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Review of the Gas Bulletin Board Zones

Report prepared for the Independent Market Operator

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Background

The Gas Bulletin Board (GBB), in conjunction with the Gas Statement of Opportunities (GSOO), provides useful information to gas market participants to facilitate trade, investment, efficient operations and maintain security of supply.

As part of the Independent Market Operator's (IMO) role in operating and maintaining the GBB, the IMO collates data provided by gas market participants in relation to natural gas production, storage and large user facilities[1], and flows and capacity data for natural gas transmission pipelines.

The IMO is required under the Gas Services Information (GSI) Rules to publish updated nominated and forecast flow data and actual daily flow data each gas day. The nominated and forecast flow data is published on a zonal basis whereas the daily actual flow data is published for individual gas supply facilities, such as pipelines, gate stations, and production and storage facilities, two days after the gas day and actual daily flow data for a large user facility is published seven days after the gas day.

The GBB Zones[2] are largely defined with reference to individual transmission pipelines. However, for the two longer pipelines (Dampier to Bunbury Natural Gas Pipeline (DBNGP) and the Goldfields Gas Pipeline (GGP)), the pipelines are segmented across several Zones – reflecting the fact that there are regional production and consumption centres along the pipeline, but also to ensure linepack capacity adequacy (LCA) flags for each Zone effectively indicates the potential for a localised gas supply interruption in that production and/or consumption region.

From our understanding of the intent and design principles for the GBB, Marsden Jacob has inferred that the purpose of the GBB Zones is twofold:

- provide a logical and sufficiently detailed geographical based breakdown of forecast gas demand and supply; and
- allow for the segmentation of longer pipelines so that Zone information provides useful indications of localised supply interruptions in a gas production and/or consumption region.

In addition, the Zones appear to play a role in preserving participant's confidentiality regarding short term nominations and forecasts, however this concept has not been explicitly tested.

Review of the GBB Zones

The IMO is required to undertake a Review of the GBB Zones at least once every five years to ensure that the Zones are consistent with the GSI Objectives.

The purpose of the IMO's Review of the GBB Zones is to consider the appropriateness of the GBB Zones in achieving the GSI Objectives by providing an appropriate breakdown of gas supply and use within the state.

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1 Under the GSI Rules production and storage facilities with nameplate capacity less than 10 TJ/day, and large user facilities which have (or are predicted to have) usage which does not exceed 10 TJ/day on any single gas day in a 12 month period are exempt from IMO registration.

2 GBB Zones are also referred to as Zones in this report.

The IMO has assigned Marsden Jacob to compile a Draft Report on the GBB Zones to support their Review of the GBB Zones.

Report Findings

Awareness and use of the GBB Zone data

Preliminary discussions suggest market participants have a good understanding of the GBB Zone data, but that the reliance and usefulness of Zone information to individual gas market stakeholders is highly dependent on the unique role of or interest that particular parties have in the gas market, and also the ready access to alternative sources of information (such as metered flow data supplied by pipeline operators) which serve the same purpose as the Zone information.

The Zone based data appears to be of most benefit to smaller gas players (users or traders), potential new entrants (investors), as well as policy makers, who do not have ready access to alternative sources of forecast gas flow and capacity data.

From a supply and demand perspective, the Zones data may facilitate identification of short term trading opportunities. Marsden Jacob acknowledges that the gas market in WA is dominated by long term commodity and transport agreements, with only a small proportion of total gas flow being traded in the short term market. However, short term trade has an important role in ensuring the efficient management of any temporary or unforeseen supply or demand imbalance in the market. In particular, there should be a sufficient breakdown of Zone nominations and forecast flow and capacity information to allow individual producers and users to readily identify opportunities for short term trades.

Many participants commented that the LCA Flags (published by GBB Zone) were not particularly useful in preparing for, or in the management of, an actual or potential gas supply disruption (especially along the DBNGP). For the LCA Flag to be of more use, the flag needs to provide more timely and localised information. This was highlighted in a recent gas disruption event in January 2015 (see section 3.2).

Impact of future gas market developments

A number of new developments in the WA gas market have the potential to change current market dynamics and impact the relevance of the current GBB Zones.

Gas Pipelines

New transmission pipelines in WA must be allocated to an existing Zone or a new Zone created for that pipeline. The former occurred in 2015, when the IMO, after consultation with market participants, allocated the Fortescue River Gas Pipeline (FRGP) to the Pilbara Zone. The Eastern Goldfields Gas Pipeline (EGGP) will be completed in 2016, and several additional pipelines associated with new gas production facilities may need to be considered in terms of Zone allocations.[3]

[3] The treatment of these pipeline under the GSI Rules is yet to be finalised and as such treatment with reference to the GBB and Zones is not yet clear.

Consistent with the purpose of the GBB Zones and the GSI Objectives, Marsden Jacobs has the following views with regard to the allocation of both recent and proposed future pipelines to GBB Zones:

Fortescue River Gas Pipeline

It was appropriate for the IMO to include the FRGP in the Pilbara Zone, given that the pipeline has many of the characteristics of a gas lateral (supplying a single user in the Pilbara region) and that the purpose of the GBB Zones is to provide regional supply and demand information to current and potential future gas participants – not facility level data.

Eastern Goldfields Gas Pipeline

The proposed EGGP will also have some of the characteristics of a gas lateral (albeit it is intended to supply multiple users) and is connected to a single gas transmission pipeline. In addition, it has no direct connection to any gas production facilities, implying that gas will consistently flow from the GGP to the EGGP. In Marsden Jacob's view, including the EGGP in the Goldfield's Zone is consistent with both the purpose of the Zones and the GSI Objectives.

Ashburton to Onslow Pipeline

A new gas fired power station (to be owned by Horizon Power) will be built south of Onslow and is likely to be connected, via the Ashburton to Onslow Pipeline, to a pipeline that may also be considered a gas lateral (the Wheatstone Ashburton West Pipeline or WAWP). Given that the user is not directly connected to a GBB Pipeline, depending on the registration arrangements for the WAWP, the gas flow to the Power Station may not be transparent (even if it exceeded 10 TJ/day) and could in effect be netted off at the receipt (injection) point into the DBNGP (at CS2). This loss of transparency for a significant gas user, in our view, is not consistent with the objectives of the GBB.

Although this issue is not directly relevant to the definition of the GBB Zones, it does relate to the completeness of the information on the GBB. This issue could be overcome by requiring that WAWP and the Ashburton to Onslow Pipelines register as GBB Pipelines. If they were registered as GBB Pipelines, given the location of the pipelines, in Marsden Jacob's opinion, they should be allocated to the Dampier Zone.

The implications of registering the above pipelines as GBB Pipelines, and an alternative proposal for ensuring that all relevant gas use information is captured by the GBB, are discussed further in Chapter 4 (Recommendation 3).

Guidelines for the allocation of new pipelines to GBB Zones

Given our analysis of existing and proposed pipelines, Marsden Jacob have developed the following set of guidelines to assist the IMO allocate pipelines (and therefore a large user or production facility) to GBB Zones.

If a gas pipeline has the following characteristics:

- is located within a single economic region of Western Australia where gas production and/or consumption occurs e.g. Pilbara, Perth, South West;
- is adjacent to an existing GBB Zone;
- is connected directly to an existing GBB Pipeline;
- has only gas production receipt points or only user delivery (outlet) points connected to the pipeline (not a mix of both) – implying that gas flows are typically one-way;

Then, allocate the pipeline to an existing GBB Zone. If not, consider creating a GBB Zone for the new pipeline or allocating the pipeline across multiple Zones (as is the case for the DBNGP and GGP).

Gas Production Facilities in the Dampier Zone

The Gorgon (182 TJ/day capacity) and Wheatstone (200 TJ/day capacity) gas production facilities are both currently under construction and are expected to commence supplies to the domestic market in 2015 and 2018 respectively, with the Gorgon facility expected to be expanded in 2020 to allow it to produce at a capacity of 300 TJ/day.

The concentration of production in the Dampier Zone (around 97% of production capacity in the State[4]) is already significant. Both Wheatstone and Gorgon are located in the Carnarvon Basin and will be connected (via pipelines) to the DBNGP. Under the current definitions, these two facilities would logically be added to the existing Dampier Zone.

The increasing and disproportionate concentration of gas production within a single Zone may not best meet the GSI Objectives. Market participants indicated that aggregating gas nominations at the Dampier Zone level was not useful and that production data should be made available, either by individual production facility or by further segmenting the Dampier Zone. They argue that this would better help facilitate trade (by revealing which individual producer has spare capacity) and provide additional information which could help in the management of a gas supply disruption event.

In section 3.3.3, we outline two options to modify the Dampier Zone that would improve the purpose of the Zones and the achievement of the GSI Objectives.

- Option 1: Dampier Zone split at compressor station 1 (CS1) on the DBNGP.
- Option 2: Dampier Zone split at CS1 and CS2 on the DBNGP.

Given the discussion, Marsden Jacob have developed the following guidelines to assist redefine GBB Zones given future gas market developments:

Guidelines for revision of GBB Zones

If the addition of new facilities to a GBB Zone implies the following:

- receipt points (e.g. production, pipelines, storage) and/or delivery (pipelines, storage and or User) are highly concentrated with a GBB Zone;
- the clustering of various facilities in a region enable a gas disruption event to be remedied within a sub-region of an existing GBB Zone (no impacts on other gas production/consumption regions);

Then, consider disaggregating the GBB Zone into multiple Zones to ensure that participants receive accurate information on the supply status of that gas production/consumption region.

Other reform options

Other potential changes to the Zones were considered by Marsden Jacob and are outlined in section 3.4.

Marsden Jacob's preliminary assessment suggested that these options would either be of limited benefit or are otherwise premature given the current state of the WA gas market. However, a brief

[4] IMO (2014) *Gas Statement of Opportunities – December 2014*, p. 38

description and discussion of each of the options has been included for completeness and to facilitate further consideration by stakeholders.

Potential changes outlined include:

- segmentation of the Metro Zone into North and South Metro.
- alignment of GBB Zones to potential wholesale gas trading hubs in the Carnarvon Basin and at the Mondarra Storage Facility.
- introduction of 'Transit Zones', particularly in the Dampier/Pilbara Zones where two transmission pipelines are interconnected with the DBNGP.
- alignment of Zones with the North West Interconnected System (NWIS) in order to understand the dependence of the electricity system on gas as a primary fuel (analogous to the alignment of GBB Zones to the South West Interconnected System (SWIS)).

Recommendations

Marsden Jacob's preliminary assessment of options to improve the relevance and use of GBB Zones in a manner which meets the GSI Objectives includes six recommendations. Each recommendation would require amendments to the GSI Rules in order to be implemented.

Recommendation 1: Remove the definition of GBB Zones from the GSI Rules

Removal of the definition of the GBB Zones from the GSI Rules (amendment to Rule 82) to allow the IMO greater flexibility in amending the Zones to suit market needs going forward.

Recommendation 2: Publish nominations and forecasts for individual facilities (in particular, gas production facilities)

Publish nominations and forecasts for individual facilities (i.e. large users, producers etc.). In particular, publishing nominations and forecasts for production facilities will increase opportunities for short term trade and the efficient resolution of supply disruption events.

Recommendation 3: Capture large user facility data connected to non-GBB Pipelines

The purpose of the GBB is to capture accurate data on gas supply and demand by region to help facilitate trade in pipeline gas. Accurate data at the facility level may not be captured for some large use customers being supplied from non-GBB Pipelines. Although this issue is not directly relevant to the definition of GBB Zones, in order to ensure that relevant data is captured by the GBB, we recommend that the definition of large user facilities should be extended to capture gas supply from non-GBB Pipelines.

