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Project Description

Proposed Standby Mode Diesel Fuelled Electricity Generating Station, Land off Whaley Road, Barnsley

October 2011

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Proposed Standby mode Diesel Fuelled Electricity Generating Station, Land off Whaley Road, Barnsley

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1.0 INTRODUCTION

1.1 This Statement has been prepared by Barton Willmore LLP on behalf of Sovereign Property Energy Partners (SPEP) and provides background information as part of an application for a Lawful Development Certificate of Proposed Lawful Use for a 12MW standby mode diesel fuelled electricity generation plant (proposed development) which on completion would consist of:

a) 9 x 1643KVA Perkins diesel generating engines set in 5 acoustic canopies;
b) An 11kV Electrical Switch Room, enclosed within one of the acoustic canopies;
c) 9 x auxilliary transformers;
d) Construction of an bulk fuel storage area including tanker unloading area with appropriate environmental containment and one 18,000 litre Bulk Fuel Storage Tanks; and
e) Ground or duct/trench/rack run electrical and fuel supply infrastructure.

1.2 SPEP are proposing to locate their development at the site of the Yorkshire Electricity Distribution PLC (parent company CE Electric) electricity distribution site located on the north west edge of Barnsley. The site lies within the administrative area of the Barnsley Borough Council and is situated off Whaley Road on the site of the existing substation within Redbrook Industrial Estate. The Site is square in shape and is approximately 0.1 ha in size. The location of the proposed electricity generation plant is shown on the Site Location Plan Drawing No: 20411/PL-01.

Planning Framework

1.3 SPEP are a registered holder of an electricity generation licence (**Appendix A**) and are therefore deemed a Statutory Undertaker under Section 262 (6) of the Town and Country Planning Act 1990 enabling them to operate within Class G, Part 17 of Schedule 2 of the Town and Country Planning (General Permitted Development Order) 1995, SI 1995/418 (as amended).

1.4 As a statutory undertaker SPEP, would be able to develop the Warren Lane Site to install plant and equipment for the purpose of electricity generation operating within Class G(f), Part 17 of Schedule 2 of the Town and Country Planning (General Permitted Development Order) 1995, SI 1995/418 (as amended) which states that:

"Development by statutory undertakers for the generation, transmission or supply of electricity for the purposes of their undertaking consisting of—

(a) the installation or replacement in, on, over or under land of an electric line and the construction of shafts and tunnels and the installation or replacement of feeder or service pillars or transforming or switching stations or chambers reasonably necessary in connection with an electric line;

(b) the installation or replacement of any telecommunications line which connects any part of an electric line to any electrical plant or building, and the installation or replacement of any support for any such line;

(c) the sinking of boreholes to ascertain the nature of the subsoil and the installation of any plant or machinery reasonably necessary in connection with such boreholes;

(d) the extension or alteration of buildings on operational land;

(e) the erection on operational land of the undertaking or a building solely for the protection of plant or machinery;

(f) any other development carried out in, on, over or under the operational land of the undertaking"

1.5 SPEL will be taking an interest in the land from the current owners Yorkshire Electricity Distribution PLC also a statutory undertaker. Electricity generation is an established use on the site and planning permission has been granted previously for an electricity substation. Therefore we consider the site falls within the definition of operational land (as defined within section 263 and section 264 (3a) and (3b) of the Town and Country Planning Act 1990 (meaning of "operational land")) for the purposes of SPEL's undertakings.

1.6 In line with permitted development regulations the Site does not fall within a National Park, Area of Outstanding Natural Beauty or a Site of Scientific Interest and the height of the proposed plant and machinery to be installed is less than 15 metres.

2.0 EXPLANATION OF SHORT TERM OPERATING RESERVE PROJECTS

2.1 As a way of background this section provides an explanation of a Short Term Operating Reserve Site.

2.2 The Large Combustion Plant Directive (LCPD) is a European Union Directive which aims to reduce pollutants to the atmosphere by controlling the omissions of Sulphur Dioxide. The large power stations of the UK must comply with the omission limits as stated in the LCPD or opt out of the Directive. If the operators of the sites choose to opt out, there are some significant restrictions which have been placed on them from 2007, which will lead to closure of those sites by the end of 2015.

