connection of landfill fuel gas piping to container inlet | X | |
| Supply and install flowmeter and isolation valve on fuel line, external to container | X | |
| Install NFPA 37 gas train | X | |
| Insulate and clad outdoor piping | X | |
| Purging of piping with $N_2$ | | X |
| | | |
| 2.3 Heat Recovery Mechanical Installation | | |
| Estimated ~450' of 3" pipe, insulated, installed from container to TBD location in maintenance building, and back to container | | X |
| Installation of water pumps and expansion vessel on owner side of decoupling plate heat exchanger | | X |
| Supply and installation of plate heat exchanger inside maintenance building | | X |
| Supply and installation of air handler, or other HVAC unit, inside maintenance building | | X |
| Connection of 2" city water makeup line to hot water circuit inside maintenance building | | X |
| Supply and fill of 200 gallons 50/50 PG/water mix | | X |
| Piping to be installed overheard along building wall | | X |
| | | |
| **Site Electrical Works** | | |
| 3.1 New Generator Electrical Installation | | |
| Disconnection of all existing cabling for removal of existing genset | X | |
| Installation of new cabling from generator switchgear to transformer | X | |
| Installation of new control wiring from CHP control room to existing interfaces<br>*See 2.b.vi on page 19* | X | |
| Rework conduit under genset pad to connect to new switchgear | X | |
| LV synchronizing switchgear installed within container control room | X | |
| LV cabling between alternator terminals and LV synchronizing switchgear | X | |
| LV power supply to generator/module control panel (GCP/MCP) for container auxiliaries | X | |
| Power & control wiring – MCP to dump radiator | X | |
| Power & control wiring – MCP to gas isolation valve | X | |
| Power & control wiring - MCP to gas flow meter | X | |
| Ladder racking and cable trays required for supplied cables | X | |
| Install new ground wire from existing ground loop | X | |

# Scope of Works

| Description | Clarke Energy | Excluded |
|---|---|---|
| | | |
| 3.2 Combined Heat and Power Installation | | |
| Power & control wiring for water pumps, three way valves, and CHP controls on the CHP side of decoupled plate heat exchanger | X | |
| Power & control wiring for water pumps, three way valves, and CHP controls on the owner side of decoupled plate heat exchanger | | X |
| | | |
| **Site Civil Works** | | |
| 4.1 New Generator Civil Installation | | |
| Removal and repour of (approximately) 5'x5' area of genset pad to rework conduit | X | |
| Re-working of other concrete pads or other civil works | | X |
| Cosmetic or other repairs to existing concrete pad | | X |
| | | |
| 4.2 Combined Heat and Power Civil Installation | | |
| Installation of pipe supports for hot water circuit from CHP to owner's building | | X |
| | | |
| **Testing and Commissioning** | | |
| 5.1 Factory Testing | | |
| Factory test of engine | X | |
| Factory static test of piping and wiring internal to container | X | |
| | | |
| 5.2 Genset/Module Commissioning | | |
| Start up and commissioning by Clarke Energy service engineer | X | |
| Initial sump tank fill of lubricating oil | X | |
| Initial water circuit fills of water and glycol (50/50 water/PG) | X | |
| | | |
| **Engineering and Project Management** | | |
| 6.1 Genset/CHP Documentation | | |
| Engine operation and maintenance manual | X | |
| Engineering design and drawings for the scope offered:<br>• P&I Diagrams<br>• Electrical single line diagram<br>• General arrangement drawing | X | |
| Stamped and sealed drawings by a licensed PE | | X |
| | | |

# Scope of Works

| Description | Clarke Energy | Excluded |
|---|---|---|
| 6.2 Project Management | | |
| Project Manager throughout lifecycle of project | X | |
| Site supervision during assembly and installation | X | |
| Submission of electric utility interconnect permitting | | X |
| Bonds | | X |

# Assumptions

**GENERAL**

Any items not specifically listed on the proposal should be assumed as excluded from the listed scope and price.

Clarke Energy has included a CHP module which exceeds the IRA requirements (> 65% total efficiency) and prevailing wage labor with 15% of labor performed by apprentices. The Town of Munster will need to qualify with a tax professional if this project qualifies for federal incentives.

