

1 SUBMISSION ON EMERGING VIEWS ON DETAILED DESIGN FOR GTAC.

This submission has been prepared by Shell Todd Oil Services as Operator of the Maui Field and the Oaonui Welded Point, and as the Service Provider to SENZL as Operator of the Pohokura Field and the Ngatimaru Rd Welded Point. The submission is prepared by the Operator on behalf of the joint venture parties in each field (Shell, Todd and OMV). The submission relates primarily to operational aspects of the proposed new code, and does not, and is not intended to, reflect or infer the commercial views of Shell, Todd or OMV.

2 GENERAL CONSIDERATIONS

Operationally, our view is that the code should be aligned with “good industry practice”, meaning that it should be largely aligned with codes used in other (international) jurisdictions. We expect that the software platform used should be a mature platform that is used in other locations, and implicit in this is that it should have been developed to reflect the needs of “good industry practice”.

Where we make suggestions as to how certain elements of the code could or should be implemented, the implicit caveat on each and all of these suggests is that they should only be considered if they are aligned with good industry practice elsewhere, and that the software can support them without expensive customization.

We are pleased to see that the code will support a nominations regime that appears to us to be largely similar to the current nominations regime under the MPOC. We have made some assumptions on other elements, such as curtailments for Force-Majeure, and to help us frame our considerations, it would be useful to have it confirmed (or otherwise) that such elements will persist.

We recognize that the new pipeline code may result in the need to make significant changes to how we manage our internal workflows and the interfaces with buyers / shippers and the pipeline operator. To this end, it is important that once the design of the code is finalised, there is sufficient time for these changes to be made internally. While we can infer from the overall project timeline when we should be planning these changes (Q2 – Q3 2018), it would be helpful to have these included in the overall timeline.

3 ACCESS PRODUCTS

As we are not shippers on the pipeline, we do not have strong opinions on the access products.

We are interested in how Priority Rights may impact at our welded points. We expect that our buyers / shippers will nominate in accordance with their capacity rights, and so we do not expect that this element will have any significant effect on our day-to-day operations.

We see a possible inter-relationship between priority rights for pipeline capacity, and priority provisions in gas contracts. In the event of a Force-Majeure event that requires us to curtail our nominations, we see that a priority mechanism could be a useful tool. Under the MPOC, a curtailment at a welded point is pro-rated across all contracts. If the priority provision mechanism for capacity (and most importantly, the software platform) allow targeted curtailments at the individual contract level, this would be a significant improvement.

In some cases, buyers can have higher-priority contracts. Allowing the welded point operator to choose which contracts get curtailed in preference to others would preserve the value of these higher priority contracts.

Secondly, this mechanism would be very useful at welded points where there is more than a single seller (Ngatimaru Rd (Receipt)). In the event of an outage, one seller may have sufficient capacity to cover their nominations, and the other(s) may not. Under the current pro-rating of curtailments, it is not possible to only curtail nominations of one seller and not the other. Implementing this ability would have significant benefit where an Operator operates a welded point on behalf of multiple parties. We appreciate that this is a gas contract issue and not a code issue, but providing this functionality in the software platform and operating procedures should be considered.

We would also like clarification on whether nominations for delivery will be linked to receipt. Will a curtailment at a given welded point result in a curtailment at the corresponding delivery / receipt point(s)?

4 PRICING

4.1 Shipping charges vs Balancing charges

We note that FirstGas are regulated, and have a cap on their revenue. As we understand it, the consequence of this cap is that while FirstGas will seek to return revenue at their price cap, if they over-recover revenue, then the over-run will be returned via a reduction in shipping charges. We expect that FirstGas will tend to err on the side of (slight) over-recoveries rather than under-recovery of revenue against the cap.

Revenue is generated from shipping charges and from balancing charges. It is important for Producers that these two revenue streams are considered independently, because Operators / Injectors generally pay balancing charges, rather than shipping charges.

In the event of an over-recovery of balancing charges from Producers, having these returned to the industry as a reduction in shipping charges fails to compensate the Producers who have been over-charged.

It is therefore important that these charging pools are independent, and it follows that it is also important to ensure that the relative revenue for each pool is appropriate to the overall “cost” of managing that pool.

FirstGas has indicated that they are seeking to avoid “price shock” to users. We expect that this philosophy will apply to Interconnected parties as well.

4.2 Hourly Overrun Charges

We appreciate the importance of ensuring accurate nominations in the management of the pipeline linepack. However, we believe that there needs to be a balance between stable operation of the pipeline, and stable operation of the entire gas industry.