2.3 As ageing coal and nuclear power stations are decommissioned it is clear that a shortfall in ability to generate power will soon be upon us and whilst the UK have measures in place to resolve these issues, there is currently a demand for flexible generation with quick response times. Whilst national policy is predominantly targeted at increasing the proportion of energy generated by renewable sources, the Government recognises that coal, oil and gas will play a significant part in meeting the world's energy needs for the foreseeable future. Paragraph 5.1.14 of the Energy White Paper states that as,

> ***"it is not at the moment technically or commercially feasible to store electricity on a large scale, some level of spare generation capacity is necessary in order to be able to meet electricity demand when, for example, power stations suffer unexpected outages or demand levels rise above normal".***

2.4 SPEP are proposing to develop sites which essentially contribute to matching electricity supply to demand, thereby reducing energy costs and improving the environmental performance of the electricity industry. SPEP sites comprise of small generators located on utility land and uses internet communications to run generation, for short periods when the national electricity system is under stress.

2.5 Electricity consumers don't ask permission every time they turn on a light; large power stations can trip suddenly and wind turbines can only generate in accordance with the wind. For these reasons, the national utilities must always keep something in reserve, second by second and hour by hour the reserve is required in order to cope with unexpected changes in both supply and demand and keep the system in perfect balance.

2.6 A large volume of reserve comes from part-loaded fossil fuelled power stations even though it is inefficient to burn gas and coal at part load. Although hydro and pumped storage generators can provide reserve at low carbon cost, there is insufficient capacity to meet reserve requirements. Additional reserve is provided by warming older coal and oil power stations, which can take twelve hours or more. Often, this reserve is not needed in the event and the stations are switched off without generating anything.

2.7 An investigation into the environmental effect of electricity consumers providing reserve services in place of large power stations has been undertaken by a third party. Consumers can do this by running generators, or turning down load, for short periods. In the UK system, each megawatt of reserve capacity provided by consumers can save between 300 and 750 tonnes of CO2 annually.

2.8 The results are similar for both standby generators and load management. This is partly because diesel generators produce less CO2 than coal. However, the biggest saving is obtained simply by making the capacity available. By giving the electricity system an alternative balancing option, consumers allow fossil fuelled power stations to stay closer to their best efficiency point, or better still, to stay off completely.

2.9 SPEP is therefore clearly supporting the renewable energy revolution, reduce national CO2 emissions and help to secure the national electricity supply.

2.10 Electricity generation and consumption must be continuously balanced. If demand is higher than forecast, or if a large power station fails, spare capacity must be available to make up the difference. If the spare capacity runs out, large-scale power cuts are the result. Balancing the electricity system is a critical process, undertaken by a Transmission System Operator (TSO). In the UK, the TSO is National Grid.

2.11 The TSO uses several tools to ensure that enough reserve capacity is available. If the TSO thinks that reserve capacity is insufficient several hours ahead, it can issue a warming instruction to a power station to create contingency reserve.

2.12 Warming can take twelve hours, so the TSO must issue the instruction long before it is certain that the reserve will be needed. It has been estimated that warming of a single, 500MW coal unit creates approximately 500 tonnes of CO2 emissions before the unit is ready to generate.

2.13 Warming is formally termed "BM Startup" in the UK. There may be several warming instructions in one day. These can be monitored via National Grid's SONAR system.

Costs often exceed £50,000 for one instruction. Once a power station has been warmed, it might not be synchronised immediately, but held in readiness. Fuel burn at around 10% of full load can be required to keep the station stable. As this is very expensive but generates no electricity, it is more common for warmed power stations to be either synchronised (if needed) or switched off (if not).

2.14 Thermal power stations operate less efficiently in part load. Per-unit carbon dioxide emissions from a modern CCGT station can be 20% higher at 50% load than at full load. At 25% load, CCGT emissions can be up to 80% higher.

2.15 The TSO can contract reserve capacity well ahead of time, using contracts like Short Term Operating Reserve (STOR). SPEP provides STOR by aggregating standby diesel generators. No CO2 is emitted by these sources of reserve when they are waiting to be required, and their emissions during delivery of reserve are also lower than coal, oil and most OCGT power stations.