**PERMITS, LICENCES, DUTIES ETC.**

The Purchaser, before the commencement of the contract or order for Goods, is responsible for obtaining all permits, consents, licenses, duties, building regulation approval or planning permissions applicable to the site or installation works of the Goods.

**CONNECTIONS TO UTILITY GRID**

Applications to connect the gas engine generator in parallel with the local utility grid are the responsibility of the Purchaser. The Seller shall provide the necessary information, testing and certification. However, should any additional protection, lower fault levels, power system stabilizers, or simulation studies be required or charges be imposed by the utility in respect of site attendance or any other matter then they shall be borne by the Purchaser.

**GAS SUPPLY**

A gas supply of sufficient volume and pressure will be brought to the CHP by the purchaser. The methane, siloxane, sulfur, and VOC content is the responsibility of the purchaser to deliver to the genset/CHP within Jenbacher tolerances per Technical Instruction 1000-0300. The assumed operation parameters of the gas skid are in Appendix I.

The gas skid is designed with the assumption existing *Sulfatreat* system is bypassed permanently, should this system be brought online in the future the new gas skid may require additional design considerations.

**NOISE LEVELS**

The individual items of plant when operating at full load will not exceed the following sound pressure levels:

- Containerized genset package: 65dB(A) at 32’ (10m)

All sound pressure levels quoted are in free field conditions.

All sound pressure level limits quoted are at full load operating conditions.

Please note that whilst we guarantee the individual plant items will achieve the above stated noise levels, it will be Purchaser’s responsibility to determine that the above noise attenuation measures are sufficient to achieve any limits at the nearby noise sensitive receptors.

**SCOPE**

The construction scope of work and price is based on the following assumptions:

1. Clarke Energy will supply a combined heat and power module. The design and installation of the heat recovery system to the owner's building will be performed at a future date.
2. Clarke Energy has excluded an air handler or other form of HVAC from its' scope for the CHP option.
3. Its' assumed that the Town of Munster will provide and maintain a laydown area for components issued loose for site assembly.
4. If the Town of Munster provides a truck during the rigging mobilization when the existing J320 is removed, Clarke Energy will place the equipment enclosure on the provided truck. Clarke Energy has not included the method of disposal or a reseller in this proposal.
5. Hydro-excavation of any kind is excluded
6. Hot work will be permitted without any requirement to purge existing piping with $N_2$
7. Import material has been included in the pricing for construction
8. Prevailing wages (Davis Bacon Wages) are not included for the demolition of the existing J320.
9. Prevailing wages (Davis Bacon Wages) are included for the mechanical, electrical, and civil scopes required for installation of the proposed J208. Based on wages January, 2024. Prevailing wages are updated monthly and may increase between the time of writing this proposal and commencement of site works.
10. Clarke Energy has included pulling new cables for all power and control conductors to install the new J208 module. If the new CHP can accommodate the length of the existing conductors, Clarke Energy can issue a credit back to the Town of Munster for labor and materials un-used.

