



International Power Australia

Submission on The National Greenhouse and Energy Reporting System – Technical Guidelines for the Estimation of Greenhouse Emissions and Energy at the Facility Level: the Energy, Industrial Process and Waste Sectors in Australia.

13 February 2008

Overview

International Power Australia (IPRA) welcomes the Department of Climate Change seeking comments on the Technical Guidelines for the Estimation of Greenhouse Emissions and Energy at Facility Level Energy, Industrial Process and Waste Sectors in Australia. The comments below reflect International Power's extensive experience in reporting emissions and energy data under the Greenhouse Challenge Plus program, Generator Efficiency Standards and the National Greenhouse Inventory and National Pollutant Inventory processes.

IPRA is Australia's largest private electricity generator. It has progressively developed its portfolio since 1996 from 1,200MW to circa 3,200MW (equity owned) of diverse fuel and technology generating capacity across Victoria, South Australia and Western Australia. It has developed 160MW of windfarm sites in Victoria and 46 MW of wind energy generation in South Australia.

This portfolio is complemented by a retail business of 410,000 power and gas accounts which has been successfully developed by Simply Energy, an IPRA company. The Australian business is an important part of the 30,807MW (18,935MW equity owned) International Power plc operates across 18 countries.

IPRA operates the 1,600MW Hazelwood and 1,000MW Loy Yang B power stations in the Latrobe Valley. Their capacity represents more than 40 per cent of Victoria's energy supply. In South Australia IPRA operates a 485MW CCGT at Pelican Point Power, a 46 MW wind farm at Millicent and mix of 360 MW of OCGT in South Australia. Table 1 provides a summary of International Power's Australian assets.

**Table 1
IPRA Australian Energy Assets**

Asset	Fuel / Type	Gross Capacity MW
Hazelwood, Victoria	Coal	1,635
Loy Yang B Power Station, Victoria	Coal	1,010
Synergen Peaking Units, South Australia	Natural Gas/Distillate	360
Pelican Point Power Station, South Australia	Natural Gas (CCGT)	485
Canunda Wind Farm, South Australia	Wind/renewable	46
Kwinana Power Station, Western Australia	Natural Gas (CCGT)	118
SEA Gas underground pipeline	n/a	n/a
Simply Energy	n/a	n/a

Since IPRA purchased Hazelwood Power Station in 1996, its emissions intensity has been reduced by 8 per cent which represents 10 million tonnes of CO2 emissions saved (compared with SECV emission intensity). Over that time, \$400 million was invested on plant efficiencies and other environmental initiatives. Fresh water consumption has also been reduced by over 45%.

International Power plc is the world's seventh largest owner and operator of renewable energy with 1,081MW of wind farms in operation (with a further 99MW under construction). It considers fossil fuels (gas and coal) are part of solution as well as the problem and is pursuing a number of low emissions technology schemes and example of which is the \$370 million retrofit Hazelwood 2030 project.

Detailed response

Part A – Introduction

The Guidelines indicate that the Act requires corporations to register and report per financial Year (1 July to 30 June). Current reporting procedures under the National Greenhouse Inventory, the Greenhouse Challenge Plus programme and Generator Efficiency Standards allow calendar year reporting. The Act/Guidelines should retain that flexibility.

Section 1.3 Online System for Comprehensive Activity Reporting

Reporters will be able to use the new Online System for Comprehensive Activity Reporting (OSCAR) to report data under the Act.

Past experiences in reporting greenhouse gas emissions through OSCAR suggest further development in user-friendliness and accurate and reliable use of emissions factors utilisation may be required.

Section 2.3.2 Sampling and Analysis

Current industry sampling practice in relation to continuous mining and supply to a power station (where the mine is part of the electricity generating business) are acceptable to GES and NGAC reporting requirements.

We would further note that Australian Standard methods for analysis of lower rank fuels are not fully representative of industry practices and modern equipment. Methods used by a leading low rank coal laboratory indicate modern methods of moisture and ash analysis are not significantly different from those obtained according to AS2434.1 and AS2434.8.

Accreditation to NATA and in accordance with ISO17025:2005 does not necessarily dictate that accurate results will be obtained and reported.

2.3.3 National Greenhouse Accounts (NGA) Ratings Framework

This refers to Tables 20 & 21 in appendix 3.1. Under these tables “Facility-specific EF Grade 2 should include a reference to the last dot point (page 19) “requirements of government programs” and also section 2.3.5.