3.0 PROJECT DESCRIPTION

3.1 The application is seeking confirmation that the proposals scheduled below benefit from permitted development rights under Class G (f) Part 17 of Schedule 2 of the Town and Country Planning (General Permitted Development) Order 1995. The proposals consist of the following elements and are illustrated on the accompanying Site Layout Plan, Drawing No 20411/PL-02:

a) 9 x 1643KVA Perkins diesel generating engines set in 5 acoustic canopies;
b) An 11kV Electrical Switch Room, enclosed within one of the acoustic canopies;
c) 9 x auxilliary transformers;
d) Construction of an bulk fuel storage area including tanker unloading area with appropriate environmental containment and one 18,000 litre Bulk Fuel Storage Tanks; and
e) Ground or duct/trench/rack run electrical and fuel supply infrastructure.

3.2 As stated above the 10 diesel generating sets will be installed on the site within individual compression acoustic canopies each consisting of a top mounted exhaust silencer and a separate air blast cooling radiator (**see Figure 1**). Each packaged plant has been attenuated to achieve 85dB(A) @ 1m at 1.2m above ground in a free field environment. The plant consists of container style self attenuated modules with top mounted exhaust silencers are small tail stacks. The total height above ground will be limited to 2.5m.

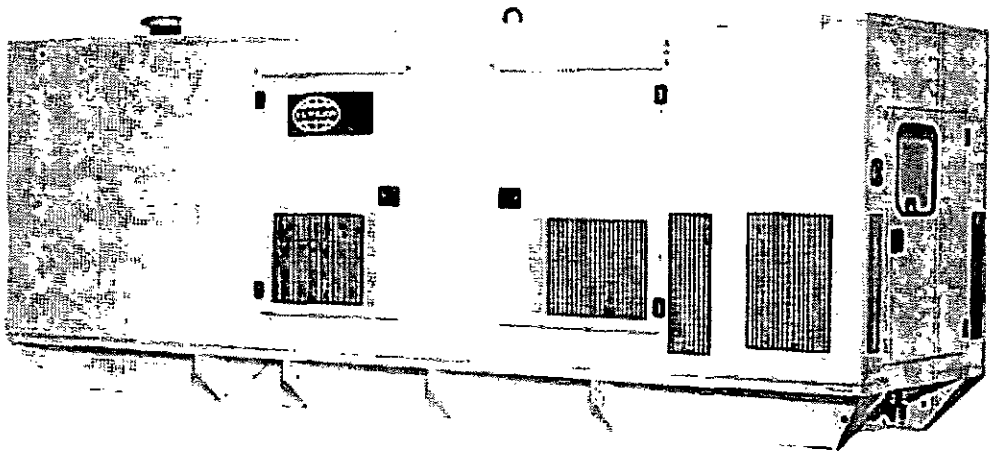


Figure 1

Hours of Operation and Staff

3.3 The development will be operated periodically under the National Grid's Short Term Operating Reserve (STOR) service. This service currently dicates that the generators are made available for operation on demand from 07:30 and 22:00.

3.4 STOR service providers are required to stablise transients within the National Grid created by abnormal or unusual events which have the potential to affect grid stability.

3.5 Once operational and fully commissioned the site will have no permanent staff. The facility will however be visited by a member of staff to be employed by SPP responsible for general maintenance of the facility.

Noise and Emissions

3.6 Based on National Grid data from similar sites in operation elsewhere, it is expected that the STOR generators will only be required between approximately 75 to 200 hours per annum. As the STOR generators will typically only operate for 1-3 hours at a time (1 hour is the typical operating period) associated emissions will remain well within the UK objectives and EU Limit values.

3.7 As a diesel plant combustion odour is similar to that emitted from commercial road transport and commercial/domestic oil based heating systems. Due to the periodic operating philosophy and the effects of thermal buoyancy/dispersement, any perceptible odour would be mild and transient.