## Specifications

1. Equipment Scope of Supply – this section describes an engine-generator system operating on landfill gas (LFG). The engine-generator set should be packaged off-site into a container including the genset, controls, radiator, silencer, pumps, low voltage switchgear, and other components required by the vendor.
    - **a.** Genset specifications:
        - **i.** Make: Jenbacher
        - **ii.** Model: JGMC 208 GS-L.L C821 480V
        - **iii.** Electrical output: 335 $kW_e$
        - **iv.** Thermal output: 1,368 MBTU/hr
        - **v.** $NO_x$ < 1.1 grams /bhp.hr
        - **vi.** Performance to comply with document *TS JMC 208 C821 480V Town of Munster CE 04Apr23*
        - **vii.** Vendor to include exhaust gas heat exchanger (EGHE) in its' supply.
        - **viii.** Vendor to include roof mounted decoupling plate heat exchanger in its' supply as an interface between the engine's exhaust + HT circuits and owner's hot water circuit
        - **ix.** Vendor to include auxiliary power supply in its' proposal
        - **x.** Oil sump extension tank of 79.3 gallons to be included and installed within the container
        - **xi.** Generator controls to operate in grid-parallel mode only
        - **xii.** Vendor's price to include the insulation of rooftop components for safety precautions. Temperatures are listed in the materials specification to follow
        - **xiii.** Vendor's price should include DDP transportation to site
        - **xiv.** Vendor's price to include the first fill of lubricating oil for the sump and sump extension tanks
        - **xv.** Vendor's price to include the first fill of 50/50 water/PG fluids for all engine cooling circuits
        - **xvi.** Vendor's price to include the commissioning of the genset by a manufacturer's authorized service representative
2. Site Works Requirements:
    - **a.** Demolition and removal of existing genset:
        - **i.** Disconnect all existing electrical connections to the existing genset
        - **ii.** Disconnect all external mechanical connections, including but not limited to:
            1. ORC
            2. Fuel gas
            3. Roof mounted components
        - **iii.** Existing JGC 320 container and auxiliaries to be removed from pad and either placed on Owner provided trailer, or in the adjacent parking lot
        - **iv.** Existing ORC skid on adjacent pad to be minimally demolished, only to allow for installation of new J208
    - **b.** New Generator installation
        - **i.** Vendor's equipment is required to connect and operate with existing Jenbacher control interfaces on-site, utilize spare parts from replacement unit and adhere to existing Jenbacher service maintenance protocols.
        - **ii.** Cut and rework existing concrete pad and below ground conduit if required. Repour concrete pad in the removed sections. Control room of CHP to be positioned in similar orientation to existing J320 to minimize below grade conduit and pad rework
        - **iii.** New genset container to be offloaded and placed onto concrete pad
        - **iv.** Auxiliary containers to be offloaded and placed in parking lot as laydown area
        - **v.** Rooftop components (silencer, oxidation catalyst, stack, radiator) to be assembled on-site. All labor, rigging, and materials should be included in scope and cost

**vi.** New electrical cables should be fed to the following interfaces:
1. LV to MV transformer
2. Recloser control system
3. Control box via conduit 11
4. E-stop circuit via conduit 18
5. Controls via conduit 21

Clarke Energy has used the following insulation and piping specifications for this proposal:

Additional piping insulation requirements:

- All portions of the plant shall be insulated: -
  - Where heat is to be conserved, including: - piping, ducting, tanks, vessels.
  - Where required for the protection of personnel, a maximum touch temperature of 120°F should be achieved at 78°F ambient.
  - To prevent freezing.
- All thermal insulation materials shall be agreed and remain chemically inert in the event of being saturated with water. Materials that can be of a health hazard to personnel, such as asbestos, shall not be used.
- Pre-formed sections shall be used wherever possible and shall be attached individually to plant items.
- Standard sections preferably at least 3 feet long shall be used on piping.
- Separate sections of insulation material shall be supplied for all valves, fittings, and flanges to allow access without disturbing insulation on adjacent pipework.
- All insulation on piping, valves and plant shall be clad in polished aluminum sheeting fixed at not greater than 4-inch intervals. The cladding shall be installed with suitable fasteners and application of mastic at joints to prevent ingress of moisture.
- Ductwork and pipework requiring insulation need not be clad where run in locations not accessible or visible.
- All valve flange and instrumentation insulation shall be by means of jackets.
- Insulating materials of thickness greater than 2 inches shall be applied in two layers with staggered joints, all being sealed with plastic compound and each layer being securely wired on.
- All pipes shall be insulated individually and not in groups to give a minimum clearance of ½ inch between finished surfaces. All insulation shall have a minimum clearance of ½ inch between the finished surface and adjacent steelwork or walls.

Fuel gas – 3” SS pipe with 2” insulation and polished aluminium cladding
Exhaust – SS piping with 6” insulation and aluminium cladding
Lubricating oil – 1” CS pipe

3. Service:
   **a.** Vendor should have manufacturer’s trained service technician and service center within 15 miles of the installed location.
   **b.** Vendor should propose a comprehensive LTSA including planned and unplanned maintenance based on 7,999 operating hours per year. LTSA should be provided at an hourly operating charge.

**c.** LTSA should be for 8 years or 59,999 hours.
d. Service contract should include oil supply and management

# Commercial Summary & Payment Schedule

The provisions of these Special Conditions shall apply in addition to Clarke Energy's Standard Terms & Conditions of Trading, where in the event of any conflict between the two, these Special Conditions shall take precedence.