If overrun charges are excessive and punitive, then shippers will naturally seek to have more control over the scheduling of their nominations, likely pushing for more intraday nominations cycles (which will increase costs and workload), and pushing for more flexibility in their contracts with respect to the ability to nominate upwards and downwards frequently on an intra-day basis. Incentives matter.

From a gas producer perspective, it is simply not “good industry practise” to frequently ramp / cycle facilities and wells up and down. Transient operations can cause damage to wells (particularly wells that are prone to sand and/or water production), and many wells have “bean-up” constraints imposed for exactly this reason. Frequent flow changes can require frequent start-up and shutdown of rotating equipment that increases maintenance costs and reduces equipment life. While wells can be beaned-up or down for small changes remotely by Control Room Operators, the need to completely shut-down or start-up wells and facilities requires additional Field Operator resources. Starting-up and shutting-down of facilities (or parts of facilities) is recognised across the industry as being the most hazardous operation scenario, and doing this during hours-of-darkness is particularly hazardous.

There are also the commercial considerations. Gas Producers have a finite maximum production capacity. If intraday swing is to be managed in the contracts rather than absorbed by the pipeline buffer, then this naturally means that gas fields will be limited in their ability to contract offtake to 100% of their maximum capacity, and will be driven to contract for only a proportion of their maximum capacity. This could result in reduced commodity being available for contract overall: it is not in the best interests of the Gas Industry to manage the pipeline in this manner.

The ideal operating scenario for a gas field is for steady operations, all day, every day. While we recognize that this is unlikely to be attainable, the original design for the New Zealand Gas Infrastructure as a whole was to design the network such that the buffer capacity for intra-day swings be placed into the Pipeline, not into the fields. We urge FirstGas to think carefully about hourly overrun charges, to ensure that the incentives are placed in the right areas to ensure that Gas Fields can operate in a manner that is safest, and maximises New Zealand's economic resources.

If the pipeline view is that that provision for increases up and down (intraday) should be in gas contracts rather than absorbed by the pipeline, it must be noted that producers would need to limit rates-of-change or overall swing to protect their assets, and therefore reserve the right to decline rate changes. In this case, buyers / shippers may be put in the position where they cannot avoid hourly charges, because they can't directly control the offtake nor the supply. Overall, there must be sufficient flexibility for them to supply the underlying demand, while noting the uncertainty of that demand and the variability throughout the day. We feel that this should be accommodated by the buffer capacity of the pipeline.

5 BALANCING AND ALLOCATION

5.1 Pressure Management

We are concerned that Balancing section of the Draft code makes reference only to "linepack management" (implicitly being Energy Linepack), with no mention of pressure management. The Taranaki Target Pressure requirement in the MPOC is imperative to the safe and efficient operation of our facilities.

The facilities were designed on the assumption of defined pressure requirements for delivery of gas into the pipeline. The 48 barg maximum pressure is a constraint that is used in determining the remaining Gas Reserves in our fields, and any lack of certainty on this maximum pressure limitation will result in a Reserves write-down.

High pressure is more important than Low Pressure on an operational basis, but low pressure is (of course) important with respect to contingency volumes in the pipeline, and the ability to deliver gas to end-users.

Of most concern for stable and efficient operation is high pressure. High pressure has the effect of:

- Decreasing field reserves.
- Reducing field deliverability (threat of not meeting scheduled quantities).
- Risk to meeting hydrocarbon dewpoint specification.
- Increasing operational costs.
- Increased threat of plant trips (reliability issue).

5.2 Planned and Unplanned Outages

We note that FirstGas has proposed a "Park or Loan" service to store or borrow gas from the pipeline linepack.

For efficient operation of our facilities, we need a mechanism that allows us to shut-down our facilities for short periods or time to execute essential testing of Safeguarding systems, or for critical maintenance or projects.

The proposed use of a Park Or Loan service (with associated charges) *may* be an appropriate mechanism, provided that the design of the mechanism provides us the flexibility that we require, and that the charges for such a service are not excessive. The discussion document notes that such a service would be granted on a “first-come, first serve” basis (9.26), and also that the application must be made a Day In Advance (9.25).

Pricing and pricing methodology must also be clear and transparent well in advance of a planned outage.

The Day In Advance requirement is appropriate for planned outages, but not for unplanned outages. Our view is that a mechanism is required for Unplanned outages as well, in order to minimise disruption to the pipeline, shippers and buyers.

For an unplanned outage, the characteristics of the service must be such that approvals can be granted very quickly, and the costs of such a service (if any) must be transparent. These are required to allow good decision making. We do not see how the “Park and Loan” service as proposed could work for unplanned outages: any party with a problem meeting SQ on a day would be incentivised to use the facility, and it would become a substitute for balancing, and potentially for primary balancing. It may be very difficult to balance the costs between the two.