3.8 As stated at Paragraph 3, each packaged plant has been attenuated to achieve 85dB(A). Further details about noise and emissions are contained in the engine specification details at **Appendix B.**

Transport Modes

3.9 With regard to the transport, the site would require fuel to be delivered to by road this take place during the operational hours as stated above. The anticipated number of vehicle movements during operation of the site will consist of the following:-

a) Maximum of 2 storage tankers per week
b) General light and commercial vehicle movements as required to operate/service development.

Grid Connection

3.10 This will be achieved using existing infrastructure associated with the Substation.

APPENDIX A

ELECTRICITY ACT 1989
SECTION 6(1)(a)

ELECTRICITY GENERATION LICENCE

FOR

SPEP LIMITED

NOTE

The licence holder is subject to the environmental obligations set out in Schedule 9 (Preservation of Amenity and Fisheries) of the Electricity Act 1989

PART 1. TERMS OF THE LICENCE

1. This licence, granted under section 6(1)(a) of the Electricity Act 1989 ("the Act"), authorises SPEP Limited (a company registered in Great Britain under company number 07251691) ("the licensee") whose registered office is situated at 33 London Road, Southborough, Tunbridge Wells, Kent, TN4 0PB, Great Britain to generate electricity for the purpose of giving a supply to any premises in the area specified in Schedule 1 or enabling a supply to be so given during the period specified in paragraph 3 below, subject to -

   (a) the standard conditions of electricity generation licences referred to in -

      (i) paragraph 1 of Part II below, which shall have effect in the licence; and

      (ii) paragraph 2 of Part II below which shall only have effect in the licence if brought into effect in accordance with the provisions of the standard conditions,

   subject to such amendments to those conditions, if any, as are set out in Part III below (together "the conditions");

   (b) the special conditions, if any , set out in Part IV below ("the special conditions");

   (c) such Schedules hereto, if any, as may be referenced in the conditions, the special conditions or the terms of the licence.

2. This licence is subject to transfer, modification or amendment in accordance with the provisions of the Act, the special conditions or the conditions.

3. This licence shall come into force on 16 August 2010 and unless revoked in accordance with the provisions of Schedule 2 shall continue until determined by not less than 25 years' notice in writing given by the Authority to the Licensee, such notice must not be served earlier than a date being 10 years after the Licence comes into force.

4. The provisions of section 109(1) of the Act (Service of documents) shall have effect as if set out herein and as if for the words "this Act" there were substituted the words "this licence".

5. Without prejudice to sections 11 and 23(1) of the Interpretation Act 1978, Parts I to IV inclusive of, and the Schedules to this licence shall be interpreted and construed in like manner as an Act of Parliament passed after the commencement of the Interpretation Act 1978.

6. References in this licence to a provision of any enactment, where after the date of this licence -

(a) the enactment has been replaced or supplemented by another enactment, and

(b) such enactment incorporates a corresponding provision in relation to fundamentally the same subject matter,

shall be construed, so far as the context permits, as including a reference to the corresponding provision of that other enactment.

The Official Seal of the Gas and Electricity Markets Authority hereunto affixed is authenticated by:-



MARK COX

Authorised in that behalf by the Gas and Electricity Markets Authority

16 August 2010

PART II. THE STANDARD CONDITIONS

1. Standard conditions in effect in this licence

Section A	Section B
Standard condition 1	Standard condition 5
Standard condition 2	Standard condition 6
Standard condition 3	Standard condition 7
Standard condition 4	Standard condition 8
	Standard condition 9
	Standard condition 10
	Standard condition 11
	Standard condition 12
	Standard condition 13
	Standard condition 14
	Standard condition 15
	Standard condition 16 (paragraphs 1-4)
	Standard condition 16A (paragraph 1)
	Standard condition 16B
	Standard condition 17 (paragraphs 1-5)
	Standard condition 17A (paragraphs 1-5)
	Standard condition 18 (paragraphs 1-6)
	Standard condition 19
	Standard condition 19B

2. Standard conditions not in effect in this licence

Section B	Section C	Section D
Standard condition 16 (paragraph 5-13)	Standard condition C1	Standard condition D1
Standard condition 16A (paragraphs 2-7)	Standard condition C2	Standard condition D2
Standard condition 17 (paragraphs 6-13)	Standard condition C3	Standard condition D3
Standard condition 17A (paragraphs 6-12)	Standard condition C4	Standard condition D4
Standard condition 18 (paragraphs 7-17)		Standard condition D5

Note: A copy of the standard conditions of electricity generation licences as determined by the Secretary of State together with subsequent modifications can be inspected at the principal office of the Authority. The above lists are correct at the date of this licence but may be changed by subsequent modifications to the licence.

