

**FIRST GAS PAPER:  
GAS TRANSMISSION ACCESS CODE DEVELOPMENT -**

**EMERGING VIEWS ON DETAILED DESIGN OF ACCESS  
PRODUCTS, PRICING, BALANCING AND ALLOCATION**

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**1 Are any aspects of the detailed design missing?**

a) Free rider issues under Critical Contingency conditions:

- There are classes of consumers that have priority supply under critical contingency or FM conditions. If the shippers to those parties do not hold PRs under circumstances where gas transmission is constrained, then those shippers may be incentivised to call for an FM or critical contingency situation, and thereby continue to ship gas irrespective of their lack of PRs.
- Due to the band prioritisations under the critical contingency regulations:
  - there is an incentive for shippers supplying smaller consumers (domestic and other protected consumer groups) to free ride for those groups of customers from the perspective that they do not need to secure PRs to cover potential congestion situations.
  - potentially PRs may be over allocated for some delivery points (DPs) from the perspective that the CCM high priority customers are not covered by PRs.
  - The incentive for larger consumers to procure and pay for priority rights is undermined if the benefits are diluted or diminished due to others without PR's are afforded priority under the critical contingency regulations.
- Overrun charges will come into play where DNC is scaled back and customer consumption exceeds the DNC (until the point where there is a Critical Contingency declared), but as discussed below, overrun charges should not be punitive in nature and should be cost reflective in nature.
- A possible way around this is to require shippers supplying residential and those with critical care designations to hold PRs by default to cover those consumers with priority under critical contingency (such as hospitals and residential consumers). This would prevent shippers (consumers) from effectively free riding on that priority. The default option would require shippers to pay the clearing price for a percentage share of PRs in proportion to their share of Priority 1 (or similar) consumers under the Critical Contingency regulations. Data from the registry would be useful in supporting accurate calculation of these charges.

## **2 Have any options been missed for addressing any specific aspects of the design of the following areas of design:**

### **2.1 Access products**

Nova favours the application of proposed Daily Nominated Capacity (DNC) and Priority Rights (PR) to allocate transmission capacity in an efficient manner. There are various aspects of the detailed design however that are important if DNC and PR are to operate effectively and not create excessive administrative costs on either shippers or First Gas. We highlight these as follows:

- a) DNC: Charges and penalties for over-runs. The relationship between charges for nominated capacity and penalties for incurring overrun charges must be set in a proportionate amount such that there is an incentive to nominate DNC to the expected demand at each delivery point (DP) each day. Otherwise First Gas will not be able to rely on DNC to predict capacity requirements, and Shippers face excessive complexity in optimising between expected demand and optimal DNC for all DPs. In addition to setting appropriate over-run charges, it may also be appropriate to provide a margin for error each DP in relationship to that DPs demand characteristics. The specific mechanism may not need to be codified, but the intent of the pricing arrangements should be. We discuss this further below.
- b) Changes to nominations: Shippers should be able to change nominations throughout the day as new information becomes available. While gas transmission is nowhere as time sensitive as electricity, there is a vast gap between electricity being dispatched at least every 5 minutes, and gas a few times each day. Under the new systems it would seem reasonable to keep shippers fully informed by updating the gas position throughout each day to reflect changes to supply and demand. Ideally the systems would update the position in response to each change in nominations, but at a minimum should be more frequent than six times per day.
- c) If the OATIS Replacement System is going to continue to be limited to a small number of discrete nomination cycles, such as with the current system, then the new code provisions should provide sufficient tools for parties to be able to manage their daily capacity nominations and imbalance. The basket of tools that Nova believes are necessary include:
  - i) timely daily allocation data (Day +1 data) at the lowest common denominator (by delivery point if necessary),
  - ii) the ability to amend nominations after the intra-day cycle in force majeure circumstances,
  - iii) tolerances to account for both forecast error and the inability to amend nominations beyond a certain point during the day. Such tolerances would provide some relief from overrun or imbalance charges.

- d) Loss of demand diversity at each delivery point compared to current arrangements.