Recommendation 4: Division of the current Dampier Zone

The Dampier Zone (which will be responsible for almost 98% of domestic gas production capacity by 2020) should be segmented into smaller Zones to provide greater transparency of information to market participants which is useful in the management of gas supply disruption events within the region and to facilitate trade.

Recommendation 5: IMO adopt Guidelines for allocation of new pipelines to GBB Zones

That the IMO adopts the Marsden Jacob's Guidelines for the allocation of new pipelines to GBB Zones (outlined above and in section 3.3.2)

Recommendation 6: IMO adopt Guidelines for revision of GBB Zones

That the IMO adopts the Guidelines for the revision of GBB Zones (outlined above and in section 3.3.4).

Consultation questions

As part of the IMO's formal consultation process, feedback in the form of written submissions will be requested. To assist in this process, and in the development of Marsden Jacob's Final Report, a series of questions in relation to each of the issues covered in this review and in relation to the recommendations have been included in this report.

A summary of these questions has been included in Appendix 1.

1. Introduction

The GBB is a website that provides information on short term gas demand and supply, natural gas transmission and storage capacity in Western Australia.[5]

The GBB, in combination with the GSOO, provides useful information to gas market participants (i.e. shippers, pipeline operators and producers), regulators, policy makers, and future investors amongst others, to facilitate trade in gas and improve security of supply.

The GBB was formally established in 2013 and the IMO is responsible for operating and maintaining the GBB.

Data on the GBB includes publication of nominated and forecast flow data. This forward looking data is published by Zone on a daily basis. The GBB also provides information on pipeline LCA by Zone, which is a good indicator of the availability of gas within a region.

In accordance with subrule 82(2) of the GSI Rules, the IMO is required to review the GBB Zones at least once every five years. The IMO is undertaking its first review of the GBB Zones in 2015.

1.1 IMO GBB Zones Review

The purpose of the IMO's GBB Zones Review is to consider the appropriateness of the GBB Zones in achieving the GSI Objectives by providing an appropriate breakdown of gas supply and use within the state.

The Terms of Reference for the IMO's GBB Zones Review outline four key tasks:

1. Understand awareness of the GBB Zone data amongst current and potential future gas users and/or others.
2. Understand current use of the GBB Zone data by current and potential future gas users and/or others.
3. What are the changes in use of the GBB Zone information that could arise due to future developments in the market and the addition of new facilities?
4. Consider changes in the GBB which may enable Zones to better meet the GSI Objectives.

1.2 Marsden Jacob engagement

Marsden Jacob has been engaged by the IMO to assist with the Review of the GBB Zones.

Marsden Jacob's task in assisting with the Review is to:

- canvas and consider any issues relevant to the definition of the Zones and present these in this Draft Report.
- review, compile and consider stakeholder views on topics raised in discussions and in submissions via the IMO's formal Review of GBB Zones consultation process which is scheduled to occur in June 2015.

[5] The GBB can be accessed at: https://gbb.imowa.com.au/#home

- develop a Final Report on the Review of the GBB Zones which includes an assessment of options against the GSI Objectives and makes recommendations for the IMO's consideration.

This Draft Report will be made publically available as part of the IMO's formal consultation process on the GBB Zones and Marsden Jacob understands that gas market participants and stakeholders will have an opportunity to comment on the content of this Draft Report at that time.

1.3 Approach

In preparing this Draft Report, Marsden Jacob conducted a number of preliminary discussions with stakeholders. The focus of these discussions was to better understand both the relevance and usefulness of the GBB Zone classifications and associated data.

Based on our own research, discussions with the IMO and the early feedback from stakeholders, Marsden Jacob's have identified a number of potential discussion areas which we consider provide an appropriate focus for the GBB Zones Review.

Background, discussion points and preliminary analysis is provided in this Draft Report. All views expressed in the report are Marsden Jacob's. We encourage interested parties to contact the IMO through the formal process should clarification or correction of any of Marsden Jacob's analysis be required.

Following the formal consultation process, Marsden Jacob will refine and develop recommendations and findings from the Review process and present these for the IMO's consideration.

1.4 Structure of this report

The remainder of this report is structured into the following sections:

The ***GBB Zones and data*** section provides background information. This includes an outline of the data collated by the IMO and published on the GBB; descriptions of the current Zones and rationale for the current definitions and, statement of the GSI Objectives and purpose of both the GBB and GBB Zones which provide the framework against which options will be assessed in this Review.

Review of current GBB and potential options section forms the content of the review. Consistent with the IMO's Terms of Reference for the Review this section comprises four subsections:

- Awareness, understanding and access to GBB data and Zone based information;
- Current use of GBB Zone information;
- Future gas market developments which invite consideration of changes to the Zone definitions; and
- Other changes to the GBB that may better meet the GSI Objectives.

In the final section, Marsden Jacob have made some ***preliminary recommendations*** on changes to procedures and definitions of the GBB Zones that we believe better aligns with the purpose of the Zones and the GSI Objectives. Each recommendation would require amendments to the GSI Rules.

1.5 Next steps and feedback

As noted above, the content of this Draft Report will form the basis for the formal consultation process run by the IMO.

Consultation questions have been included in each subsection of this report to assist stakeholders make a submission during the formal consultation stage of this Review. However, stakeholders and interested parties are encouraged to provide feedback and relevant information which reflects on or corrects the content of this report as part of that formal process.

Following consideration of the comments, Marsden Jacob will develop the Final Report, including an assessment of any options that improve the relevance and usefulness of the Zones, consistent with the GSI Objectives.

Recommendations in the Final Report would then be considered by the IMO. To this end, Marsden Jacob notes that adoption of any recommendations which differ from the status quo would likely require amendments to the GSI Rules. As such, the final recommendations, if adopted, would be subject to a further consultative process.

2. GBB Zones and data

Established in 2013, the GBB is a website that provides information on forecast and historical domestic production, transmission, storage capacity and usage of natural gas in Western Australia.

The GSI Rules and Procedures describe the obligations of gas market participants in relation to the GBB. The systems developed by the IMO facilitate these obligations and the IMO is responsible for operating and maintaining the GBB.

As part of the IMO's role in operating and maintaining the GBB, the IMO collates data provided by gas market participants in relation to individual natural gas production, storage and larger user facilities[6], and flows and capacity data for natural gas transmission pipelines.

Nominated and forecast flow data is made publically available by Zone on the GBB website on a daily basis (Figure 1). Two days after the gas day, actual flow data for individual gas supply facilities, such as pipelines, gate stations, and production and storage facilities are published. Actual flow data for individual large user facilities are published seven days after the gas day. The GBB also provides information on transmission pipeline LCA by Zone (where Zones are used to segment longer pipelines)[7].

The GBB and the most recent copies of the GSI Rules and Procedures can be accessed at: http://www.imowa.com.au/home/gas.

6 Excludes individual facilitates (production, storage and large user) which fall under the 10 TJ/day exemption provisions under the GSI Rules.

7 Where there are several transmission pipelines in a single Zone, such as for the Pilbara Zone, the LCA Flags are able to be published on an individual pipeline basis.

Figure 1: Gas Bulletin Board website screen shoot

2.1 Data collected and published on the GBB

Gas market participants are required under the GSI Rules to provide a range of information to the IMO. The IMO is required publish information, which is derived from, but not always identical to, the information provided by participants.[8]

Some information collected for the GBB is published on the GBB without any modification or aggregation, these include:

- standing data;
- capacity outlook and medium term capacity outlook;
- LCA Flags;
- daily actual flow data for production facilities, storage facilities and gate stations;
- daily actual consumption data for large user facilities; and
- gas specification data.

Other information is collected at the delivery point or receipt point level but then published as an aggregate within a Zone:

- nominated and forecast flow data (TJ/day);
- daily actual flow data for GBB Pipelines;

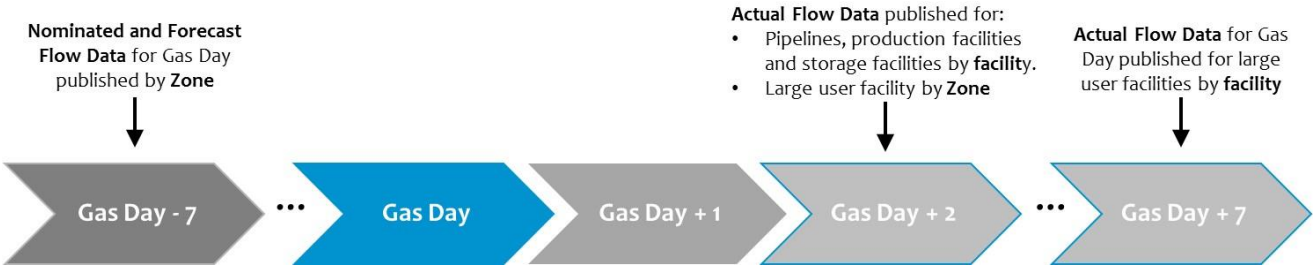
[8] IMO (2013) *Gas Information Services Design and Draft Rules: Second Consultation Draft of the Gas Services Information Rules*, 21 January 2013, p. 16

- daily actual consumption for large user facilities aggregated within specified consumption categories; and
- other daily actual consumption (e.g. distribution-connected consumption and other consumption not captured in large user consumption).

Nominated and Forecasts Data and Actual Flow and Consumption Data

Of particular relevance for this Review, the nominated and forecast flow data is made available on an aggregate Zone basis for each gas day. Subsequently, the daily actual flow data for individual gas supply facilities (e.g. pipelines, production facilities etc.) are published two days after the gas day, and are published seven days after the gas day for individual large user facilities.

Figure 2: Timing for publication of GGB Zone data



The delayed release of facility-level actual consumption data is a result of commercial sensitivity concerns raised and substantiated by large users regarding the release of this data. The IMO's Second Consultation Draft of the GSI Rules paper notes:

> *Large Users have only been able to substantiate this in one regard – whereby the gas consumption of certain facilities will vary considerably when the plant that uses the gas is facing difficulty. At this time, gas users are often required to acquire other supplies and revealing their gas consumption during these negotiations could place them at a disadvantage in these negotiations.*[9]

Due to the above concerns and issues, the GBB was designed on the basis that actual flows for individual large users be delayed until seven days post the gas day, but that actual flows by Zone be available two days post the gas day.

It is noted that similar concerns were not raised in relation to nominations and forecast gas flows data, however these had always been proposed to be published on a Zone basis only and as such the sensitivity of this data on a facility basis had not been queried.

At the time of the GBB design, the purpose of publishing nominations and forecasts was to show, when compared to the Capacity Outlook provided by GBB production facilities, storage facilities and pipelines, where there may be opportunities for further, mostly short-term gas trade. It was noted by the IMO that:

> *This objective could also be met by publishing nominations and forecasts provided directly by Shippers, or forecasts of production and use by Production Facility Operators and Large Users, respectively. However these options are likely to be more costly, and in the*

[9] IMO (2013) *Second Consultation Draft of the GSI Rules: Response to Submissions*, June 2013, p. 11

case of Producer / Large User forecasts, may not present the full picture of gas flows in the State.[10]

Linepack Capacity Adequacy Flags

LCA Flags which are provided and updated by each GBB pipeline and GBB storage facility. Pipeline LCA Flags are displayed by Zone, with pipelines which cross several Zones providing multiple flags consistent with the number of Zones. The LCA Flags and capacity for storage facilities are also published – but on an individual facility basis.

