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SECOND SCHEDULE

GPS ENVIRONMENTAL POLICY

PART A--DEFINITIONS AND INTERPRETATION

0.1 In this Schedule--

"Chief Executive" means the Chief Executive of the Department;

"the Department" means the department principally administering environmental planning;

"the Licensee" means, where used in respect of any Part of this Schedule, the person to whom a licence is issued in conformity with the requirements of that Part under Clause 13 of the State Agreement;

"State Agreement" means the Agreement of which this Schedule forms part.

PART B--AIR EMISSIONS

This Part sets out the standards, parameters, conditions and requirements which shall apply in respect of emissions of air impurities from the GPS.

1 The provisions in this Section 1 shall apply subject to the provisions of Section 2.

In this Part--

"original coal" means coal extracted from the Callide, Curragh or Blackwater mines (including any extensions of those mines occurring during the term of the State Agreement);

"original coals impact" means the environmental impact arising out of the use of original coals in boilers at the GPS on the basis of the conditions set out in this Schedule applicable to those boilers after the refurbishment contemplated under the Refurbishment and Testing Deed;

"prescribed fuel" means any original coal and any other fuel source which is made a prescribed fuel under the provisions of paragraph 1.12;

"prescribed NO_x measurement point" means a point labelled as such on the plan marked 'Gladstone Power Station--NO_x measurement points' initialled by or on behalf of each of the Participants and the Chief Executive and held in the offices of the Department;

"prescribed oxygen measurement point" means a point labelled as such on the plan marked 'Gladstone Power Station--oxygen measurement points' initialled by or on behalf of each of the Participants and the Chief Executive and held in the offices of the Department;

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"prescribed particulates measurement point" means a point labelled as such on the plan marked 'Gladstone Power Station--particulates measurement points' initialled by or on behalf of each of the Participants and the Chief Executive and held in the offices of the Department.

The emission of air impurities from each boiler to the atmosphere is to be via a chimney which discharges at least 150m above the level of the floor of the turbine house to which the chimney is related.

The efflux velocity of emissions of air impurities from each chimney to the atmosphere when the 2 boilers connected to that chimney are operating at their nominal maximum capacity is to be not less than a velocity equivalent to 22.87 m/s at 160°C.

The concentration of solid particle emissions from each boiler during each named month shall be such that the averaged obscuration values for the chimney to which it is related, measured at 5 minutes intervals, fall within the range specified in respect of that chimney in Table 1 for at least the proportion specified in that table of the number of those intervals in that month during which the chimney is operating.

1.5 For the purposes of paragraph 1.4--

(a) the term "averaged obscuration value" means, in respect of any chimney for any hour, the flow-weighted averaged obscuration level value, (V), calculated in accordance with the following formula--

$$V = \frac{\frac{F_x(R_{x,a} + R_{x,b})}{2} + \frac{F_y(R_{y,a} + R_{y,b})}{2}}{F_x + F_y}$$

Where--

F = the average of the effluent gas flow rates from a boiler over the hour, determined on the basis of the load on the boiler during that hour or such other basis of estimation as the Participants may reasonably determine;

R = the average of the obscuration readings recorded in respect of effluent gas passing through an effluent duct during the hour, measured at the prescribed particulates measurement point for that duct and expressed as a percentage;

x and y represent the boilers connected to a chimney; and

a and b represent, in respect of a boiler, the effluent ducts for that boiler;

(b) "hour" means a period of 60 minutes; and

(c) "effluent duct" means a duct leading from a boiler to a chimney for the purpose of conveying effluent gas from the boiler to the chimney and for which a prescribed particulates measurement point exists.

1.6 The Licensee shall install and operate automatic obscuration meters at each prescribed particulates measurement point to indicate to the boiler operator the levels of particulate concentrations in the effluent gas at that point and which produce a record of the measured data.

The concentration of nitric acid or oxides of nitrogen or a mixture thereof in the effluent gas from each boiler at each prescribed NO_x measurement point in respect of that boiler, before admixture with air, smoke or other gases, shall not exceed the equivalent of 2.8 grams of nitrogen dioxide per cubic metre (at 0°C and 101.325 kPa when corrected to a reference level of 7% by volume of oxygen).