Given the high cost and low penetration of metering and telemetry for real time demand, except for the largest users, accurate demand forecasting on a daily basis for a large number of small gates will likely be impractical, costly and will have limited benefit to First Gas in most circumstances.

Currently shippers nominate on a daily basis for gas transmission on the Maui pipeline to effectively three zones. The Northern zone is represented by Rotowaro which represents no fewer than 32 delivery points, The Bay of Plenty zone represented by Pokuru which has 29 delivery points, the Southern zone represented by Frankley Road with over 50 delivery points, plus around 10 or so other minor or dedicated delivery points.

In Nova's experience, the benefit of nominating at a zonal level is that the diversity of consumers across zones makes demand forecasting much easier; compared to those DPs dominated by a small number of larger users, which can have a volatile demand.

- i) Before First Gas makes its final decisions on daily delivery point nominations, we suggest that First Gas review historical gas gate data and the allocations among retailers to investigate the practicalities of retailers with limited information having to forecast daily demand to a level of accuracy that maintains overrun and imbalance charges at a level that is not excessive or ruinous.
  - ii) Nova proposes the use of broad tolerances at delivery points where there are no direct supply constraints, together with lower tolerance thresholds at an aggregated level. For instance, nominations could have a broad tolerance specific to each DP before overruns apply under normal conditions, while a tighter (or zonal) tolerance threshold could apply to the aggregate of total daily nominations vs allocations before overruns/imbalance charges are determined.
  - iii) A feature of this process is that the pipeline operator could provide notice that under conditions where there is potential congestion or FM conditions applying, the 'zonal tolerance threshold' could be applied to a limited set of DPs, or a single DP.
  - iv) We note that in any case shippers must return to balance as allocation data is received through the Day + 1 process. In effect, the balancing requirement is the equivalent of balancing the aggregate of DNC and throughput across the entire pipeline.
  - v) Consequence will be higher transmission cost due to a) overruns + b) unutilised capacity nominated
  - vi) D+1 Daily allocation data is an important tool for shippers to manage imbalance and potentially (but not necessarily) capacity nominations.
- e) Economic efficiency.
    - i) Although First Gas have indicated that any over recovery of revenues from imbalance or capacity overrun charges will be passed back through reduced transmission charges, this will not in itself prevent distortionary and economically inefficient outcomes. This is because the parties benefiting from reduced transmission charges arising as a result of overrun charges

are not necessarily the same shippers or connected parties incurring those costs. Furthermore, there may be some classes of customers that systematically incur charges that are in excess of the costs that they create on the pipeline system.

- ii) The other aspect of efficiency that needs to be considered is the direct costs to the shippers on forecasting demand and managing nominations. The better the information available from the pipeline operator the less investment that individual shippers need to put into their own systems to manage their exposure to charges.
- iii) If overrun charges are excessive, shippers will collectively be forced into over-investing in forecasting systems that ultimately may add little economic value.

## **2.2 Pricing**

- a) Nova agrees with the general principles being applied, subject to our detailed comments in this submission. The revenue from auctioning PRs should be recognised in the year for which the PRs apply, i.e. the income recognised in the period the PRs are utilised. That should help reduce pricing volatility and First Gas will have good information on PR revenues for the next year when setting its DNC charges.

## **3 What are your preferences in the following areas of design:**

### **3.1 Access products**

- a) Allocation of Priority Rights:
  - Nova agrees with PRs extending for 6 months – essentially summer and winter tranches.
  - (AP10) Nova disagrees with the methodology proposed in the paper.
  - The quantity of PRs sold for each DP should be optimised to achieve the maximum revenue from each auction, subject to the capacity of the pipeline to deliver and phased approach of releasing a proportion of PRs at each auction. PRs can be allocated to DPs across the transmission network, subject to applying a set of constraints around DP capacity, allocation limits and aggregate capacity at various choke points across the network, e.g. capping total PRs within a zone downstream of a potential congestion point in the pipeline.
  - Under this methodology, offers for PRs at different DPs within certain zones are effectively competing bids, i.e. the allocation can be optimised using a model of the gas network in the same way that a large scale linear programming model is used to dispatch electricity generation within a set range of constraints.
  - This also means that shippers at a DP where there is a single consumer only, will pay much the same price for PRs as shippers do for nearby DPs that are likely to be affected by the same congestion issues. We believe this would provide the most efficient allocation and pricing.