The colour of LCA Flags is defined in the GSI Rules and is designed to indicate to customers on a pipeline that there could be issues in relation to supply on that pipeline. Specifically, the flags indicate the actual or expected capacity of the pipeline to meet the relevant delivery nominations within the Zone for that gas day, based on the pipeline linepack and capacity, where:

- a green flag indicates normal operation;
- an amber flag indicates likely curtailment of interruptible gas flows; and
- a red flag indicates likely curtailment of firm gas flows.

Marsden Jacob notes that industry participants often refer to the pipeline LCA Flags as providing an indication of the 'health of the pipeline' however we note that the flag may be changed in response to both issues arising from productions facilities connected to a pipeline as well as issues arising on the pipeline itself.

It is noted that the LCA Flags for pipelines differ from the LCA Flags used for storage facilities. For storage facilities, the flags indicate the best estimate (made by the Facility Operator) of the number of days for which supply of natural gas can be maintained at maximum operational outlet capacity (allowing for forecast refilling). As with the pipeline LCA Flags, storage facility flags are coloured green, amber and red, however, these colours indicate whether the maximum operation outlet capacity is expected to be maintained for a forward seven days, three to seven days, or less than a three day period respectively.

2.2 Current zonal classifications

The current GBB Zones are defined in Schedule 2 of the GSI Rules. There are currently ten defined Zones within WA, descriptions of which are provided in Table 1 (below).

Zones are largely defined with reference to individual transmission pipelines, but also provide a logical location based breakdown of supply and demand across the State. The key consideration in the development of the Zones is to ensure they capture as much gas use as possible to satisfy the primary purpose of the GBB in the GSI Act.[11]

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[10] IMO (2013) *Gas Information Services Design and Draft Rules: Second Consultation Draft of the Gas Services Information Rules*, 21 January 2013, p. 11-12

[11] Section 4 of the *Gas Services Information Act 2012* reads "The gas bulletin board is a website the primary purpose of which is to include information relating to short and near term natural gas supply and demand and natural gas transmission and storage capacity in the State."

The two longer gas transmission pipelines – the DBNGP and the GGP – are segmented across several Zones. The rationale for segmenting these two longer pipelines was to alert users of the potential for more localised gas supply interruptions.[12]

In addition, some stakeholders indicated during the design consultation process that showing gas production, storage and usage for the area covered by the SWIS was desirable[13]. As such, the Kalgoorlie, Metro, Parmelia and South West Zones together cover the areas which overlap with the SWIS.

Table 1: Description of current GBB Zones

Zone Name	Description
Dampier	The Dampier to Bunbury Natural Gas Pipeline (DBNGP) upstream of Compressor Station 7 (CS7) and the Burrup Extension Pipeline.
Goldfields	The GGP downstream of the Newman Lateral to, and including, the Leonora Delivery Point.
Kalgoorlie	The GGP downstream of the Leonora Delivery Point and the Kalgoorlie to Kambalda Interconnect Pipeline.
Karratha	The Pilbara Energy Pipeline.
Metro	The DBNGP from CS7 to CS10.
Mid-West	The Midwest Pipeline.
Parmelia	The Parmelia Gas Pipeline.
Pilbara	The Goldfields Gas Pipeline (GGP) upstream of and including the Delivery Point connecting the GGP to the Newman Lateral and the Fortescue River Gas Pipeline.
South West	The DBNGP downstream of CS10.
Telfer	The Telfer Pipeline and Nifty Lateral Pipeline.

Source: Schedule 2 or the GSI Rules (as at 20 March 2015)

Exemptions

Individual facilities which produce or consume less than 10 TJ/day and pipelines with capacity less than 10 TJ/day are exempt from registration for the GBB. In particular, the Kambalda to Esperance Pipeline in the South East of the State does not meet this threshold.

The 10 TJ/day exemption was designed to provide sufficient gas information to meet GSI Objectives without imposing undue reporting and registration requirements on stakeholders. At the time of design, quantities below 10 TJ/day where considered unlikely to have a material impact on the overall proportion of gas being used across the State, and requiring reporting from

[12] IMO (2013) *Gas Information Services Design and Draft Rules: Second Consultation Draft of the Gas Services Information Rules*, 21 January 2013, p. 14

[13] IMO (2013) *Gas Information Services Design and Draft Rules: Second Consultation Draft of the Gas Services Information Rules*, 21 January 2013, p. 15

facilities and pipelines below this quantity would not necessarily facilitate better achievement of the GSI Objectives relative to the regulatory impost on these stakeholders.

It should be noted that in preliminary discussions with Marsden Jacob, some stakeholders (typically large gas users) considered that the 10 TJ/day threshold for disclosing individual large user facility information is too high and should be lowered to 5 TJ/day for greater transparency.

It is noted that gas consumed within gas distribution networks at population centres are aggregated at the gate station delivery points. As such, this usage is captured with the current Zone definitions for Metro and for other distribution areas where gate station delivery points have been included in the GBB reporting data (note this excludes the Esperance region as the capacity of the pipeline is less than 10 TJ/day).

Treatment of new facilities

Under the GSI Rules, any new delivery or receipt points (and associated GBB large user facilities or production facilities) will be assigned automatically to a Zone based on the point of connection to a GBB pipeline.

In contrast, any new pipelines are not automatically included in the existing Zone definitions, require an amendment to the Gas Rules each time a new GBB Pipeline commences operation.

FRGP was added to the Pilbara Zone following a Rule Change process in 2015. This was the first new pipeline added to the GBB since its inception.

2.3 GBB Objectives and purpose

The purpose of the IMO's GBB Zones Review is to consider the appropriateness of the GBB Zones in achieving the Gas Service Information Objectives by providing an appropriate breakdown of gas supply and use within the state.

Objectives

The Gas Service Information Objectives (GSI Objectives) are outlined in the *Gas Services Information Act 2012* (GSI Act):

> *The objectives of the GBB and GSOO are to promote the long term interests of consumers of natural gas in relation to —*
>
> *(a) the security, reliability and availability of the supply of natural gas in the State;*
>
> *(b) the efficient operation and use of natural gas services in the State;*
>
> *(c) the efficient investment in natural gas services in the State; and*
>
> *(d) the facilitation of competition in the use of natural gas services in the State.*[14]

Changes to the GSI Rules and any policy directions issued by the Minister for Energy must be consistent the GSI Objectives. As such, it is appropriate that recommendations from this Review, which may include Rule Amendments, also need to be consistent with these Objectives.

[14] *Gas Services Information Act 2012*, Section 6

Purpose of the GBB

The purpose of the GBB, as outlined in the GSI Act, is also of relevance to this Review. The purpose of the GBB is stated as follows:

> *The gas bulletin board is a website the primary purpose of which is to include information relating to short and near term natural gas supply and demand and natural gas transmission and storage capacity in the State.*[15]

The GBB has a broader role in achieving the GSI Objectives than the GBB Zones. However, the function of the Zones falls within this purpose, and as such the GBB purpose forms the framework within which GSI Objectives may be achieved via use of the Zones.

Dual purpose of Zones

Zone based aggregate receipt and delivery point nomination data allows for a high level understanding of the forward supply-demand balance at various geographical locations across the State. Similarly, the LCA Flags for GBB Pipelines and Zones (where a pipeline is segmented across several Zones) then provides information on the immediate gas dy's pipeline health and transportation capacity. In this way, the Zone's information is also characterised as providing forwards looking immediate and short term information to the market.

From our understanding of the intent and design principles for the GBB and the information published on a Zone basis, Marsden Jacob has inferred that the purpose of the GBB Zones is twofold:

- provide a logical and sufficiently detailed geographical based breakdown of forecast gas demand and supply; and
- allow for the segmentation of longer pipelines so that Zone information provides useful indications of localised supply interruptions in a gas production and/or consumption region.

In addition, the Zones appear to play a role in preserving participant's confidentiality regarding short term nominations and forecasts, however this concept has not been explicitly tested.

Clarification on dual role of Zones

The twofold role of Zones creates some complexity in terms of how facilities (and more specifically pipelines) should be added to the GBB Zones. This was highlighted in the recent Rule Change to include the FRGP within the existing Pilbara Zone.

While the FRGP was interconnected to the DBNGP north of compressor station 1(located in the Dampier Zone), the decision was made by the IMO[16] to allocate the pipeline to the Pilbara Zone on the basis that the pipeline was not directly connected to a production facility and that the end users were all located in the Pilbara region.

This highlighted that the physical location (or interconnection) of a pipeline was not the most important criteria for determining the allocation of a facility to a Zone, but ultimately the production and use of gas in that Zone. In the Final Rule Change Report, the IMO highlighted that, such information can be useful if a disruption to gas facilities causes a gas shortage in a Zone, which will then enable gas users and other stakeholders to better manage the gas disruption.

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15 *Gas Services Information Act 2012*, Section 4 (1)

16 Independent Market Operator, *Final Rule Change Report: Amendments to Schedule 2 – GBB Zones (GRC_2015_01)*, Fast Track Rule Change Process, 19 March 2015

In addition, it will also provide information to participants about future gas supply opportunities within a region. [17]

This Rule Change, plus the existing allocation of the DBNGP and the GGP amongst multiple Zones, demonstrates that individual pipelines do not have to form the basis for the Zones. In the case of the Pilbara Zone, which contains two transmission pipelines, LCA Flags for each pipeline can be updated on an individual pipeline basis, and need not be considered on a Zone basis.

Following on from this, the use of the Zones from a pipeline perspective is relevant only where there is a one to one relationship between the Zone and a gas transmission pipeline or where the function of the Zone is specifically to divide the longer pipeline into segments such that individual LCA Flags are provided for smaller pipeline segments.

Marsden Jacob's view on the treatment of the FRGP

Given our understanding of the purpose of the Zones and the GSI Objectives, Marsden Jacob have reviewed the decision made by the IMO in relation to the classification of the FRGP in the Pilbara Zone. This analysis could be useful in developing recommendations for the treatment of future pipelines in Chapter 3.3.1 – but is not intended to reopen or otherwise alter the IMO's decision for this pipeline.

The FRGP is connected to the larger DBNGP and has separate ownership arrangements.[18] Given the different ownership arrangements and the fact that the pipeline can supply more than 10 TJ/day, it is required to be registered as a separate GBB pipeline under the GSI Rules, While it is classified as a GBB pipeline, it has more in common with gas laterals that supply a single user and are typically part of larger pipeline systems.

As the FRGP is a GBB pipeline, it has its own LCA Flag to indicate potential supply issues on the pipeline, or upstream supply issues associated with the DBNGP or gas production facilities. Hence, there is no requirement to create a GBB Zone for the FRGP to highlight any local gas supply issues.

In our view, it is appropriate to include the FRGP in the Pilbara Zone given that the pipeline has many of the characteristics of a gas lateral (currently supplying a single user in the Pilbara region) and that the purpose of the Zones is to provide regional supply and demand information to current and potential future gas participants – not facility level data.

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17 Ibid, p. 7.

18 FRGP is owned by a Joint Venture between the DBP Development Group (DDG) and Transalta and operated by DDG (100% owned by the DUET Group). The DBNGP is owned by the DUET Group and Alcoa of Australia.

3. Review of current GBB Zones and potential options for reform

This review of GBB Zones has been considered in four sections. The first section of the review seeks to establish the current awareness, understanding and accessibility of GBB Zone data for current and future gas market participants. The proviso being that the data would need to be understood, and accessed in order for it to be useful in achieving the GBB Objectives.