Note: A copy of the standard conditions of electricity generation licences as determined by the Secretary of State together with subsequent modifications can be inspected at the principal office of the Authority. The above lists are correct at the date of this licence but may be changed by subsequent modifications to the licence.

PART III. AMENDED STANDARD CONDITIONS PARTICULAR TO THIS LICENCE

There are no amendments to the standard conditions

PART IV. SPECIAL CONDITIONS

There are no special conditions

SCHEDULE 1

SPECIFIED AREA

Great Britain

SCHEDULE 2

REVOCATION

1. The Authority may at any time revoke the licence by giving no less than 30 days' notice (24 hours' notice, in the case of a revocation under sub-paragraph 1(f)) in writing to the licensee:

   (a) if the licensee agrees in writing with the Authority that the licence should be revoked;

   (b) if any amount payable under standard condition 4 (Payments by the Licensee to the Authority) is unpaid 30 days after it has become due and remains unpaid for a period of 14 days after the Authority has given the licensee notice that the payment is overdue - provided that no such notice shall be given earlier than the sixteenth day after the day on which the amount payable became due;

   (c) if the licensee fails:

      (i) to comply with a final order (within the meaning of section 25 of the Act) or with a provisional order (within the meaning of that section) which has been confirmed under that section and (in either case) such failure is not rectified to the satisfaction of the Authority within three months after the Authority has given notice in writing of such failure to the licensee - provided that no such notice shall be given by the Authority before the expiration of the period within which an application under section 27 of the Act could be made questioning the validity of the final or provisional order or before the proceedings relating to any such application are finally determined; or

      (ii) to pay any financial penalty (within the meaning of section 27A of the Act) by the due date for such payment and such payment is not made to the Authority within three months after the Authority has given notice in writing of such failure to the licensee - provided that no such notice shall be given by the Authority before the expiration of the period within which an application under section 27E of the Act could be made questioning the validity or effect of the financial penalty or before the proceedings relating to any such application are finally determined;

   (d) if the licensee fails to comply with:

      (i) an order made by the court under section 34 of the Competition Act 1998;

      (ii) an order made by the Authority under Sections 158 or 160 of the Enterprise Act 2002

      (iii) an order made by the Competition Commission under Sections 76, 81, 83, 84 and 161 of the Enterprise Act 2002

(iv) an order made by the Secretary of State under Sections 66, 147, 160 or 161 of the Enterprise Act 2002.

(e) if the licensee:

(i) has ceased to carry on the generation business;

(ii) has not commenced carrying on the generation business within 5 years of the date on which the licence comes into force;

(f) if the licensee:

(i) is unable to pay its debts (within the meaning of section 123(1) or (2) of the Insolvency Act 1986, but subject to paragraphs 2 and 3 of this schedule) or has any voluntary arrangement proposed in relation to it under section 1 of that Act or enters into any scheme of arrangement (other than for the purpose of reconstruction or amalgamation upon terms and within such period as may previously have been approved in writing by the Authority);

(ii) has a receiver (which expression shall include an administrative receiver within the meaning of section 251 of the Insolvency Act 1986) of the whole or any material part of its assets or undertaking appointed;

(iii) has an administration order under section 8 of the Insolvency Act 1986 made in relation to it;

(iv) passes any resolution for winding-up other than a resolution previously approved in writing by the Authority; or

(v) becomes subject to an order for winding-up by a court of competent jurisdiction; or

2. For the purposes of sub-paragraph 1(f)(i), section 123(1)(a) of the Insolvency Act 1986 shall have effect as if for "£750" there was substituted "£100,000" or such higher figure as the Authority may from time to time determine by notice in writing to the licensee.