- Limiting the availability of PR's to less than the actual maximum capacity will potentially result in an artificially elevated auction price for PR's. Further, making all PR's available for auction does not prevent parties that do not hold PRs from accessing capacity on an interruptible basis, i.e. there should be no concern re: "hoarding".
- (AP12) Nova agrees with shippers being able to nominate a number of tranches.
- (AP14) PRs should be made available for up to 3 years ahead, including in strips of 6-monthly blocks, i.e. a proportion of the available PRs for each period being progressively auctioned in tranches 2x p.a. Because only a proportion is made available at each auction, any risk of a single party monopolising all PRs for a DP is reduced.
- The details do not necessarily need to be codified, but the principle of spreading the release over time should be.
- (AP15) The PRs should be allocated at the marginal clearing price, rather than pay as bid. The PRs will be difficult for parties to price given the level of information needed to price each and every delivery point as well as ascertaining the expected demand in any auction. Any uncertainty over the total number of PRs that are likely to be available also makes it difficult to accurately price all PRs. While 'pay as bid' may be appropriate in economic theory, the complexity involved in assessing the true values of PRs means it is very difficult to assess the true economic worth of PRs to end consumers. As discussed above, priority customers under critical contingency conditions should be required to hold PRs out of principle. For those parties the PRs nominally have a very high value, but it is appropriate for them to pay the clearing price by default. Alternatively, a multi round process at each auction will facilitate efficient price discovery but due to the number of delivery points this will likely be a complex and costly process.
- (AP16) A nominal reserve price is appropriate.
- (AP17) Agree. PRs should be tradable.
- (AP19 – AP23) Agree
- (AP24) Agree. This helps simplify supply arrangements from multiple sites within the receipt zone.
- (AP25 – 29) Agreed

### **3.2 Pricing**

- (P1, P2) Nova agrees with applying charges to DNC in preference to throughput or other capacity measures.
- (P4) Agreed
- (P6) This is an important aspect of the design and will serve to provide gas producers greater flexibility in terms of their gas production at different locations, and save shippers needing to swap receipt points in order to avoid unnecessary charges.

- (P7) Should a throughput fee be introduced, then the application of overrun charges would also need to be re-assessed to ensure that optimal DNC is equal to expected throughput.
- (P8-P10)
- (p11) PR revenues should be recognised in the period in which they apply and offset DNC charges for that period.
- (P15) The proposed basis for the overrun fee is excessively punitive. Under an uncertain demand with equal probability of an under or over run, then the appropriate overrun charge to apply to incentivise an accurate DNC would be double the DNC cost (assuming no tolerance). If a tolerance is provided allowing for a 25% probability of an overrun (i.e. 75<sup>th</sup> percentile of a normally distributed uncertainty of demand), then the neutral overrun fee would be 4x the DNC charge. Because all variability in demand is not uncertain, and distribution of demand is not normally distributed, setting appropriate tolerances for DPs is not straightforward. The simplest and most reasonable basis would therefore to apply an overrun fee of 2x the DNC fee.
- The concept of differential steps for overrun charges also overcomplicates the issue. Shippers will be aiming to match DNC with throughput in any case. A buffer of 3% is almost meaningless in circumstances where demand is much more volatile than that.
- An underrun charge will be very difficult to reconcile with industrial and commercial customers, i.e. paying for something that they do not use. If transmission is paid on the basis of DNC rather than throughput, then there is an incentive to not over nominate as underuse of DNC increases the effective cost per GJ being shipped in any case.
- (P16 - 18) As stated, there is no reason for breaching MHQ at delivery points. Given that breaching MHQ can have a direct impact on the transmission system it is appropriate to have an overrun charge relating to that, and for that charge to be punitive in design.