The second section then examines the current use and usefulness of GBB Zone information. Marsden Jacob notes that the usefulness of data is not limited to gas market participants who have a direct role in physical and commercial aspects of the gas market. The use of data may also extend to, for example policy makers and investment institutions, which also have a role in facilitating gas market outcomes. The usefulness of the data is considered from these various perspectives.

A third section highlights a number of future gas market developments which invite consideration of the current Zone regulation and potential reforms to the current definitions. This section includes a number of specific reform options which Marsden Jacob considers may facilitate achievement of one or more of the GSI Objectives.

Finally, a number of additional reform options are canvassed to test market participant's appetite for any other changes or modifications to the Zones, or information published more broadly.

3.1 Awareness, understanding and access of GBB Zone data

The GBB website was launched in August 2013, and has now been operational for a period of 18 months. In this section we consider whether market participants have a good understanding of the GBB Zone data and how it can be accessed.

The GSI Register includes the particulars of Registered Participants, Registered Facilities and Registered Facility Operator responsible for each facility, and exemptions of Facilities granted (as per Rule 51(2)). Of the 58 current Participants listed on the GSI Register there are 15 facility operators, 27 gas shippers and 16 participants which are both facility operators and gas shippers.[19]Each of the facility operators are required to provide information to the IMO for the GBB (either directly or via pipelines) on a regular basis.

The website receives an average of 200 hits per week (excluding IMO staff who also access the website). In addition, a number of market participants have installed automatic data feeds from the IMO's website to their data bases. These participants, therefore are not captured as visitors to the IMO website, however access the data regularly.

[19] Based on IMO Gas Market Participants data available at: http://www.imowa.com.au/home/gas/gas-market-participants

Question on awareness, understanding and access of GBB Zone data

1. Does your organisation and the appropriate people within your organisation have a strong understanding of the GBB Zones, their purpose, and the data available for each Zone?

2. How often does your organisation access the GBB Zone data?
    - How is that data accessed (e.g. downloaded manually or access via an automated system)? Is the GBB data provided to you via a third party?

3. What information or presentation of data would improve your understanding and use of the GBB Zone data?

3.2 Current use of GBB Zone information and data

The GBB Zones provide an aggregate level forecast of gas production and use for locational regions across WA. The receipt and delivery point data allows for a high level understanding of the likely supply demand balance for each region. The LCA Flags for Zones and capacity details then provide information on pipeline health and the likely transportation capacity available.

Marsden Jacob understands that the reliance and usefulness of Zone information to individual gas market stakeholders will be dependent on the unique role of or interest that particular parties have in the gas market, and also the ready access to alternative sources of information (such as metered flow data supplied by pipeline operators) which serve the same purpose from that stakeholders perspective.

As such, it is logical that the Zone based data would be of most benefit to stakeholders who would not have access to this data or the means to deduce this information in the absence of the GBB Zones.

In addition, the level of aggregation inherent in the Zones – both from a supply/demand perspective and in terms of the transparency of pipelines due to segmentation – will be important.

From a supply and demand perspective, the data may facilitate identification of short term trading opportunities. Marsden Jacob acknowledges that the WA gas market is dominated by long term commodity and transport contracts and that only a small proportion of total gas flow is traded in the short term market. However, short term trade has an important role in ensuring the efficient management of any temporarily or unforeseen supply or demand imbalance in the market. In particular, a sufficient breakdown of Zone nomination and forecast data would allow for individual producers and users to readily identify opportunities for short term trades.

For LCA Flag information to be of use to GBB users, the Flag needs to provide a timely and sufficiently detailed breakdown of sections of a pipeline where an incident would be localised. The sections defined by the Zone should encompass an area over which all facilities connected to that section could be impacted.

If the Zone is defined too broadly, the LCA Flag has the potential to unnecessarily alert participants that supply may be interrupted when in fact the issue is highly localised. Alternatively, if the Zone is defined too narrowly, the LCA Flag may not adequately alert market participants to take actions to avoid a supply shortfall.

An example highlighting the shortfalls of the current LCA Flags occurred in January 2015. In this case, the three zonal sections of the DBNGP (Dampier, Metro and South West) had red LCA

Flags, when in fact the supply issue was localised within the Dampier Zone. This particular incident was raised in a number of discussions, however Marsden Jacob was unable to clarify the specific circumstances or events based on publically available information.

Similarly, the pipeline Zone information needs to be updated in a sufficiently timely manner in order for the signal to provide market insight and inform participant's activities in relation to a supply incident. Currently, pipeline operators are required to update LCA Flags at any time when there is change in the supply capability of a pipeline (or production facility connected to that pipeline which is likely to affect deliveries by the pipeline). However, from a practical perspective this flag may not be immediately updated in all cases. Should there be delays in updates to flags, signals to the market may be delayed or not occur at all (if the incident is remedied before the flag is changed).

Marsden Jacob understand that, from a practical perspective, pipeline operators and facility operators have contractual obligations in relation to informing users of potential supply interruptions. In addition, the GBB Emergency Management Facility has been designed to ensure that more information is available to market participants and operators to manage a supply shortfall (or the likelihood of supply shortfall). However, the purpose of the GBB Zone information is to keep market participants informed of the short term status of gas supply. In the judgement of Marsden Jacob, there is a gap in the information available to help manage actual or potential supply disruption situations.

The access to GBB and GBB Zone information is not limited to gas market participants who have a direct role in physical and commercial aspects of the gas market. The use of, and usefulness of data also extends to for example, to policy makers and investment institutions which also have a role in facilitating GSI Objectives. An inadequate picture of likely supply interruption instances may result in an under-estimation of critical risk based analysis.

In balancing the publication of gas market information, the commercial sensitivity of data for individual gas market participants must also be considered.

As outlined in section 2.1 of this report, larger users have been able to adequately demonstrate the requirement to delay publication of actual gas flow data. In contrast, the IMO cannot cite any evidence from large users, producers or storage facilities in relation to the commercial sensitivity of the release of individual receipt or delivery nominations and forecasts as this issue did not specifically arise during consultation on the design of the GBB.

The publication of gas nominations and forecasts for receipt points would enable opportunities for trade with various productions facilities to be more readily identified by large gas users. Particularly within the Dampier Zone which currently accounts for 97% of gas production in the State, and will grow to almost 98% with the commencement of the Gorgon and Wheatstone gas production facilities by the end of 2020.[20]

The publication of gas nominations and forecasts for large user facilities could also be of benefit to the market, however, most participants indicated that this is relatively less important given the significantly lower concentration of large user facilities relative to producers. It could be more meaningful to publish aggregate nominations and forecasts for common owners and/managers of large user facilities exceeding 100 TJ/day, such as Alcoa, Synergy or Alinta.

[20] IMO (2014) *Gas Statement of Opportunities – December 2014*, p. 39.

Questions on use and publication of GBB Zone information and data

4. Does your organisation rely on Zone information or data to make decisions on its gas market activities?
    - If yes, which data is used and for which activities? Please specify.
    - If no, is this due to an inadequacy in the Zone break down – either from a pipeline segment perspective or on supply/demand opportunities, or the timeliness of data? Please comment.
    - Would changes to any aspects of the Zones in relation to the level of disaggregation of information, or the timeliness of data provided change your use of the GBB Zone data? Please explain.
5. If the pipelines where further segmented:
    - Would result in any increased regulatory burden?
    - Would this information be beneficial to gas market activities? Please specify.
6. If nominations and forecasts for receipt points were to be published, would this have significant commercial implications for producers?
    - Would this information be beneficial to gas market activities? Please specify.
7. If nominations and forecasts for delivery points (especially large user facilities) were to be published, would this have significant commercial implications for gas users?
    - Would result in any increased regulatory burden?
    - Would this information be beneficial to gas market activities? Please specify.

3.3 Future gas market developments

In Marsden Jacob's view, a number of new developments in the Western Australian gas market have the potential to change current market dynamics and provide relevant context for the GBB Zones Review.

Marsden Jacob understand that the APA Group is constructing the EGGP that will connect two gold mines to the end of the existing gas lateral (also owned by APA) at the Murrin Murrin mine and should be completed in early 2016. The existing lateral is connected to the GGP, which is also owned and operated by APA.

Given that all of the above pipelines are expected to be owned and operated by the APA Group, the APA Group could register the EGGP as part of the existing GGP (GSI Rule 32), which is a GBB Pipeline. The APA Group would then be required to provide daily flow data for any new delivery points that are connected to the EGGP. However, the APA Group would not be required to show pipeline flows or LCA Flags for the gas lateral. However, pipeline flow data and LCA Flags would be shown for the Goldfields Zone segment of the GGP.

In effect, the EGGP could be considered a gas lateral (albeit it is a lateral which supplies multiple users) and is connected to a single gas transmission pipeline. The new pipeline is adjacent to an existing GBB Zone (Goldfields Zone). In addition, it has no direct connection to any gas production facilities, implying that gas flows will typically flow from the GGP to the gas lateral (one-way flow). In Marsden Jacob's view, including the EGGP in the Goldfield's Zone is consistent with both the purpose of the Zones and the GSI Objectives.

The Gorgon (182 TJ/day capacity) and Wheatstone (200 TJ/day capacity) gas production facilities are both currently under construction and are expected to commence supplies to the domestic market in 2015 and 2018 respectively. It is also expected that the Gorgon facility will be expanded in 2020 to produce a maximum capacity of 300 TJ/day. Both Wheatstone and Gorgon are located in the Carnarvon Basin and will be connected (via pipelines) to the DBNGP under current zone definitions, these new production facilities are likely to be included as receipt points in the Dampier Zone. In effect, 98% of WA's gas production capacity will be located in this zone by 2020.

The relevant pipelines connecting the new production facilities to the DBNGP are the (1) WAWP (connecting the Wheatstone Domestic Gas Production facility to the DBNGP at CS2) and (2) the Gorgon Pipeline. While the registration details and treatment of the pipelines with regards to Zones is currently undecided, it is possible that these may be considered lateral pipelines rather than transmission pipelines. Lateral pipelines tend to characterised by having only one facility connected beyond the delivery/receipt point into the existing transmission pipeline network. Where this is the case, reporting on the single delivery/receipt point provides adequate information for the GBB purposes.

It is our understanding that the Gorgon Pipeline will have single user (Gorgon) for two uses: LNG and domestic gas production. Once the domestic gas facility is built and supplies commence in 2016, the Gorgon Pipeline will inject gas into the DBNGP below CS1 (will only flow in the reverse direction when there is a domestic gas plant outage). This suggests that the Gorgon Pipeline could be treated as a gas lateral and not a GBB pipeline.

It is not as straight forward for the WAWP that connects the Ashburton West Facility (pipeline interconnection point) to CS2. A new gas fired power station (to be owned by Horizon Power) will be built south of Onslow and connected to the WAWP via the Ashburton to Onslow Pipeline.

Although registration requirements for the pipeline have not been assessed, if the WAWP is not registered as a GBB Pipeline (or part of a pipeline system), then there would be no requirement to collect and show the flow data for the Onslow Power Station. In effect, the flow data will be netted off at the receipt point into the DBNGP (at CS2). While this issues is not directly relevant to the definition of GBB Zones, this loss of transparency about gas use, in the view of Marsden Jacob, is not consistent with the objectives of the GBB.

This issue could be overcome by requiring that the WAWP and the Ashburton to Onslow Pipelines register as GBB Pipelines. If they were registered as GBB Pipelines, given the location of the pipelines, in Marsden Jacob's opinion, they should be allocated to the Dampier Zone.