### 4.1 EFFECTIVE ORDER DATE

Any agreement will come into force upon signing of the Order by both parties and on receipt by the Supplier of the Buyer's purchase order. All program dates and lead times will be based on this date and any previous or proposed program and timescales will be adjusted accordingly if necessary.

### 4.2 BASIS OF AGREEMENT PRICE

The Seller has based the price on the tender or enquiry documentation, specifications, drawings, and information made available for the purposes of the tender (or enquiry) documentation. The Seller's interpretation or assumptions detailed in the quotation or tender submission form the basis of this agreement. Should any data or site conditions vary from the information provided in the enquiry/tender documentation which result in additional costs or time, then the Seller may adjust the Agreement Price or extend the program accordingly.

### 4.3 TERMS OF PAYMENT

The Buyer shall pay the Supplier as milestone payments in the following manner:

| | Payment Milestone Value | Documents Required for Payment by Buyer | Due Date for Supplier's Invoice | Final date for Payment by Buyer |
|---|---|---|---|---|
| **1** | 35% of the Order Price | Supplier's Invoice | Date of Buyer's Order | 30 days from date of Supplier's Invoice |
| **2** | 60% of the Order Price | Supplier's Invoice | Supplier's written notice confirming delivery of equipment to site | 30 days from date of Supplier's Invoice |
| **3** | 5% of the Order Price | Supplier's Invoice | Satisfactory completion of commissioning or beneficial use. | 30 days from date of Supplier's Invoice or 90 days after the Supplier's written notice of readiness to dispatch the equipment where delays due to the Buyer have prevented the Supplier from commissioning the gas engines |

The Buyer shall not be entitled to apply any reductions for early payment of Supplier invoices.

INCOTERMS 2020: DDP to installation site.; transportation is provided as an estimate for budgeting, freight and customs will be billed at cost + 10%

### 4.4 CHANGES

Buyer may, by written change order or make mutually agreed changes to the Works. If any such change results in an increase or decrease in the cost or time required for completion of the Works under the Agreement, there shall be an equitable adjustment in the Agreement Price and the Scheduled Delivery. Seller shall not be obligated to proceed with the changed or extra work until the price of such change and its effect on the Scheduled Delivery have been agreed upon in a written change order.

### 4.5 DEFAULT ON PAYMENT

All invoices are due and payable at the specified payment date as noted in 4.3. Interest will be charged on all overdue accounts at the rate of 2% above prime, such interest to be calculated daily from the due date until the date of payment.

If the Buyer is in any default on payment, the Seller may demand immediate payment of the entire remaining Agreement amount; but this shall not affect Seller's right to terminate the Agreement for default in payment. If the Seller retains a collection agency, an attorney or other third party to collect outstanding claims, all collection charges (including legal fees) shall be borne by Buyer.

If Buyer is in default with payment or any other services, Seller is entitled, notwithstanding any other claims, to withhold delivery of the Works until the Buyer becomes current on its contractual obligations or to rescind and terminate the Agreement for non-performance, after granting a reasonable grace period, and to assert damages (in particular for non-performance).

### 4.6 DELIVERY PERIOD

- The Delivery Period (Ex Works) for INNIO gas engine generation equipment is estimated at **38-40 weeks** from the Effective Order Date.
- Shipping to the US will take **6 weeks**.
- Site installation is estimated at **10 weeks.**
- Engine commissioning will take **4 weeks**.
- Firm delivery date(s) will be advised at time of order.

Goods will usually be delivered during normal working hours. Actual time of delivery will be advised by the Supplier beforehand to ensure necessary access is available. Special delivery arrangements or weekend delivery may be subject to additional charges.

Where the Buyer is unable to accept delivery of the Goods at Site within 3 days of the Supplier's notification of readiness to dispatch the Goods, the Goods shall be delivered to a secure warehouse and stored in accordance with the manufacturer's instructions. In the event of a long-term delay Goods shall be preserved according to the manufacturer's recommendations, which in respect of Jenbacher generator sets shall be in accordance with Technical Instruction TI1000-0004.