The mechanism that is currently used for managing and mitigating planned and unplanned outages is through the use of “ROIL Multipliers”, that allow any interconnected party (with the agreement of the Pipeline Operator), to schedule flows for the day such that outages can be completed with minimal disruption to the gas market. For planned outages, Interconnected parties can schedule their delivery or offtake such that the pipeline linepack is maximised during the outage, then catch-up any shortfall afterwards. At the last workshop on the code, we suggested that such a facility provided benefit to the entire industry, because it minimises disruption to shippers and buyers: essentially, they still get (most of) their entitlement to gas, without the need to make alternative arrangements, which may be at inflated prices (an outage at a large production facility can reduce the gas in the market by 10-40%). This view was challenged, with the viewpoint expressed that Producers are benefitting from a service that other parties (in particular, shippers) are unable to take advantage of. It was further expressed that such arrangements to manage outages (planned and unplanned) should be included in contracts, rather than in the pipeline code.

We have given these views further consideration. We maintain that the rules around granting a ROIL multiplier are appropriate, fair and available to all, and we expect that any interconnected party who can comply with them should be granted one (in particular, restoring the linepack within a defined period of time).

We maintain that this is an effective mechanism for managing in the event of outages, particularly unplanned outages. Where the pipeline cost recovery mechanism effectively socialises costs anyway, we believe that in a choice between having a Park and Loan service that is charged for (under which we expect Sellers would seek to recover costs from buyers anyway), or a ROIL system, the most efficient is a ROIL system. As noted, we don’t see how a Park and Loan service could be used for an unplanned outage

Our strong preference is to retain mechanisms that have provided operational flexibility for mutual benefit.

Regardless of which system is used, we refer again to our views that Balancing Charges, if over-recovered, should be returned to those paying the charges, and not the general pool that includes shipping charges.

Were it possible to be implemented within the code and the software platform, we would suggest an alternative. What we perceive to be much of the “problem” with primary balancing is the constraint that is caused by the “Gas Day”. The strange effect that this has is that it is perfectly reasonable and allowable under the MPOC (pipeline conditions permitting) to be significantly ahead or behind on Actual Flow vs Deemed Flow throughout the day, but not at the end of the gas day.

This cut-off can result in some strange incentives that are not necessarily good for efficient operation of the pipeline. For example, a very short trip of a major facility at 11:00 PM could result in a shortfall for the day of several TJs. This could encourage people to curtail nominations to avoid balancing charges, when they can essentially get back “on target” within a few hours. Curtailing against a somewhat arbitrary deadline is not conducive to smooth operation of the pipeline (particularly outside of normal office hours!)

If an alternative primary balancing system could be designed such that the end-of-gas requirement is removed, then this could be a significant improvement. For example (and without deep consideration), if balancing charges were integrated and aggregated over the previous 24-hour period, then this could be a mechanism to provide strong primary balancing incentives, without an arbitrary cut-off point that drives unfortunate behaviours.

This is offered as a point for consideration, and needs careful consideration as to whether it is aligned with Good Industry Practice, and is feasible within the off-the-shelf software.

6 OTHER ITEMS

6.1 Gas Quality

In providing information on how we manage and assure quality of the gas we inject into the Maui pipeline, we have identified some areas where we feel that gas quality monitoring could be improved. For example, we believe that some of the requirements around contaminants, Total Sulphur and unsaturated hydrocarbons could be reviewed. We welcome any opportunity to discuss this further.

6.2 Start Of Gas Day

Starting-up and shutting down of gas fields / major gas processing facilities requires unsteady-state / transitional operating modes that are recognized as being a significant hazard. We strongly prefer to execute these activities during daylight hours, which are generally not aligned to the Gas Day. We have raised this as an issue before, and it is appropriate to do so again as we consider the new Gas Code, as well as the software platform. Our preferred timing is 09:00.

6.3 Pipeline maintenance activities.

In the past, we have supported the pipeline operator in their need to execute maintenance activities (pigging, compressor outages) by agreeing to flow profiling. This has been done on a best-endeavours basis, on the assumption that there are mechanisms such that we can support these important activities provided that it does not place undue risk on our operations, or result in additional costs.

The revised code must include a mechanism to allow pipeline maintenance activities to continue, under the same or similar conditions. We have neither charged, nor been charged for, these activities in the past, yet they are for the benefit of the entire industry. We propose that we continue what we’ve enjoyed over a long period of time, were we work together to provide each other with the flexibility required for safe and efficient operation for the benefit of all parties.