The implications of registering the above pipelines as GBB Pipelines, and an alternative proposal for ensuring that all relevant gas use information is captured by the GBB, are discussed further in Chapter 4 (Recommendation 3).

3.3.1 New pipeline facilities

The current GSI Rules allow for new production, user and storage facilities to be added to existing Zones without requiring a formal Rule change process or consultation.[21] In contrast, new transmission pipelines require Amendment Rules to be made.

[21] Schedule 2 of the GSI Rules: Any new delivery points or receipt points (and associated GBB large user facilities or production facilities) will be assigned automatically to a Zone based on the point of connection to a GBB pipeline.

The issue of amending Gas Rules arose with the FRGP. This was the first new pipeline added to the GBB since its inception in 2013.

A Fast Track Rule Change Process (which provides for a single round of consultation) was undertaken earlier this year and the Amended Rules added the pipeline to the Pilbara Zone on 20 March 2015 (in line with the expected operational commencement date for the pipeline).[22]

The Rule Change highlighted that the IMO would not be able to publish certain data collected from the pipeline on a Zone basis[23] in the absence of a Rule change allocating the pipeline to a Zone. The absence of material gas data at the Zone level would be inconsistent with current and intended GBB operation.

Given future plans for additional pipeline projects (such as the EGGP) in the next 12 months and the relative importance of publishing this information, Marsden Jacob considers the inability for the GSI Rules to accommodate any new or proposed pipeline in the absence of a Rule Change as potentially creating an undue regulatory burden for the IMO and industry. Further, we note that it is undesirable, from a regulatory perspective, that a Rule change process is required in these circumstance for the GBB to continue to fulfil its operational objectives.

Amending the Rules to enable Zones to be updated or incorporate new pipelines in the absence of a Rule change would reduce the regulatory burden of the Rule change process and ensure ongoing Zone reporting is enabled as new pipelines are commissioned.

An option to address this issue to remove the prescription of the Zones from the Rules. In lieu of being prescribed in Schedule 2, the Zones could be included in the existing '*GSI Procedure for Operation of the Gas Bulletin Board and the Emergency Management Facility*'.

This procedure includes detail on publishing information on the GBB which the IMO must follow. Section 4.1 of this procedure currently refers to publishing network representation – Zone information.[24] This section could be amended to include Zone definitions.

As with Rule changes, procedure changes must be consistent with the GSI Objectives, however the regulatory oversight for procedure changes is less formal and the process can be undertaken with only one round of consultation rather than two rounds as under the standard Rule change process.

The Gas Advisory Board may be convened to discuss procedure changes and Marsden Jacob understands the current IMO practice with regards to procedure changes includes initial discussions at this forum.

Marsden Jacob suggests sufficient regulatory oversight and opportunity for stakeholder consultation would be achieved should the Zone definitions be removed from Rules and inserted into a GSI Procedure.

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22 For more information refer to: http://www.imowa.com.au/home/gas/rules/rule-changes/commenced/grc_2015_01

23 For clarity, it is noted that allocation of the pipeline to a GBB Zone would not affect any registration or reporting obligation for the operator of the pipeline or any large user facilities connected to the pipeline. Further, it would not impact the publication of data published outside of the Zone context.

24 IMO (2013) *GSI Procedure: Operation of the GBB and EMF Version 2*, Section 4.1, p. 11.

Questions on governance oversight for new pipelines

8. Is the prescriptive inclusion of Zones in a Schedule to the GSI Rules necessary?
    - Does this provide an appropriate balance between regulatory oversight (through the Rule change process) and flexibility of definitions to meet market needs as the market develops? Please explain.
9. If the IMO were to propose a Rule Change to remove the prescription of the Zones from the GSI Rules, what regulatory oversight or consultation processes would you consider appropriate?
    - Would it be appropriate (and preferable) to include Zone descriptions in a GSI Procedure?

3.3.2 Guidelines for allocation of new pipelines to GBB Zones

Given the discussion in 3.3.1, Marsden Jacob have developed the following guidelines to assist the IMO allocate a pipeline (and therefore a large user or production facility) to a GBB Zone.

If a gas pipeline has the following characteristics:

- is located within a single economic region of Western Australia where gas production and/or consumption occurs e.g. Pilbara, Perth, South West;
- is adjacent to an existing GBB Zone;
- is connected directly to an existing GBB pipeline;
- has only gas production receipt points or only user delivery points connected to the pipeline (not a mix of both) – implying that gas flows are typically one-way;

Then, allocate the pipeline to an existing GBB Zone. If not, consider creating a GBB Zone for the new pipeline or allocating the pipeline across multiple Zones (as is the case for the DBNGP and GGP).

Using the above guidelines, Table 2 outlines our findings for several current and new pipelines.

Table 2: Consideration of pipeline characteristics for Zone classification

Pipeline	FRGP	EGGP	Ashburton to Onslow Pipeline	DBNGP
Located with a single economic region	Yes (Pilbara)	Yes (Goldfields)	Yes (Dampier)	No (Dampier, Metro, South West)
Adjacent to an existing GBB Zone	Yes (Pilbara)	Yes (Goldfields)	Yes (Dampier)	Yes. Adjacent to many GBB Zones.
Connected to an existing GBB Pipeline	Yes (DBNGP)	Yes (GGP)	No, if WAWP is classified as a gas lateral. Yes, if WAWP registered as a GBB Pipeline.	Yes (i.e. GGP, FRGP, PEP, PGP, Telfer)

Gas Flows are almost always one-way (receipt or delivery)	Yes, Single large use facility on FRGP	Yes. Multiple users along the EGGP.	Yes. Single user facility (power station)	Gas can flow in different directions along the pipeline (north to PEP, south for other pipelines)
Allocation to an Existing GBB Zone	Yes. Pilbara Zone	Yes. Goldfields Zone	No if WAWP not registered as a GBB Pipeline. Yes, if WAWP and Ashburton to Onslow Pipeline are registered. Dampier Zone.	Yes, three. Consider allocation of DBNGP to multiple Zones.

Questions on guidelines to allocate new pipelines to Zones

10. Is there benefit in providing greater description (or guidance) as to how new pipelines would be included in GBB Zones?

11. Are the Marsden Jacob guidelines for the allocation of new pipelines to GBB Zones appropriate and useful?
    - Will they work in all future pipeline development scenarios?
    - Are there additional factors that should be considered in the development of guidelines?

12. Should guidance be formalised in a GSI Procedure? Or is the development of a separate information document appropriate?

3.3.3 New production facilities within the Dampier Zone

The expected completion of the Gorgon and Wheatstone gas production facilities in 2015 and 2018 respectively and the subsequent expected expansion of the Gorgon facility in 2020, will increase the supply of gas to the domestic market.

Both facilities are located in the current Dampier Zone and, in the absence of GBB Zone changes, be added to production (receipt point) in that Zone. This Zone currently includes KGP, Varanus Island (East Spar and Harriet), Devil Creek and Macedon gas production facilities, which together are estimated to account for about 97% of the total domestic production capacity in WA[25]. With

[25] IMO (2014) *Gas Statement of Opportunities – December 2014*, p. 39. Note for completeness that three smaller facilities – Dongara, Beharra Springs and Red Gully, located in the Perth Basin – account for the remaining 3% of total capacity. Dongara and Beharra Springs are located in the Parmelia Zone and Red Gully is represented in the Metro Zone.

the addition of the Gorgon and Wheatstone gas production facilities to the region, the Zone will represent almost 98% of the gas production capability in WA.[26]

In addition to representing data from three current and two future gas production facilities, the Zone data also captures information related to three pipeline interconnections, and from delivery Points related to five large user facilities (and this will reduce to four when Gorgon switches from being a large gas user to a production facility in 2016).

Besides the aggregation of this number of production, user and pipeline connection data resulting in low transparency of relevant gas information via the Zone representation, the locational clustering of the various facilities along the pipeline mean that often supply issues and solutions are extremely localised. Supply disruptions can be identified and remedied in a small section of the Zone's pipeline without impacting the remaining sections of the pipeline. Reporting of the LCA Flag for the entire Dampier Zone may not be of significant value to participants for identification of imminent issues or trading opportunities related to the remedy of supply issues.

Further, the short term nature of potential issues (e.g. gas plant outages) and the ability for issues to be remedied within a localised area within the Zone means that critical gas supply disruption events within this critical GBB Zone can be identified and remedied within the Gas Day. In these cases, the minimum requirement[27] to update the LCA Flag daily and nomination data may result in the underreporting of incidents to wider users of the Zone information.

Marsden Jacob considers that, with the level of activity within the Dampier Zone, the current aggregation of data within that Zone is insufficient to provide appropriate signals or warnings to the market. More detailed information on the supply and demand and pipeline adequacy is required within this region for the GSI Objectives to be met.

Two options to reform the Zone breakdown for this region are considered:

- Option 1: Dampier Zone split at CS1 on the DBNGP; and
- Option 2: Dampier Zone split at CS1, and CS2 on the DBNGP.

These options are discussed below.

Option 1: Dampier Zone split at CS1 on the DBNGP

Option 1 proposes to split the current Dampier Zone such that facilities located north of CS1 remain in the Dampier Zone, and facilities located south of CS1 in the Zone (down to CS7) would be included in a new zone which covers the Gascoyne region as well as the current Mid-West Zone. The amalgamation of the lower current Dampier Zone and the current Mid-West Zone is suggested as an option, however data continuity considerations and preferences for data to be based on a smaller geographical segment may be reasons for not adopting this amalgamation. In which case, the lower segment of the current Dampier Zone would be the combined New Zone Upper and New Zone Lower detailed in Option 2.