1.8 The Licensee shall install and operate automatic oxygen meters at each prescribed oxygen measurement point to indicate to the boiler operator the concentration of oxygen in the effluent gas at that point and which produce a record of the measured data.

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1.9 The Licensee shall install and operate automatic nitrogen oxide meters to indicate to the boiler operator the concentration of nitrogen oxides in effluent gases at relevant prescribed NOx measurement points, on the following basis--

- (a) One of the operative boilers at the station shall be termed the "nominated boiler" for the purposes of this paragraph.
- (b) The nominated boiler shall be, initially, boiler number 3 but, from time to time (but no more frequently than annually), another operative boiler, selected by the Participants on a rotational basis having regard to boiler operating schedules, shall become the nominated boiler.
- (c) The Licensee shall install and operate a meter on the nominated boiler to indicate to the boiler operator the concentration of nitrogen oxides in the effluent gas at the prescribed NOx measurement point for that boiler.
- (d) In addition (but subject to subparagraph (e)), the Licensee shall monitor each of the operative boilers other than the nominated boiler for the whole of 1 day in each named month (which day need not be the same day for all such boilers) to determine the concentration of nitrogen oxides in the effluent gas at the prescribed NOx measurement points for those boilers.
- (e) If the Participants are able to demonstrate to the Chief Executive that the results of monitoring of the boilers referred to in subparagraph (d) are such as to indicate a general consistency of control of emissions of nitrogen oxides, the Chief Executive may nominate, in place of the requirements of subparagraph (d), such other arrangements for determining consistency of nitrogen oxide emissions as may be agreed with the Participants.
- (f) Meters used for the purposes of this paragraph shall produce a record of the measured data.

Dark smoke emissions will be measured on the basis of obscuration only.

The emission of all gaseous substances and air impurities other than those referred to in paragraphs 1.4 and 1.7 from each boiler shall be regulated on the basis of the chemical composition of fuels used to operate the boiler, as follows--

- (a) The sulphur content of fuel oil burnt in the boiler is not to exceed 1.8% by weight.
- (b) The sulphur content of coal burnt in the boiler is not to exceed 0.8% by weight.
- (c) The content of arsenic, boron, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, vanadium, zinc, fluorine, chlorine and other trace elements other than sulphur in fuels (other than fuel oil) burnt in the boiler shall be--
 - (i) where the only such fuels are prescribed fuels--not greater than the maximum values of those elements occurring in prescribed fuels;
 - (ii) in any other case--such as to enable air emissions from the boiler to comply with air emission standards under applicable Environmental Legislation.

The Participants may, at any time, request the Chief Executive to provide a determination in respect of a fuel other than a prescribed fuel for the purposes of this Schedule, in which case the following provisions shall apply--

- (a) The Chief Executive may require the Participants to provide all such technical and other information as may be reasonably necessary for the Chief Executive to assess the new fuel and the likely environmental impact of its use in the manner proposed by the Participants when compared with the original coals impact.
- (b) The Chief Executive shall consider the application and determine whether, in the Chief Executive's reasonable opinion, the new fuel is capable of being used (whether in the manner proposed by the Participants or on the basis of particular conditions) in such a manner as to be unlikely to give rise to air emissions with an environmental impact which is adverse, to a material extent, when compared with the original coals impact.
- (c) The Chief Executive shall notify the Participants of the determination and any conditions referred to in subparagraph (b) ("relevant conditions").

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(d) If the Chief Executive's determination is that the new fuel satisfies the test set out in (b) (whether alone or on the basis of relevant conditions) the Participants shall then be at liberty to notify the Chief Executive of their acceptance of the determination and any relevant conditions.

(e) The effect of such an acceptance will be--

(i) to make the new fuel a prescribed fuel for the purposes of this Schedule; and

(ii) to entitle the Participants to use the new fuel subject to any relevant conditions.