3. The licensee shall not be deemed to be unable to pay its debts for the purposes of sub-paragraph 1(f)(i) if any such demand as is mentioned in section 123(1)(a) of the Insolvency Act 1986 is being contested in good faith by the licensee with recourse to all appropriate measures and procedures or if any such demand is satisfied before the expiration of such period as may be stated in any notice given by the Authority under paragraph 1.

4. The Authority may at any time revoke the licence by giving no less than 7 days notice in writing to the Licensee where the Authority is satisfied that there has been a material misstatement (of fact) by, or on behalf of the Licensee, in making its application for the Licence.

APPENDIX B

The FG Wilson enclosure for the range of Perkins powered P450P3 to P688ER2 generating sets are a result of continuing research and development by our specialist acoustic engineers. **These enclosures reduce sound levels to comply with the stage II levels of the European Community Directive 2000/14/EC which became effective 3 January 2006.**

The fully weatherproof and sound attenuated enclosure incorporates internally mounted exhaust silencers and is extremely robust in order to withstand the rough handling common on many construction sites. It is designed on modular principles with many interchangeable components permitting on-site repair.



Robust/Highly Corrosion Resistant Construction

- Black finish stainless steel locks and hinges
- Zinc plated or stainless steel fasteners
- Body made from steel components treated with polyester powder coating

Excellent Access for Maintenance

- Two large doors on each side
- Radiator fill access plate
- Lube oil and cooling water drains piped to exterior of the enclosure

Security and Safety

- Control panel viewing window in a lockable access door
- Emergency stop push button (red) mounted on enclosure exterior
- Cooling fan and battery charging alternator fully guarded
- Fuel fill and battery can only be reached via lockable access doors
- Exhaust silencing system totally enclosed for operator safety

Transportability

- Tested and certified single point lifting facility
- Lifting points on baseframe

Optional Features

- Oil field type skid with dragging points and fork lift truck pockets

450 - 688 kVA Generating Set Range

Modular Acoustic Enclosure

POWER ELECTRICS RENTAL • SALES • SERVICE • PARTS

St Ivel Way, Warmley, Bristol BS30 8TY T: +44 (0)117 947 9700 F: +44 (0)117 947 9701
Abergarw Trading Estate, Brynmenyn, Bridgend CF32 9LW T: +44 (0)1656 726050 F: +44 (0)1656 720600
W: www.powerelectrics.com E: enquiries@powerelectrics.com

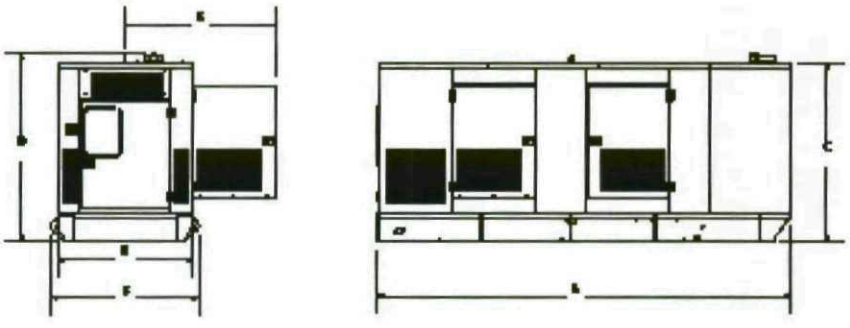
AUTHORISED DEALER

Sound Pressure Levels (dBA)