All costs associated with warehouse storage charges, additional insurance, preserving and protecting of the Goods shall be paid for by the Buyer.

The Buyer is therefore obliged to liaise with Supplier or Supplier's appointed representative to ensure that sufficient time is allowed for a lift to be planned. Buyer shall also provide ground condition information for the crane setup area as required.

### 4.7 WARRANTY PERIOD

The genset/CHP goods offered are guaranteed against all material and workmanship defects for a period of 12 months from start-up of the equipment, or 8,000 operating hours, or a maximum of period of 18 months from the factory shipment date, or acknowledgement of readiness to deliver date, whichever is the soonest.

The genset/CHP warranty guarantee will be invalidated if the goods are not operated and maintained in accordance with manufacturer's instructions or the gas quality is outside acceptable limits.

If the genset/CHP goods are found to be defective during the genset/CHP warranty period, then, Buyer shall, as soon as reasonably practicable but not later 14 days after discovering a defect, notify the Seller in writing detailing the particulars of the defect. The Seller shall be responsible for making well by repair or replacement (at the Seller's option) the defect so notified by the Buyer and the Buyer shall so far as may be necessary place the goods at the Seller's disposal for this purpose.

If the Seller fails take such actions as may be required to correct all notified defects, the Buyer may, provided he does so without undue delay, take such steps as may, in all circumstances be reasonable to make good such defects, in which event all related costs and expenses and other reasonable charges shall be for Seller's account.

Any repaired or replaced genset/CHP goods, or part thereof shall have a warranty on the same terms as set forth above, with the warranty period being the greater of the original unexpired warranty or six (6) months after repair or replacement.

Seller's warranty shall not cover defects or damage to the delivered goods or services, which are due to:

- normal wear and tear on parts whose normal life expectancy is less than the warranty period,
- improper assembly or maintenance, negligence, or other improper application by the Buyer.
- non-OEM spare parts have been used by the Buyer.
- fuel gas quality is outside the specified limits as provided to the Buyer by the Seller.
- detrimental air inlet conditions or erosion, corrosion, or material deposits from fluids.
- the Buyer continuing to make further use of the goods after having given a notice to the Seller of a defect.

The warranty of any non- genset/CHP goods will be passed through from the manufacturer to the owner

### 4.8 TITLE – RISK OF LOSS AND INSURANCE:

Buyer will provide the Seller a certificate of insurance. Title to and risk of loss for all equipment to be supplied hereunder by Seller shall pass to Buyer upon arrival of same at the Customer's site as provided; However, that Buyer shall grant to Seller a present and continuing security interest in the equipment supplied hereunder until Seller has been paid in full pursuant to the terms hereof. Buyer shall promptly execute and deliver such documentation as may be required by Seller, in proper form, to perfect Seller's security interest under the Uniform Commercial Code or any other relevant statute, law, or regulation. Buyer will not cause or permit any other security interest, lien, encumbrance or claim to attach to the system which shall have priority over or be ahead of Seller's security interest, as described herein, and Buyer authorizes Seller to make any public filings necessary to perfect or

maintain its security interest under the Uniform Commercial Code, or any other relevant statue, law, or regulation.

Until Seller has received full payment of the purchase price, Seller shall have all rights and remedies of a Seller and secured party as established or permitted upon agreement by the Uniform Commercial Code, in addition to all other rights as established herein, which rights and remedies, to the extent permitted by law, shall be cumulative.

From the time of receipt of the equipment to be supplied hereunder by Seller until payment in full has been received for same by Seller, Buyer will maintain insurance coverage on the equipment supplied hereunder by Seller in an amount sufficient to pay any outstanding sums due or that will become due from Buyer to Seller for said equipment. Seller will be listed as a named insured on all such insurance coverage. If so, requested by Seller, Buyer will cause certificates of insurance to be supplied to Buyer for verification that the insurance coverage described herein is in place. Such insurance will not be materially reduced or cancelled without the prior written consent of Buyer.

### 4.9 ERECTION/COMMISSIONING

The preservation and packing of the Goods will be suitable for shipment and transportation to site assuming that erection and commissioning is carried out promptly on arrival at Site.