2.3.5. Time series consistency of emission factor information.

The Technical Guidelines states:

Reporters that currently prepare inventories utilising higher order methods (such as reports submitted under the Generator Efficiency Guidelines) should continue to prepare emission estimates using these approaches.

It is not clear in Table 20 that this is acceptable and which NGA emission factor rating is associated with this Emission Factor Method (i.e. using approved GES methods of estimation). A possible solution would be to include in the table an explicit reference to “higher order methods”, along with a relevant NGA emission rating factor reflecting the data’s accuracy.

3.3 General Methodology

It is suggested that continuous emissions monitoring systems (CEMS) may be employed to measure the emissions directly, and these are given the highest NGA emission factor rating in Table 20. In the case of flue gas monitoring, the variability in flue gas flow rate and its direct measurement is covered in Australian Standard (AS 43232), which states:

The major sources of error are related to the stability and character of the gas flow, the consistency of the process, the size, shape and character of the articles and particulate concentrations during sampling. While the precision of this method will vary according to the parameters listed, it has good potential for a precision of 15%.

With an uncertainty estimate of up to 15 %, this would make CEMS a Class 3 ranking and therefore an NGA emission factor rating of B. (not AA/AAA- as indicated in table 20.)

3.4.1 Activity Data – Coal weighing.

The technical guidelines focus on coal weighing, although they include a statement on Mine Volume change. Other Methods of determining total coal quantity, such as mine volume change, may be used provided that any such method has a demonstrated maximum error not exceeding +/- 1.5%.

We support the continued use of Mine volume change methods where the maximum error is kept low, and confidence in the methods and calculation used to determine coal void change are satisfactory.

3.4.2 Emission Factors

This refers Electricity generators to section 3.8, which then goes on indicate the requirement to report CO₂ emission estimates using higher order methods, reflecting both widespread

commercial practice and current requirements of the Generator Efficiency Standards program.

Facility specific factors should continued to be used, as is currently the case.

4.4 Carbon Capture & Storage

The description of carbon capture ignores a process currently used at a range of facilities – chemical sequestration.

The discussion under this section should be expanded to include chemical sequestration through production of carbonate (e.g. Calcium Carbonate).

Section 5.2 requires reporting from mineral producers e.g. Calcium Oxide, from Calcium Carbonate. The converse should be allowed as Carbon Capture and Storage.

In response to the three question boxes in the overview document, p 19, 23 & 27.

Question	Response
Stakeholder views are sought on whether the listed fuel types in Attachment A provide sufficient detail for companies to report on its fuel use?	Agreed. The list is comprehensive
Should any additional fuel types be added?	No.
Do companies have data systems in place to facilitate the reporting of equipment in use for the consumption of energy?	Data systems have been in place to comply with Generator Efficiency Standards, Greenhouse Challenge and NGGI reporting at a facility level. Detailed thermal efficiency monitoring at the equipment level requires specialised monitoring (e.g. heat rate tests) that is not available online as part on normal operations. This degree of testing is expensive and impacts on business dispatch to market.
Are data systems in place to estimate the consumption of energy by equipment type?	For Power Generation – Yes as a total at the facility level. However, systems for individual pieces of equipment are not in place. Requiring such equipment would be expensive, impact on the generator’s ability to dispatch to market, yet deliver little additional relevant information.
Company views are sought on whether the equipment type listing provided in Attachment B adequately cover the processes within your company?	Yes – Boiler for Power generation

<p>Does providing a breakdown of energy consumption at this level present any difficulties?</p>	<p>Breakdown of energy consumption should only be reported and supplied at the facility level, not at the equipment level. Often data inputs (or energy consumed) is known at the facility/business level as an input and is not split or measured independently across the site.</p> <p>To require reporting at the equipment level would significantly increase costs and resourcing requirements, with little to no benefit.</p>
<p>Should this data be reported under the Act?</p>	<p>Only facility level energy consumption should be reported.</p>
<p>Stakeholder views and preferences are sought on the different reporting options for electricity (Scope 2) emissions as outlined in the Attachment C Box?</p>	<p>We support the proposed scope 2 indirect emission factor method, currently based on state Emission Factors. It allows facilities within each state to be compiled for the state based EF comparison.</p> <p>However to support continued efforts in reducing greenhouse gas emissions, companies reporting scope 2 emissions should be allowed to utilise supplier specific emission factors where these can be clearly demonstrated in terms of purchased electricity as it enables reporting facilities who purchase “low emission energy” for the purpose of reducing their greenhouse gas emissions to be acknowledged for that commitment.</p>