		50 Hz						60 Hz					
		15m (50ft)		7m (23ft)		1m (3ft)		15m (50ft)		7m (23ft)		1m (3ft)	
Generating Set Model	LWA	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load
P450P3	98	63.7	64.6	69.7	70.6	79.2	80.0	-	-	-	-	-	-
P500E3	98	64.0	65.0	70.0	71.0	79.5	80.4	-	-	-	-	-	-
P500P3	98	62.9	64.4	68.9	70.4	78.6	80.0	-	-	-	-	-	-
P550E3	98	63.3	65.1	69.3	71.1	79.0	80.7	-	-	-	-	-	-
P513P1	98	-	-	-	-	-	-	64.7	65.9	70.7	71.9	81.4	82.4
P563E1	98	-	-	-	-	-	-	65.0	66.4	71.0	72.4	81.6	82.8
P563P3	98	-	-	-	-	-	-	65.0	66.4	71.0	72.4	81.6	82.8
P625E3	98	-	-	-	-	-	-	65.4	67.2	71.4	73.2	82.0	83.5
P450P2	96	62.6	63.9	68.6	69.9	78.5	79.7	-	-	-	-	-	-
P500E2	96	63.0	64.6	69.0	70.6	78.9	80.3	-	-	-	-	-	-
P500P2	96	62.9	64.4	68.9	70.4	78.7	80.1	-	-	-	-	-	-
P550E2	96	63.3	65.0	69.3	71.0	79.1	80.7	-	-	-	-	-	-
P688ER2*	98	-	-	-	-	-	-	65.6	67.4	71.6	73.4	82.2	83.8

Levels in accordance with European Noise Directive (2000/14/EC). All sound figures are premilinary until further notice.

*Emergency Rating (Models with suffix "ER") - these ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure, up to a maximum of 200 hours per year. No overload is permitted on these ratings. Exceeding 200 hours operation per year may result in a reduced product life.



Dimensions and Weights

Generating Set Model	A: mm (in)	B: mm (in)	C: mm (in)	D: mm (in)	E:* mm (in)	F: mm (in)	Weight: kg (lb)	Fuel Capacity:
P450P3	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5463 (12044)	1000 (264)
P500E3	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5463 (12044)	1000 (264)
P500P3	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5590 (12324)	1000 (264)
P550E3	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5590 (12324)	1000 (264)
P513P1	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5463 (12044)	1000 (264)
P563E1	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5463 (12044)	1000 (264)
P563P3	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5590 (12324)	1000 (264)
P625E3	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5590 (12324)	1000 (264)
P450P2	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5463 (12044)	1000 (264)
P500E2	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5463 (12044)	1000 (264)
P500P2	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5590 (12324)	1000 (264)
P550E2	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5590 (12324)	1000 (264)
P688ER2	4990 (196.5)	1620 (63.8)	2140 (84.3)	2262 (89.1)	1810 (71.3)	1717 (67.6)	5612 (13372)	1000 (264)

Weight with lube oil, no coolant, no fuel. * Clearance required on both sides.

FG Wilson and Power Electrics are fully accredited ISO 9001

Generating Set Standards

The equipment meets the following standards:

BS5000, ISO 8528, ISO 3046, IFC 60034, NEMA

Warranty

All equipment carries full manufacturer's warranty. Extended warranty terms available. For details on warranty cover please contact Power Electrics, or visit our website, www.FGWilson.com

In line with our policy of continuous product development, we reserve the right to change specification without notice. 450-688kVAENCLOSURE/I 107/GB