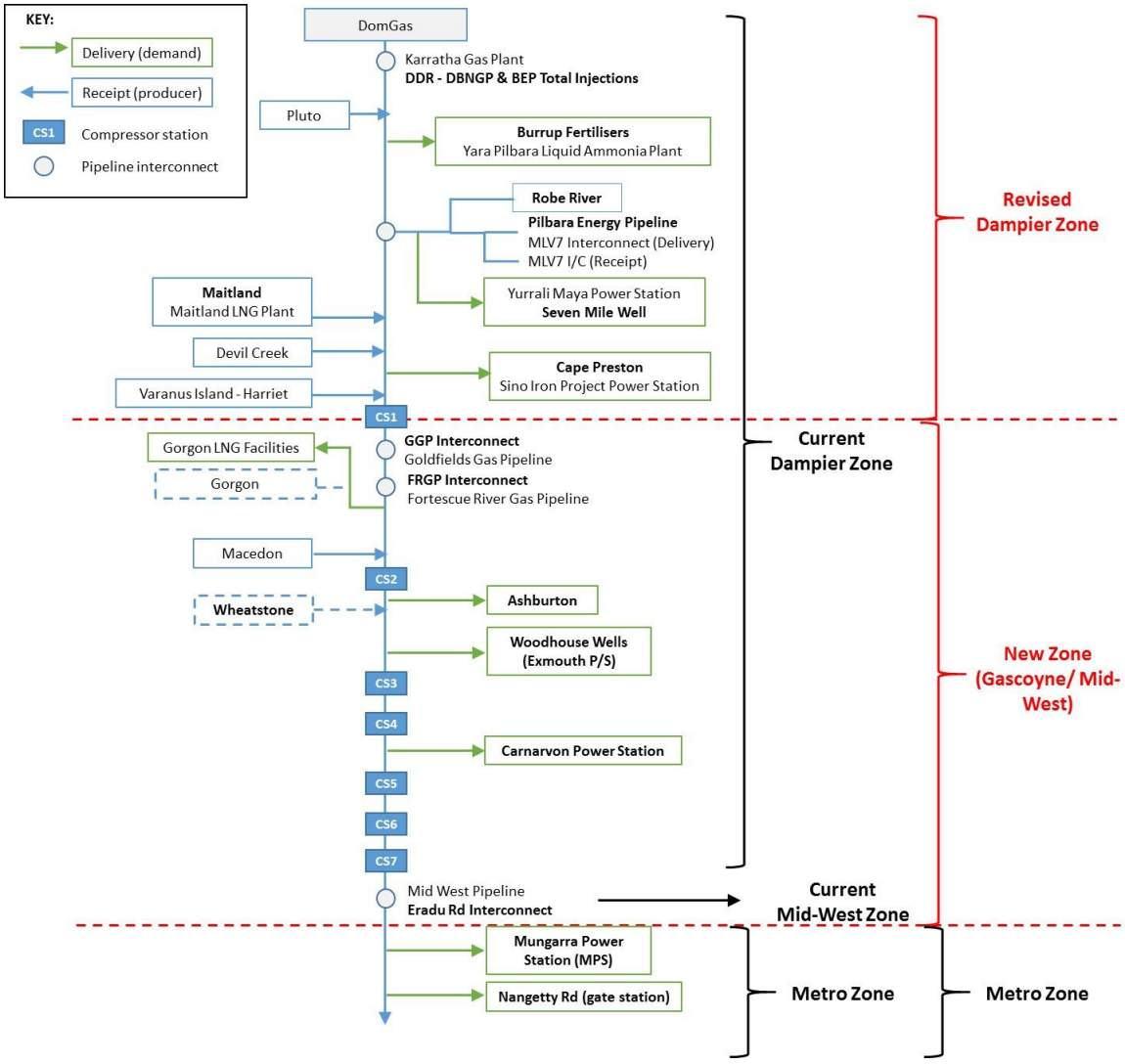
Figure 3 (below) provides an indicative breakdown of the various production and user facilities along the DBNGP, as well as the locations of compressor stations and pipelines which connect into the pipeline.

[26] Current gas production capability in WA is estimated at 1,477 TJ/day. Wheatstone and Gorgon will increase capability by an estimated 500 TJ/day to 1,977 TJ/day.

[27] As noted in section 3.2, the pipeline operators are also required to update the LCA Flag at any time should the status change.

The immediate impact of the change would be the inclusion of delivery nominations and forecasts for Gorgon LNG, Ashburton, Woodhouse Wells and the Carnarvon Power Station into a New Zone covering both the Gascoyne and current Mid-West Zone.

Figure 3: Revised Dampier Zone and treatment of DBNGP (Option 1)



Source: Marsden Jacob analysis (intended as indicative representation only)

Option 2: Dampier Zone split at CS1, and CS2 on the DBNGP

Option 2 considers a more extensive segmentation of the current Dampier Zone. The proposed change would result in facilities located north of CS1 remaining in the Dampier Zone (as per Option 1). From CS1 to CS2, a new Zone would be formed with the aim of capturing the existing pipeline interconnection, the Gorgon LNG facility and Macedon, as well as the future Gorgon production facility (which will net off with the current Gorgon LNG inputs) prior to delivery point at the pipeline.

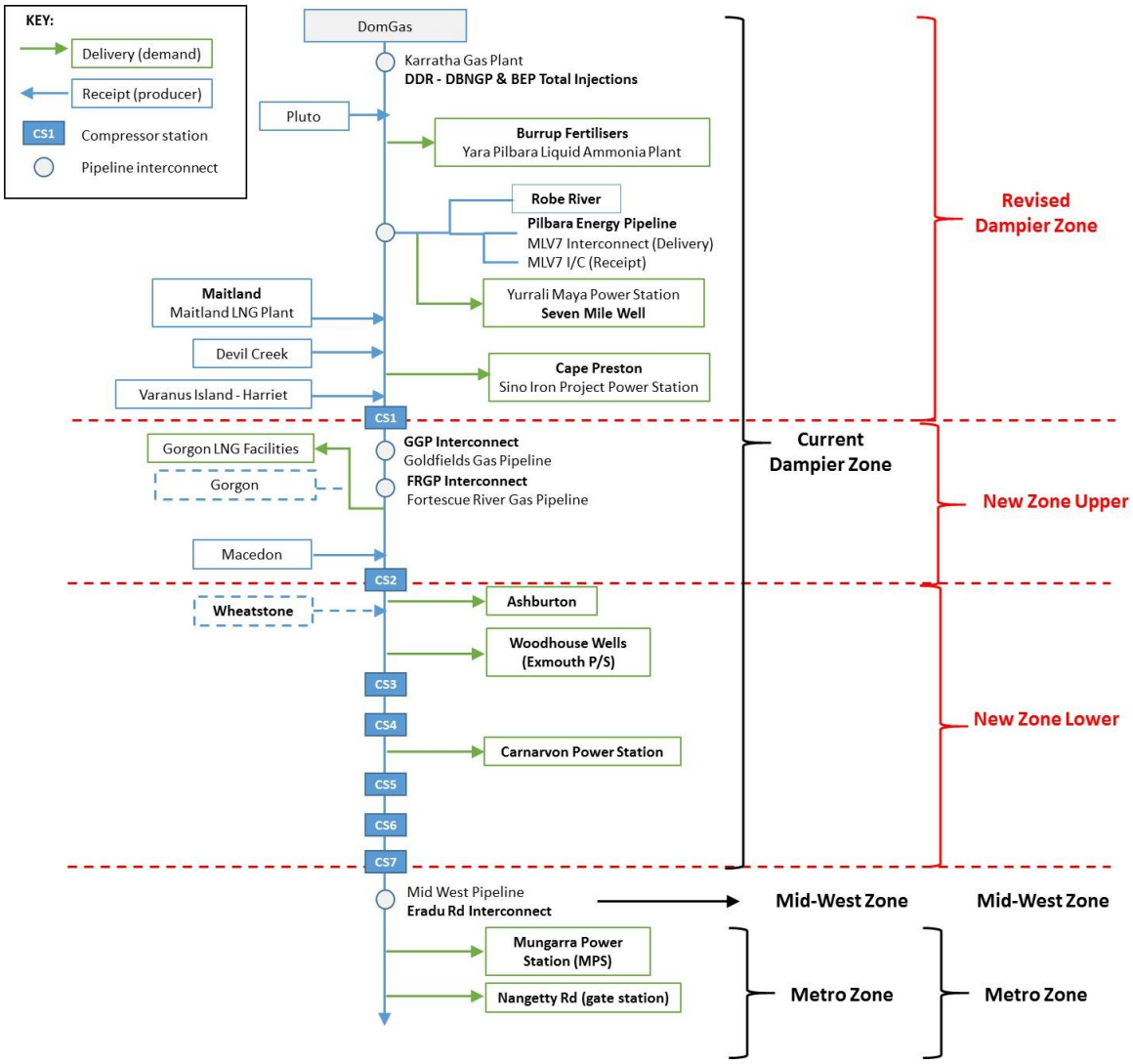
The regions from CS2 down to CS7 could then either form a second new Zone, or alternatively be included in the existing Mid-West Zone.

Figure 4 (below) provides an indicative breakdown of the various production and user facilities along the DBNGP, as well as the locations of compressor stations and pipelines which connect into the pipeline.

The impact of the proposal includes:

- nominations and forecasts for Gorgon LNG (delivery) and Macedon (receipt), as well as the future Gorgon production (delivery) would be included in a new Zone;
- nominations and forecasts for the future Wheatstone development, as well as the existing Ashburton, Woodhouse Wells and the Carnarvon Power Station would either be reported as a new Zone or move into the Mid-West Zone.

Figure 4: Revised Dampier Zone and treatment of DBNGP (Option 2)

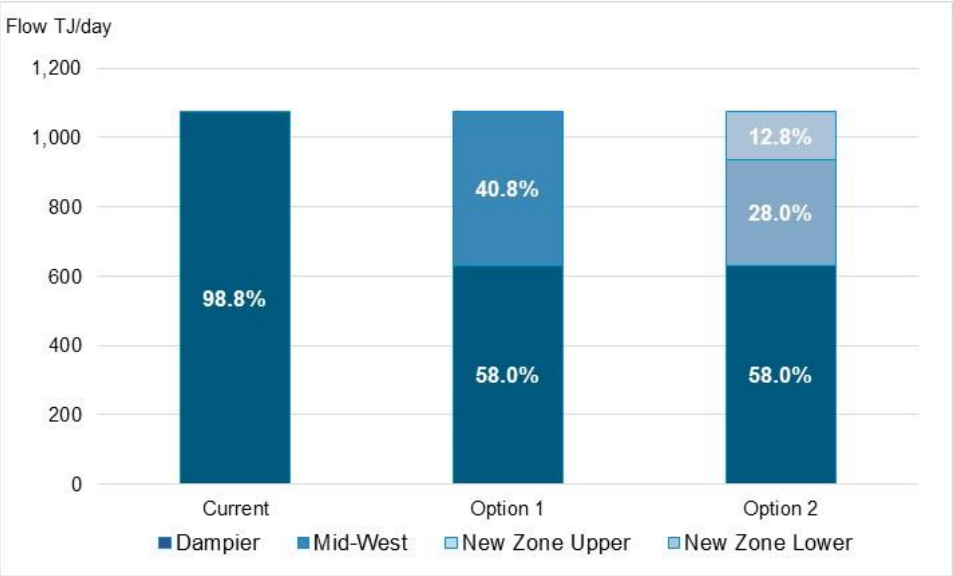


Source: Marsden Jacob analysis (intended as indicative representation only)

Impact of Zone Changes

Figure 5 shows the impact on gas production by Zone under each option, including the current arrangements once the Gorgon and Wheatstone facilities are commissioned (post 2018). Clearly, Option 1 and 2 provide a more useful breakdown of gas production than the current arrangements whereby almost 99% of gas production occurs in the Dampier Zone.

Figure 5: Hypothetical Gas Production by Zone (TJ/day), Post 2018



Source: Marsden Jacob analysis

Questions on the segmentation of the current Dampier Zone

13. Is the Dampier Zone information useful in its current form?
    - If yes, which information is useful and why?
    - If no, is this as a result of the current level of transparency provided by Zone level data? Please comment.
14. Would the segmentation of the existing Dampier Zone result in information which is of benefit to gas market activities? Please specify.
15. Should the Dampier Zone be segmented? If so, how should this be undertaken? Please comment.
    - Would any particular breakdowns pose issues for your organisation? Please specify.
    - Would the amalgamation of the lower half of the Dampier Zone with the current Mid-West Zone (as per Option 1) cause participants any concerns? (e.g. loss of data continuity, insufficient geographical data breakdown)

3.3.4 Guidelines for revision of GBB Zones

Given the discussion in 3.3.3, Marsden Jacob have developed the following guidelines to assist redefine GBB Zones given future gas market developments:

If the addition of new facilities to a GBB Zone implies the following:

- receipt points (e.g. production, pipelines, storage) and/or delivery (pipelines, storage and or User) are highly concentrated with a GBB Zone;
- the clustering of various facilities in a region enable a gas disruption event to be remedied within a sub-region of an existing GBB Zone (no impacts on other gas production/consumption regions);

Then, consider disaggregating the GBB Zone into multiple Zones to ensure that participants receive accurate information on the supply status of that gas production/consumption region.

Questions on guidance for revision of GBB Zones (all facilities)

16. Is there benefit in providing greater description (or guidance) as when GBB Zones should be revised than is currently available?