#### General

- (P22) Transmission fees should be finalised well before 1 September each year. This is because gas distributors need to then factor those charges into their fees, and then gas retailers make adjustments to their own charges and then provide their customers reasonable notice of any price changes. The net result is that retailers cannot match price changes on a back-to-back basis. Nova suggests that a 60 day notice period before any price change takes effect would be workable in that it would provide up to a month for retailers to analyse any price change notice and to the extent necessary make the necessary arrangements to advise customers within the 30 day notice period that is standard industry practice for retail contracts.
- We strongly recommend that prior to committing to the ultimate preferred approach for charging of transmission charges, that First Gas undertake simulation of how retailers, with the tools available to them, will manage their capacity nominations and daily imbalance in practical manner. We suspect that without a reasonable degree of tolerance or aggregation for demand forecasting built into the process, the process as outlined in the paper will not be workable in the long run and will result in significant overruns and imbalance charges and a process that could be seen as being worse than the status quo.

### 3.3 Balancing

Nova agrees with the Balancing principles to be applied and the proposed method of implementation. Using the incentive price rather than cash-outs requires the shipper to rectify the imbalance through revised receipts or deliveries, trading gas, or using the park and loan facility, if available. It is also important however that shippers have the information and flexibility in the systems available to them to manage their positions.

- (BA1 – BA6) Agreed
- (BA7) It would be helpful if First Gas could articulate the method behind the setting of the incentive price – even if that is at a conceptual level only. Nova’s preference is for a market/cost reflective imbalance charging with title transfer instead of a punitive “incentives” scheme. If there is no title transfer, then the ‘incentive’ is essentially a charge for an unauthorised Park or Loan, and the charge related to the Park and Loan charges applying at any point in time.
- (BA9 – 12) Park & Loan. The proposed park & loan facility is a useful concept but more information is necessary to be able to evaluate. For instance it would be helpful to understand what the park/loan period would likely be. If it is dependent on pipeline conditions, then that suggests that it can only be for a relatively short period of time – i.e. 1-2 days. A park and loan service will potentially impact on pipeline pressure and short term security of supply, so while we agree in concept that the potential for a park and loan service should be considered, more detail will be necessary.
- (BA 11) Nova suggests than one possible guide to pricing of a park and loan service will be EMS Tradeport and consideration should be given to competition between the pipeline park/loan service and that market.

### 3.4 Allocation

Nova favours early and accurate allocations in order that parties can best keep their DNC nominations as accurate as possible, and to be able to either park and loan, or trade gas in order to balance their net positions.

- (BA15) Nova will support a system incorporated within the OATIS replacement system if that can be shown on a cost/benefit basis that a new allocation algorithm is better than the current GIC provided algorithm. Further consideration should be given to how the daily allocation algorithm quantities are used in the allocation of imbalance and transmission overrun charges. In particular, should there be wash-ups of those charges as more accurate allocation data comes available through time. Given that the industry has been working under the current Day + 1 arrangement for a period of time there will likely be some benefit in examining allocation data and the impact on imbalance and transmission charges. Given the nature of the data it will be appropriate for a party independent of retailers to perform any analysis and provide anonymised or aggregated results that may help inform design decisions.
- The Clause 5.17(b) in the draft GTAC refers to ‘the second Business Day after the Day on which the Allocation Agent receives the necessary input information’. That is an excessive delay in providing Shippers Delivery Quantities. The allocation process should be able to be completed in a much shorter time frame.
- (BA18) Agreed

#### **4 Is any additional information required to support a full draft of the GTAC?**

- As noted in our response above, we believe that in order to determine that what First gas proposes is workable and results on an improvement on the status quo, some simulation work is required. Such simulation should be not only from the TSO perspective but also from the perspectives of participants, in particular - retailers, major users and producers.
- An area that we think would be worthy of development and discussion at an industry level is an implementation plan. Such a plan should provide for an orderly transfer and should contemplate post implementation phasing of new code elements. It may be that if there are new service offerings such as a park and loan service, priority rights auctions etc., that those elements, while codified from the outset, may be implemented in phased manner such focus can be maintained on a successful transition in the first instance and bedded down properly.