If for any reason of delay or failure on the part of the Buyer or other contractor employed by the Buyer, the Supplier is prevented from installing and/or commissioning the Goods, the Goods shall be stored in accordance with the manufacturer's instructions. In the event of a long term delay the Goods shall be preserved according to manufacturer's recommendations. All costs associated with preserving and protecting the Goods shall be paid for by the Buyer.

Unless stated otherwise commissioning of the Goods is limited to 10 working days (8 hours per day). In case of delays caused by reasons beyond the Supplier's control the cost of additional working days shall be borne by the Buyer.

### 4.10 MAINTENANCE PAYMENTS

If the Goods are to be maintained by the Supplier whilst it is being used by the Buyer for beneficial generation prior to taking over the Goods, any maintenance work required to be carried out on the Goods by the Supplier, will be paid for by the Buyer at the agreed contracted rates.

### 4.11 PERMITS, LICENCES, DUTIES, TAXES ETC.

The Buyer before the commencement of the Order is responsible for obtaining all permits, consents, licenses, duties, building regulation approval or planning permissions applicable to the site or installation works of the Goods.

The price(s) stated shall, unless otherwise expressly provided to the contrary, exclude all taxes (including, but not limited to, use, gross receipts, excise, franchise and sales tax and other value added taxes), import or export duties, licenses, fess and other sums due any governmental entity (or division thereof) which either party is required to pay as a result of the sale of the Equipment and services covered by this contract.

### 4.12 TERMINATION CHARGES

The Buyer may terminate this Order at any time upon written notice to Supplier and payment of termination charges in accordance with the schedule set forth below:

| Days after Order Effective Date | Termination Charge as % of Order Price |
|---|---|
| Less than 30 | 10% |
| 31-60 | 30% |
| 61-90 | 50% |
| 91- date of notice of readiness to dispatch | 70% |
| After date of notice of readiness to dispatch | 100% |

### 4.13 LIQUIDATED DAMAGES

**Shortfall in Guaranteed Performance Levels -** If when first tested at site the Goods fail to achieve the guaranteed performance for either output or electrical efficiency, the Supplier shall be afforded a period to be agreed (but in no event less than 90 days) during which it can correct and adjust the equipment (the "Correction Period").

If, when retested within or at the latest at the end of the Correction Period, the Goods again fail to achieve the guaranteed performance for either output or electrical efficiency the Supplier shall pay to the Buyer as liquidated damages a sum calculated in accordance with the table below.

| Criteria | Liquidated Damage |
|---|---|
| Output | 0.5% of the Order Price allocated to the non-performing unit for each full 1.0% deficiency in the guaranteed performance |
| Electrical Efficiency | 0.5% of the Order Price allocated to the non-performing unit for each full 1.0% shortfall in the guaranteed performance |

The liquidated damages payable in respect of deficiencies in performance shall not exceed 5% of the Order Price allocable to the nonperforming unit(s). The liquidated damages shall be the Suppliers sole and exclusive liability for performance deficiencies.

**Total limitation on Liquidated Damages -** The Supplier's total liability hereunder for all forms of liquidated damages provided for under this Order shall not exceed 10% of the Order Price.

The Parties agree that the amount of liquidated damages set forth above are reasonable in light of the anticipated harm caused by the breach of the duty related thereto and the difficulties of proof of loss and inconvenience or non-feasibility of obtaining an adequate remedy and the parties are stopped from contesting the validity or enforceability of such a liquidated damage.

All liquidated damages due hereunder shall be the Suppliers sole and exclusive liability and the Buyers sole and exclusive remedy for delay and performance deficiencies under this contract.

### 4.14 EXCUSABLE DELAY FORCE MAJEURE

The Seller shall not have any liability or be considered to be in breach or default of its obligations under the Agreement to the extent that performance of such obligations is delayed or prevented, directly or indirectly, due to:

(a) causes beyond its reasonable control; or

(b) acts of God, acts (or failures to act) of governmental authorities, fires howsoever caused, severe weather conditions, earthquakes, strikes or other labor disturbances, floods, war (declared or undeclared), epidemics, civil unrest, riots, delays or accidents in transportation; or

(c) Acts (or omissions) of the Buyer including failure to promptly: (a) provide the Seller with information and approvals necessary to permit the Seller to proceed with work immediately and without interruption, or (b) comply with the terms of payment.