17. Are Marsden Jacob's guidelines for the revision of GBB Zones appropriate and useful?
    - Will they work in all future market development scenarios?
    - Are there additional factors that should be considered in the development of guidelines?

18. Should guidance be formalised in a GSI Procedure? Or is the development of a separate information document appropriate?

3.4 Other potential reform options

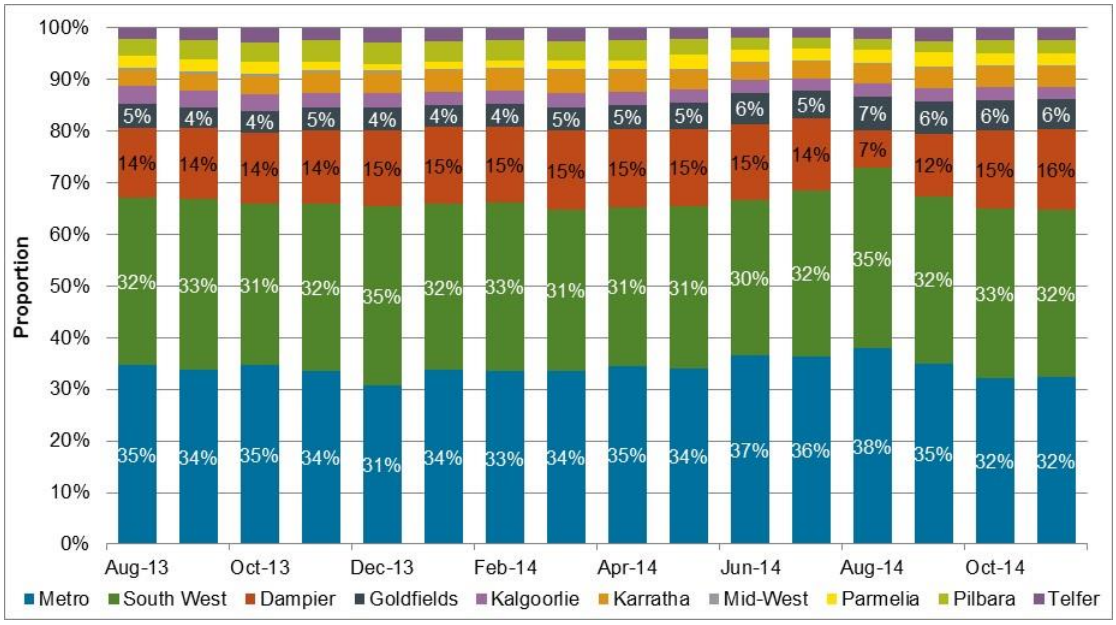
A number of other reform options which may enable Zone based information to be of more benefit to stakeholders are considered in this section. Marsden Jacob's preliminary assessment suggests the options would either be of limited benefit in terms of the information provided, or that costs are likely to exceed benefits. Other options may be premature given the state of the WA market (i.e. no formal short term trading market and/or creation of a gas hub).

3.4.1 Segmentation of the Metro Zone into North and South

The Metro Zone currently covers the region of the DBNGP from CS7 to CS10. It includes the Mondarra Gas Storage Facility (which also connects into the Parmelia Zone), five gate station points which deliver gas into the distribution network, connections for a number of power stations and other large user facilities, including Wesfarmers LNGP facilities.

The Metro Zone takes accounts for around 32% of the gas consumption WA (Figure 6).

Figure 6: Share of gas consumption by GBB zone, WA, August 2013 to November 2014



Source: IMO (2014) Gas Statement of Opportunities – December 2014, Figure 6.5

A proposal to split the current Metro Zone on a geographical basis into a North Metro Zone and a South Metro Zone would facilitate a better understand of gas usage and flows. Large user facilities including power stations and industrial gas users tend to be located in the south region, whereas supplies in the distribution networks which services small gas users tends to characterise the gas usage in the North.

While the separation of the Zone would afford greater transparency, actual use data by gate station (into the distribution network) and by large user facilities are currently made available two or seven days after the gas day, respectively. The low number of producer facilities in the region means that trade possibilities to address any supply disruptions are likely to be limited. As such, Marsden Jacob does not consider the additional information provided by the creation of a North and South Metro Zone would be of significant value at this time.

3.4.2 Alignment of Zones to potential future wholesale gas trading hubs

At the request of the Gas Advisory Board, the IMO engaged Market Reform (consultancy firm) to develop a high level design for a wholesale gas spot market in Western Australia.[28] After consideration of different market designs (e.g. demand or supply hub, market carriage model (VIC)), Market Reform proposed that a spot market for wholesale gas could be developed at physical gas trading hubs based around the Carnarvon Basin gas fields and the Mondarra Gas Storage Facility.

The Carnarvon Basin hub, which would defined by the inlet points to the DBNGP from the Carnarvon Basin gas producers, has the potential to pool together producers and shippers operating in the Pilbara region. The Mondarra hub, which would be located at the connection point between the Mondarra Gas Storage Facility and the DBNGP, could meet balancing and short-term gas needs of gas market participants.

28 Market Reform (2014) *High Level Design for a Gas Market in Western Australia: Draft Report for the Gas Advisory Board*, 13 May

Marsden Jacob understands from general discussions with gas market participants that there is some interest in the establishment of a wholesale gas spot market in WA along the lines of the high level model proposed at the GAB. However, this development will take several years to occur and would require fundamental change to the design of current gas supply and pipeline carriage arrangements, including changes to the Gas Bulletin Board itself. On this basis, Marsden Jacob suggest it is premature to modify current GBB Zones on the basis of a potential future gas hub(s). Should the development of gas hub(s) be demonstrated as a real and imminent market need, Marsden Jacob would recommend interplay between the Zones, the Zones based data and the proposed hub be considered as part of the design process.

3.4.3 Introduction of 'Transit Zones'

The concept of 'Transit Zones' is currently being examined in the National Gas Market Bulletin Board (NGMBB). A transit zone is essentially a junction of one or more pipelines, where gas can flow in either direction, but where there may not necessarily be any large production or user facilities.

The gas flows into and out of a Transit Zone would sum to zero for any one Gas Day, however information on flow rates and direction is likely to be valuable to market participants given the bi-directional nature of the flows.

Transit Zones are not currently a feature of the GBB, however, consideration to the usefulness of this type of information as the market develops is necessary. In particular, flows across the PEP interconnector could feasibly become bi-directional in nature in coming years if gas developments in the Canning Basin (such as the Buru Energy's development of tight gas resources in the Laurel Formation) was to occur.

Marsden Jacob has considered the concept of Transit Zones in light of current and future market developments. At this point, we consider the enablement of transit zones within the Rules may be premature. The likelihood of gas market developments proceeding such that benefits would arise from Transit Zone type information at any one junction (including the PEP interconnection) is currently limited.

3.4.4 Alignment of the Zones with the SWIS and NWIS

Electricity sector gas users represent around 28% of the total gas demand in WA (excluding electricity used for mining operations)[29].

A current design feature of the Zones is that the South West, Parmelia, Kalgoorlie and Metro Zones together approximately align to the electricity SWIS[30]. This feature is intended to facilitate understanding of the gas market information within the electricity market context.

In particular, a large proportion of the large user facilities located within these Zones are electricity generation facilities.

In the same way that Zone data which aligns to the SWIS may be useful for gas and electricity market comparisons, it could be suggested that a similar Zone alignment to the NWIS may be of value.

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29 IMO (2014) *Gas Statement of Opportunities - December 2014*, Figure 6.3, p.71

30 It is noted that the Kalgoorlie Zone includes Esperance, Kalgoorlie South and Town meter data and as such the GGB Zones and the SWIS are not an identical match.

The NWIS extends across an area some 400 km east to west and 350 km north to south. The NWIS services the communities of Dampier, Wickham, Pannawonica, Paraburdoo and Tom Price through the Pilbara Iron (Rio Tinto) Network and Port Hedland, South Hedland, Karratha, Roebourne and Point Samson through the Horizon Power Network.[31]Gas generators that are located on the NWIS include the following[32]:

- Alinta Energy has 210 MW of gas generation across two locations in Port Hedland that is classified as a large user facility in the Karratha Zone;
- ATCO Power Australia has an 86 MW gas power station located in Karratha that is classified as a large user facility in the Karratha Zone;
- Rio Tinto has 108 MW power station (Yurralyi Maya or 7 Mile) that is classified as a large user facility located in the Dampier Zone.
- Horizon Power has 20 MW of temporary generation plant at Karratha and 60 MW of temporary generation plant at Port Hedland. These are not classified as large user facilities.

There is only one additional gas fired power station that is a large user facility located in the Dampier Zone (Sino Steel Power Station). By excluding this power station (which does not form part of the NWIS) gas flows to generators in the NWIS can be estimated (apart from facilities not classified as large user facilities) using the individual actual flow data for the above listed generators.

Questions on other potential reform options

19. Do any of the other potential reform options warrant further consideration as part of this review or by the IMO at a future date?
    - If yes, please comment on the particular option and the rationale for any further investigation?
20. Are there any other concerns, issues or comments – particularly on the use and usefulness of Zone based information – which this review should consider? Please specify.

[31] North West Interconnected System website, updated 14 April 2014, accessed 25 May 2015. Refer to: http://www.nwis.com.au/aboutus.html

[32] Public Utilities Office (2014) *Coverage of the Horizon Power electricity network in the North West Interconnected System – Issues Paper*, 5 December 2014, p.5.

4.Preliminary assessment

Based on our understanding of the purpose(s) of the GBB Zones and their current limitations, Marsden Jacob have proposed the following amendments to the GSI Rules, each of which would satisfy one or more of the GSI Objectives.

Recommendation 1: Remove the definition of Zones from the GSI Rules

The prescription of the Zones within Schedule 2 of the GSI Rules is unnecessary and adds to the regulatory burden for the IMO and market participants. The inability for new transmission pipelines to be efficiently included within Zones results in the IMO being unable to publish intended Zone information following commission of the new pipelines in the absence of a Rule change. The Rule change process, while a relatively small regulatory burden in comparison to other regulatory costs, is still an unnecessary obligation. Further, the level of regulatory oversight is not warranted based on the type of information provided by the pipelines.

Marsden Jacob recommends removal of the Zones prescription from the GSI Rules (amendment to Rule 82) to allow the IMO greater flexibility in amending the Zones to suit market needs going forward.

Recommendation 2: Publish nominations and forecasts for individual facilities (in particular gas production facilities)

The usefulness of current Zones is limited by the aggregate nature of the data. In the case of large user facilities, commercial sensitivity concerns in relation to the release of actual delivery data have been raised and adequate substantiation of these claims provided.

In contrast, the IMO cannot cite any evidence from large users, producers or storage facilities in relation to the commercial sensitivity of the release of individual receipt or delivery nominations and forecasts as this issue was not expressly considered in the design of the GBB.

In particular, the publication of gas nominations and forecasts for receipt points for production facilities would enable opportunities for trade with various productions facilities to be more readily identified by large gas users. Particularly within the Dampier Zone which currently accounts for 97% of gas production in the State, and will grow to almost 98% with the commencement of the Gorgon and Wheatstone gas production facilities.[33]

In addition, it would also give market participants greater visibility of gas production outages, which would improve both the preparation and management of actual or potential gas supply disruption events.

The publication of gas nominations and forecasts for large user facilities may also benefit the market, however, most participants indicated that this is relatively less important given the significantly lower concentration of large user facilities relative to producers. It could be more meaningful to publish aggregate nominations and forecasts for common owners and/operators of large user facilities exceeding 100 TJ/day, such as Alcoa, Synergy or Alinta.