Records of the monitoring data required to be kept under this Part shall be retained by the Licensee in a safe place for a period of 3 years and shall be produced for examination by officers of the Department upon request and copies of such records are to be provided to the Department upon request.

1.14 The Licensee shall provide to the Chief Executive, in respect of any named month during which there has occurred an incident as a result of which the limits specified in this Part have been (or are believed to have been) exceeded, a report which sets out--

(a) the nature of the incident; and

(b) the limit which is believed to have been exceeded; and

(c) the actions taken and/or proposed to be taken to--

(i) correct the exceedance; and

(ii) prevent future such exceedances.

1.15 The Licensee shall conduct studies with a view to determining ways in which the particulate emission levels can be minimised pending refurbishment of the boilers and shall keep the Chief Executive informed of the progress of those studies and the implementation of recommendations arising out of them.

1.16 If a breakdown of any fuel burning equipment or control equipment or industrial plant causes or is likely to cause the emission of any air impurities from the GPS otherwise than as authorised (whether by this Schedule or otherwise by the Chief Executive), the Licensee shall--

(a) as soon as practicable, notify the Chief Executive or such other officer of the Department as the Chief Executive shall nominate of all information concerning the breakdown then available to the Licensee; and

(b) take all practicable means to prevent or minimise those unscheduled emissions.

1.17 If the testing of any new or overhauled fuel burning equipment or control equipment or industrial plant is likely to cause the emission of any air impurities from the GPS otherwise than as authorised (whether by this Schedule or otherwise by the Chief Executive), the Licensee shall--

(a) give reasonable notice in writing thereof to the Chief Executive specifying the time when such testing is to be carried out and all other information relating to the proposed testing; and

(b) take all reasonable steps to prevent or minimise air pollution resulting from those activities.

1.18 The Chief Executive may, in connection with the testing of new fuel sources or equipment by the Participants, substitute different requirements from those set out in this Part in respect of that testing.

The gas turbine located on the GPS Site shall be regulated on the following basis--

(a) The height of the chimney shall be not less than 10m above ground level.

(b) The sulphur content of fuel oil burnt in the turbine is not to exceed 1.8% by weight.

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The standards, parameters, conditions and requirements applicable under Section 1 of this Part shall be modified in respect of each boiler from the day after the date on which the Acceptance Test Certificate is given in respect of that boiler in accordance with the terms of the Refurbishment and Testing Deed or 31 December 1997 (whichever is the earlier) (the "Refurbishment Date") in the following respects (and only those respects).

2.1 The concentration of solid particles in the effluent gas from the boiler at each prescribed particulates measurement point in respect of that boiler, before admixture with air, smoke and other gases (at 0°C and 101.32kPa and when corrected to a reference level of 12% by volume of carbon dioxide) is to be--

- (a) not greater than 0.080 g/m³ for 85% of annual operating hours; and
- (b) not greater than 0.150 g/m³ for 97% of annual operating hours; and
- (c) not greater than 0.23 g/m³ at all times.

2.2 The concentration of nitric acid or oxides of nitrogen or a mixture thereof in the effluent gas from the boiler at each prescribed NO_x measurement point in respect of that boiler, before admixture with air, smoke or other gases (at 0°C and 101.325kPa and when corrected to a reference level of 7% by volume of oxygen) is to be--

- (a) not greater than the equivalent of 1.6 grams of nitrogen dioxide per cubic metre for 80% of annual operating hours; and
- (b) not greater than the equivalent of 1.8 grams of nitrogen dioxide per cubic metre for 95% of annual operating hours; and
- (c) not greater than the equivalent of 2.5 grams of nitrogen dioxide per cubic metre at all times.

2.3 For the purposes of paragraphs 2.1 and 2.2, the term "annual operating hours" in respect of a boiler shall mean the number of hours the boiler was in actual operation, determined over any period of 12 months commencing on or after the Refurbishment Date applicable to that boiler.

2.4 The sections of duct at which measurements are made for calibrating the opacity meters shall be the same sections of duct leading from the boilers as are used for those measurements as at the day prior to the date of commencement of operation of this Schedule.