

10 June 2016

Nova Energy Limited
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Submissions
Gas Industry Company Limited
By email

Re: Issues Paper – Gas Transmission Security and Reliability

As New Zealand's largest supplier of natural gas to industry and commercial customers that are critically reliant on gas supplies, Nova has a key interest in the security and reliability of the country's gas transmission pipelines.

From a conventional risk management perspective, Nova is comfortable that there are adequate structures in place at both the Gas Transmission Businesses (GTBs) and the agencies involved in monitoring the GTBs. However, the performance data that is available is relatively sparse and entirely historical in nature. It is unlikely that anyone can determine from that data if the pipelines are being operated at a level of security and reliability commensurate with market expectations.

Studies of major international disasters such as the Fukushima nuclear power station and Deep Water Horizon oil platform point to the need for new approaches to risk management¹. These propose specifically identifying lead indicators for situations where unacceptable risks might occur.

For example; there are a number of changes occurring around the pipelines operations that, on their own, give no cause for concern, but in aggregate provide a basis for taking a more proactive and forward looking perspective on the question of security and reliability. Specific factors include:

- The change of ownership and changing management structures,
- Changes in market balancing regimes and responses by shippers to those,
- Climate change impacting the potential for extreme weather events,
- Evidence of 'out of spec' construction materials being supplied within New Zealand,
- Extensive new roading works and increased vehicle axle weights (also associated with work on wind farms and forestry blocks),
- Increased use of software to control critical systems.

While Nova Energy does not suggest that any of these factors on its own is likely to result in significantly increased risks, there is always a possibility that a combination of these factors, recognised geotechnical risks and others not identified here makes the gas transmission pipelines more vulnerable to disruption.

Nova therefore recommends that Asset Management Plans should be required to include a set of suitable lead indicators that are to be published on a regular basis for providing assurance of the continued security and reliability of the system, as well a benchmark for future reviews.

Yours sincerely



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¹ A systems Approach to Risk Management Through Leading Safety Indicators. Nancy Leveson. Elsevier Journal of Reliability Engineering and System Safety

Nova Energy submission

Appendix

Responses to the issues paper

Q	Question	Comment
1.	Do you agree that the current disclosed metrics provide useful status and trend indications? If not, what information do you think is redundant or missing?	<p>The current disclosed metrics provide a picture of how well the pipelines are operating on a historic basis, however the small sample size and delayed nature of the publishing process means that they have little value from a statistical perspective i.e. determining if a result that deviates from the norm is statistically significant or not. Market participants need leading metrics if they are to understand the security and reliability of the pipelines looking forward. These include elements such as:</p> <ul style="list-style-type: none">• pressure and flow monitoring data on daily basis. This information will clearly highlight any potential issues with regarding to security and reliability of supply.• planned maintenance especially for assets that are critical i.e. compressor's and water heaters.• the number faults occurring on critical assets.• Notification of corrosion monitoring of the pipelines.
2.	Do you agree that the metrics could usefully be summarised and displayed in a 'dashboard' format, accompanied by the GTB's interpretation? Are there other improvements you would suggest?	<p>A 'dashboard' format would improve the presentation of existing data and could also help identify gaps in the analysis and provide a lead to developing new statistics. Existing lagging data does not provide an adequate signal of any potential future problems. It is preferable that there are leading indicators of future performance as discussed above.</p>
3.	Do you agree that there are strong reputational, contractual and legislative drivers for a GTB to achieve effective S&R? If not, what else do you think is needed?	<p>There are strong drivers, and Nova does not suggest that the GTB's are not incentivised to provide effective S&R.</p> <p>With the small size of the operations, however, there are relatively few experienced people involved in identifying and assessing risk factors. Disruptions and or changes to accountabilities, processes, or other elements in the oversight and operations of the pipelines can potentially lead to unintended outcomes irrespective of the best intentions of the parties involved.</p>
4.	Do you think we have correctly identified the requirements to achieve the S&R objectives? If not, what requirements are unnecessary, or missing?	<p>Nova Energy agrees that the requirements identified are satisfactory if we can always assume a 'business as usual' approach. However, the risk analysis also needs to be extended to determine the potential impact of a combination of externally driven events that could impact on gas deliverability.</p>

5.	Q5: Do you think the gap analysis is adequate? If not, what gaps have not been identified?	No, for the reasons given above.
6.	Do you think we agree that it is not necessary to mandate any security standards?	Nova Energy agrees that it would be uneconomic to impose an n-1 standard on most transmission pipelines. It would be appropriate, however, to expect the GTBs to publish the principles that they apply when determining the appropriate level of redundancy for key assets; such as compressors or control valves.
7.	Do you agree that the current AMPs are generally adequate, but missing a layer of GTB interpretation?	Yes, as for 6. Above, the information provided must be sufficient for an informed analyst to be able to assess the level of security and reliability being provided for in both the short and longer term.
8.	Do you agree that it is unnecessary for a GTB's PIMP to be disclosed?	A plan is only useful to the extent that it is used for decision making and put into action. Requiring the CTB's to publish the PIMP would not in itself lead to greater security and reliability. The PIMP should however be made available to any independent party mandated to review the overall risks related to the gas transmission system.
9.	Do you agree that there are statutory arrangements to permit scrutiny of a GTB's decisions to invest, or not invest (albeit that these arrangements have not yet been tested)?	While there are statutory arrangements in place to permit scrutiny of a GTBs decision to invest, there does not seem to be an adequate risk framework for ensuring that those decisions a commensurate with the market's need for security and reliability.
10.	Are there any aspects of the gap analysis that you do not agree with?	As described above, Nova Energy believes that the industry needs a process by which the potential for major supply disruptions is assessed, and systems put in place to indicate if the risks are increasing or warrant further analysis over time.
11.	Do you agree with our suggested action points? Are there any other actions that you believe are necessary?	We agree with the actions points suggested, and add that the extended risk analysis work be added to the reset of the GTB default price path.