[33] IMO (2014) *Gas Statement of Opportunities – December 2014*, p. 39.

Recommendation 3: Capture Large Use Facility data for non-GBB Pipelines

The proposed location of the Onslow Power Station and the construction of a pipeline that directly connects the power station to the Ashburton West Facility (interconnection between a gas lateral and gas production facilities), highlighted that gas flow information could be lost if gas pipelines (i.e. WAWP and the Ashburton to Onslow Pipeline) are not registered as GBB Pipelines. Although this issue is not strictly related to the definition of GBB Zones, it does relate to the completeness of the information on the Gas Bulletin Board generally.

Such a situation could also arise in other regions in Western Australia.

As discussed in section 3.3, the specific issue for the Onslow Power Station could be overcome by requiring that WAWP and the Ashburton to Onslow Pipelines register as GBB Pipelines. If they were registered as GBB Pipelines, given the location of the pipelines, in Marsden Jacob's opinion, they should be allocated to the Dampier Zone. However, if Recommendation 4 (Division of the Dampier Zone) is adopted, then the pipelines could be allocated to a New Zone (Gascoyne/Mid-West) under Option 1, or New Zone Lower under Option 2.

Rather than registering the WAWP and the Ashburton to Onslow Pipeline as GBB Pipelines, which Marsden Jacob would regard as gas laterals, an alternative approach would be to change the definition of large user facilities to include facilities connected to non-GBB Pipelines. This is recommended by Marsden Jacob as it would ensure that only major pipelines (with multiple users, interconnections to other major pipelines etc.) are classified as GBB Pipelines and would reduce reporting requirements for operators of smaller pipelines (e.g. updating LCA Flags).

Recommendation 4: Division of the current Dampier Zone

As outlined earlier, gas production, pipeline interconnections and large user facilities are highly concentrated within the current Dampier Zone.

The locations and nature of production and user facilities along the DBNGP pipeline mean that supply disruption events, which would be indicated to the market via LCA Flags, or short term trading opportunities can be extremely localised.

The current segmentation for the pipeline as defined by the Dampier Zone is too high level in comparison to the localised nature of operational decisions and trading opportunities within that Zone. As such, the Zone based data is unlikely to provide appropriate signals to participants in the way intended under the GBB purpose.

Further, the short term nature of potential issues (e.g. gas plant outages) and the ability for issues to be remedied within a localised area within the Zone, means that gas supply disruption events within the Dampier Zone can be identified and remedied within the Gas Day. In these cases, the daily update of the LCA Flag and nomination data may result in the underreporting of gas supply incidents in this Zone to all gas market participants (acknowledging that much of this information will at least be provided to shippers by pipeline operators and producers).

For these reasons, Marsden Jacob suggests that the usefulness of the LCA Flag for the Dampier Zone and the aggregate level of the receipt and delivery forecast and nomination data are unlikely to be of assistance in managing risks, facilitating trade or providing information which enables market participants, policy makers and regulators to understand supply risks in this critical gas region of the State.

Marsden Jacob recommend that the Dampier Zone be further segmented to provide greater transparency, more useful warning signals, and enable greater understanding of the market opportunities in this region. Two proposed options to reform the Zone breakdown for this region were considered in this report:

- Option 1: Dampier Zone split at CS1 on the DBNGP; and
- Option 2: Dampier Zone split at CS1, and CS2 on the DBNGP.

Marsden Jacob considers that Option 2 provides a more detailed breakdown of the supply, demand and pipeline health and therefore this option is likely provide for better market outcomes. However, any commercial confidentiality concerns of individual market participants in this region also needs to be identified and considered.

To this end, Marsden Jacob's second recommendation – to publish nominations and forecasts for both delivery and receipt points – is relevant. Should this recommendation be adopted, then the further breakdown of the Dampier Zone may still better achieve the GSI Objectives. This is because the breakdown of the Zone would allow LCA Flags for individual segments of the DBNGP to highlight localised gas supply problems.

However, it is noted that the commercial sensitivity of publishing both production and large user facility data (by virtue of publishing receipt and delivery point data) is currently untested. Depending on comments and evidence provided by participants in relation to the release of this data, it may not be appropriate to recommend release of data from certain categories of participants.

Unless participants can demonstrate that there are significant commercial confidentiality concerns, Marsden Jacob recommends that Option 2 should be adopted. Option 1 or alternative Options should be considered if evidence of commercial sensitivity is cited by gas market participants.

Recommendation 5: IMO adopt Guidelines for allocation of new pipelines to GBB Zones

That the IMO adopts the Marsden Jacob's Guidelines for the allocation of new pipelines to GBB Zones (outlined in section 3.3.2).

Recommendation 6: IMO adopt Guidelines for revision of GBB Zones

That the IMO adopts the Guidelines for the revision of GBB Zones (outlined in section 3.3.4).

Questions on recommendations

21. Are these recommendations appropriate and do they follow logically from the information provided?
    - Is there any critical information that Marsden Jacob has missed which would alter the recommendations?
22. Is there any reason why these recommendations should not be adopted? Please specify which recommendations and the reasons.
23. Which recommendations cause your company the greatest concern? Please explain.
24. Which recommendations are likely to provide the greatest benefit to your company? Please explain.

Appendix 1: Summary of stakeholder questions

Question on awareness, understanding and access of GBB Zone data

1. Does your organisation and the appropriate people within your organisation have a strong understanding of the GBB Zones, their purpose, and the data available for each Zone?

2. How often does your organisation access the GBB Zone data?
    - How is that data accessed (e.g. downloaded manually or access via an automated system)? Is the GBB data provided to you via a third party?

3. What information or presentation of data would improve your understanding and use of the GBB Zone data?

Questions on use and publication of GBB Zone information and data

4. Does your organisation rely on Zone information or data to make decisions on its gas market activities?
    - If yes, which data is used and for which activities? Please specify.
    - If no, is this due to an inadequacy in the Zone break down – either from a pipeline segment perspective or on supply/demand opportunities, or the timeliness of data? Please comment.
    - Would changes to any aspects of the Zones in relation to the level of disaggregation of information, or the timeliness of data provided change your use of the GBB Zone data? Please explain.

5. If the pipelines where further segmented:
    - Would result in any increased regulatory burden?
    - Would this information be beneficial to gas market activities? Please specify.

6. If nominations and forecasts for receipt points were to be published, would this have significant commercial implications for producers?
    - Would this information be beneficial to gas market activities? Please specify.

7. If nominations and forecasts for delivery points (especially large user facilities) were to be published, would this have significant commercial implications for gas users?
    - Would result in any increased regulatory burden?
    - Would this information be beneficial to gas market activities? Please specify.

Questions on governance oversight for new pipelines

8. Is the prescriptive inclusion of Zones in a Schedule to the GSI Rules necessary?
    - Does this provide an appropriate balance between regulatory oversight (through the Rule change process) and flexibility of definitions to meet market needs as the market develops? Please explain.
9. If the IMO were to propose a Rule Change to remove the prescription of the Zones from the GSI Rules, what regulatory oversight or consultation processes would you consider appropriate?
    - Would it be appropriate (and preferable) to include Zone descriptions in a GSI Procedure?

Questions on guidelines to allocate new pipelines to Zones

10. Is there benefit in providing greater description (or guidance) as to how new pipelines would be included in GBB Zones?
11. Are the Marsden Jacob guidelines for the allocation of new pipelines to GBB Zones appropriate and useful?
    - Will they work in all future pipeline development scenarios?
    - Are there additional factors that should be considered in the development of guidelines?
12. Should guidance be formalised in a GSI Procedure? Or is the development of a separate information document appropriate?

Questions on the segmentation of the current Dampier Zone

13. Is the Dampier Zone information useful in its current form?
    - If yes, which information is useful and why?
    - If no, is this as a result of the current level of transparency provided by Zone level data? Please comment.
14. Would the segmentation of the existing Dampier Zone result in information which is of benefit to gas market activities? Please specify.
15. Should the Dampier Zone be segmented? If so, how should this be undertaken? Please comment.
    - Would any particular breakdowns pose issues for your organisation? Please specify.
    - Would the amalgamation of the lower half of the Dampier Zone with the current Mid-West Zone (as per Option 1) cause participants any concerns? (e.g. loss of data continuity, insufficient geographical data breakdown)

Questions on guidance for revision of GBB Zones (all facilities)

16. Is there benefit in providing greater description (or guidance) as when GBB Zones should be revised than is currently available?

17. Are the Marsden Jacob guidelines for the revision of GBB Zones appropriate and useful?
    - Will they work in all future market development scenarios?
    - Are there additional factors that should be considered in the development of guidelines?

18. Should guidance be formalised in a GSI Procedure? Or is the development of a separate information document appropriate?

Questions on other potential reform options

19. Do any of the other potential reform options warrant further consideration as part of this review or by the IMO at a future date?
    - If yes, please comment on the particular option and the rationale for any further investigation?

20. Are there any other concerns, issues or comments – particularly on the use and usefulness of Zone based information – which this Review should consider? Please specify.

Questions on recommendations

21. Are these recommendations appropriate and do they follow logically from the information provided?
    - Is there any critical information that Marsden Jacob has missed which would alter the recommendations?

22. Is there any reason why these recommendations should not be adopted? Please specify which recommendations and the reasons.

23. Which recommendations cause your company the greatest concern? Please explain why.

24. Which recommendations are likely to provide the greatest benefit to your company? Please explain why.

Appendix 2: Data required for the GBB

Standing data

The Nameplate Capacity or Capacities of each GBB Facility published on the GBB are updated annually by 31 March, or when they undergo a permanent change in capacity (expected to continue for 12 months or more).

The EMF capacity data is not published publicly on the GBB, but is used by the Coordinator of Energy (who may make the information available to other parties) in the case of a gas supply emergency. The EMF capacity data must be kept current, and updated when the EMF is activated or at least annually by 31 March.

Periodic data

Periodic data provision obligations are outlined in the GSI Rules and the GSI Procedures. Periodic data is required in relation to pipelines, production facilities, storage facilities and from large users. However, exercise of exemptions permitted under the GSI Rules in relation to duplicate data requirements means that, from a practical perspective, pipelines provide a significant proportion of the data on behalf of other participants.

Data types and obligations are summarised in Table 3. Data for which exemptions may be requested by production, storage and large user facilities in relation to data which is already provided by GBB Pipelines are indicated by an asterisk (*).

Table 3: Summary of data provision obligations[34]

Data submission type	Pipelines	Production	Storage	Large User
Capacity Outlook#	✓	✓	✓	
Nominations and Forecasts	✓		✓*	
Linepack Capacity Adequacy (LCA) Flag#	✓		✓	
Actual Gas Flows	✓	✓*	✓*	✓*
Gas Specification Information	✓	✓*		
Medium Term Capacity	✓	✓	✓	
Aggregate Shipper Deliveries[35]	✓			

 # The Capacity Outlook and LCA Flag are required daily, however, if there is no change in capacity or LCA, the previous submission 'rolls-over' to the next Gas Day (as per the GSI Rules)

** It is possible to apply for an exemption from the obligation to provide this data, where duplicate data is provided by a Registered Pipeline Operator (as per the GSI Rules).*

34 IMO (2013) *Gas Bulletin Board (GBB) User Guide v1.0*, 31 July 2013, p.11. Available at: https://gbb.imowa.com.au/#referenceDocuments

35 Used for IMO billing purposes only.