The Seller shall notify the Buyer of any such delay and strive to mitigate the delay to the extent practicable. If the Seller is delayed by acts or omissions of the Buyer, or by the prerequisite work of the Buyer's other contractors or suppliers, the Seller shall also be entitled to any additional costs incurred.

If such excusable delay extends for more than ninety (90) days and the Parties have not agreed upon a revised basis for continuing the work at the end of the delay, including adjustment of the price, then either Party (except where delay is caused by the Buyer, in which event only the Seller), upon thirty (30) days written notice, may terminate the Agreement.

### 4.15 COMMERCIAL GENERAL LIABILITY

The Supplier shall provide Commercial General Liability for the duration of its liability under the Order as an occurrence type policy with an aggregate limit that applies on a per project basis with no exclusions related to Blanket Contractual Liability or Broad Form Property Damage Hazard. General liability coverage will cover all claims and liabilities arising out of the performance of Work by Supplier and its subcontractors. Liability limits shall not be less than a combined single limit of $1,000,000, a general aggregate limit of $2,000,000, products/completed ops aggregate limit of $2,000,000 and personal & advertising limit of $1,000,000.

### 4.16 AUTOMOBILE LIABILITY

This policy shall be written in comprehensive form to include personal/bodily injury and third-party property damage per accident. Coverage shall apply to all motor vehicles licensed for highway use (owned, non-owned, scheduled and hired). Liability limits shall not be less than $1,000,000 per occurrence, combined single limit.

### 4.17 UMBRELLA LIABILITY

This insurance shall cover claims and liabilities more than the limits provided under all liability policies held by the Supplier except for Professional Liability Insurance. Liability limits shall not be less than $15,000,000 per occurrence, $15,000,000 policy aggregate.

### 4.18 WORKERS COMPENSATION AND EMPLOYERS' LIABILITY

This insurance covers an employer's liability, as defined by state, under workers compensation laws that arise out of an employee work related injury. Liability limits will be issued at statutory limits as defined by the state where the Work will be performed and shall comply with all federal requirements with no exclusions or limitations. Also, this insurance covers the Supplier's liability arising out of employee work related injuries that are not covered by the Workers Compensation statute. Liability limits shall not be less than $1,000,000 per accident, $1,000,000 per employee and have an aggregate limit of $1,000,000.

### 4.19 INDIRECT OR CONSEQUENTIAL DAMAGES

In no event, whether as a result of breach of contract, warranty, indemnity, tortuous damage (including negligence), strict or product liability, impossibility of service, positive breach of an obligation, or otherwise, shall Supplier or Supplier's subcontractors or suppliers be liable for loss of profit or

revenues, loss of use of the Goods or any associated equipment, cost of capital, cost of substitute equipment, facilities, services or replacement power, downtime costs, fines or penalties charged to the Buyer for failure to meet permits, financing or additional borrowing costs, or for any special, consequential, incidental, indirect or exemplary damages.

### 4.20 LIMIT OF LIABILITY

Other than liability arising under clauses 4.11, 4.12, 4.13 and 4.14, the total aggregate liability of the Supplier under or in connection with the Order whether related to performance or non-performance of the Order in respect of all causes of action under, arising out of or in connection with the Order, whether for breach of contract, including breach of duty, in tort (including but not limited to negligence), by way of indemnity, warranty or otherwise, including (but not limited to) liability for defects and liquidated damages shall not exceed the Order price.

### 4.21 MITIGATION OF LOSS

In all cases the party establishing or alleging a breach of the Order or a right to be indemnified in accordance with the Order shall be under a duty to take reasonable steps to mitigate the loss which has occurred provided that he can do so without unreasonable inconvenience or cost.

### 4.22 CONFIDENTIALITY

The Buyer and Seller shall treat the details of the Agreement and any information made available in relation thereto as private and confidential and neither Party shall publish or disclose any particular details thereof (save in so far as may be necessary for the purposes of the Agreement or required by law) without the consent of the other provided that nothing in this clause shall prevent the publication or disclosure of any such information that has come within the public domain otherwise than breach of this clause.

### 4.23 VALIDITY

This price is valid for 30 days.