9P Series

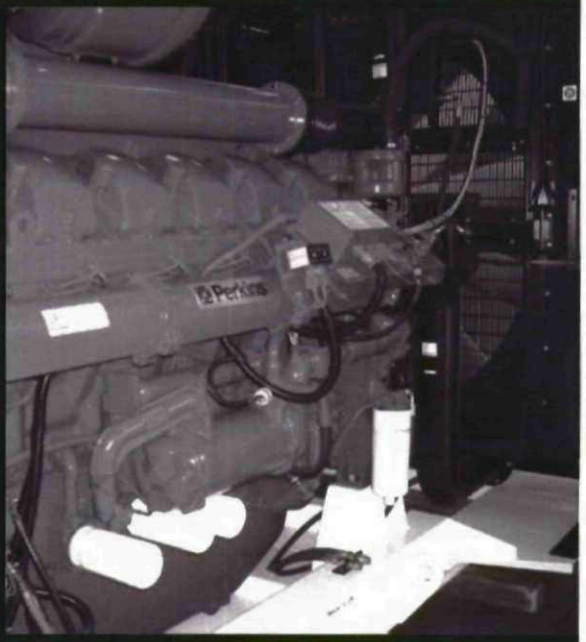
Electrical Power Generating Sets

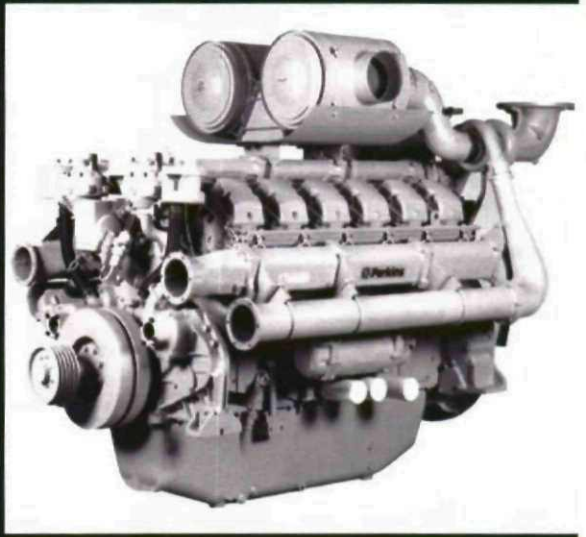
	Prime	Standby
Genset model	DN3-AJ1875P	DN3-AJ1875S
380-415V, 50Hz	1700.0 kVA 1360.0 kW	1875.0 kVA 1500.0 kW
480/440V, 60Hz	1718.8 kVA 1375.0 kW	1875.0 kVA 1500.0 kW

Ratings at 0.8 pf

Prime This rating is for the supply of continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation on the annual hours of operation and 10% overload power can be supplied for one hour in twelve hours.

Standby This rating is for the supply of continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted.





Engine model	Perkins	4012-46TAG3A	
Number of cylinders		V12	
Cubic capacity	litre (cu inch)	45.8 (2795)	
Aspiration		Turbocharged	
Alternator	Newage	Stamford	
Frequency	Hz	50	60
Engine speed	rpm	1500	1800
Fuel tank capacity (standard)	litre (USgal)	0 (0.0)	0 (0.0)
Fuel consumption at full rating: Prime	litre /h (USgal /h)	370.00 (97.75)	356.00 (94.06)
Standby	litre /h (USgal /h)	405.00 (107.00)	390.00 (103.04)
Heat rejection to exhaust system (max)	kW (BTU /min)	1219.0 (69379)	1287.0 (73250)
Heat rejection to cooling system (max)	kW (BTU /min)	1115.0 (63460)	1085.0 (61753)
Total radiated heat (max)	kW (BTU /min)	123.0 (7001)	108.0 (6147)
Exhaust temperature (max)	deg C (deg F)	480 (896)	434 (813)
Radiator cooling air flow with max restriction	cu m /min (cfm)	2220.0 (78399)	2160.0 (76280)
	mm (inch) H_2O	12.0 (0.5)	12.0 (0.5)
Combustion air flow (max)	cu m /min (cfm)	135.00 (4768)	145.00 (5121)
Exhaust gas flow (max) with max allowable back pressure	cu m /min (cfm)	350.00 (12360)	336.00 (11866)
	mm (inch) H_2O	500 (19.7)	500 (19.7)

9P Series

Electrical Power Generating Sets

Dimensions:

Length (A)	mm (inch)	5300 (208.7)
Width (B)	mm (inch)	2198 (86.5)
Height (C)	mm (inch)	2680 (105.5)
Max longitudinal projection (D)	mm (inch)	N/A (N/A)
Max width projection per side (E)	mm (inch)	N/A (N/A)
Maximum height total (F)	mm (inch)	N/A (N/A)

Weights:

Dry weight (with lube oil)	kg (lb)	10890 (24007)
Wet weight (with lube oil and coolant)	kg (lb)	11095 (24459)

Sound pressure levels:		50Hz 1500rpm	60Hz 1800rpm
15m, 75% load	dB(A)	N/A	N/A
15m, 100% load	dB(A)	N/A	N/A
7m, 75% load	dB(A)	N/A	N/A
7m, 100% load	dB(A)	N/A	N/A
1m, 75% load	dB(A)	N/A	N/A
1m, 100% load	dB(A)	N/A	N/A

