



Reserves and Resources Disclosure Rules for Mining and Oil & Gas Companies

Report on Consultation Feedback

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Executive summary

On 5 October 2011, the ASX Group (ASX) commenced a comprehensive consultation process with the release of 'ASX Listing Rules Review Issues Paper: Reserves and Resources Disclosure Rules for Mining and Oil & Gas Companies' (ASX Issues Paper). The ASX Issues Paper is focused on the opportunities for updating and enhancing the reserves and resources reporting requirements applicable to ASX-listed mining and oil and gas exploration and production companies.

Following release of the ASX Issues Paper, ASX held 54 roundtables and other consultation meetings in Perth, Adelaide, Melbourne, Sydney and Brisbane during November and December in 2011 and in January 2012. ASX met with listed mining and oil and gas companies and a range of other key stakeholders including industry associations, investors, brokers, ASIC and the professionals responsible for signing-off on reserves and resources estimates. The consultation meetings sought to ensure that as many providers and users of reserves and resources information as possible had the opportunity to contribute to the consultation.

The strong level of interest in the issues under review has not only been confirmed by the significant level of participation in the consultation meetings, but with ASX having received 122 written submissions in response to the ASX Issues Paper by February this year.

Consistent with the feedback received in the consultation meetings, the written submissions are supportive of the reserves and resources reporting requirements being updated to ensure that they are aligned with international best reporting practices and that they facilitate greater consistency and transparency in reserves and resources reporting. The submissions acknowledge that transparency and consistency in reporting of these important assets is integral in promoting investor confidence and underpinning market integrity.

In addition, 18 submissions were received from a range of non-government organisations and other interested stakeholders who recommended the scope of ASX's review and consultation be extended to include measures to facilitate greater transparency around payments made to host governments. These respondents suggested that ASX should consider the introduction of mandatory requirements, similar to those being put in place under the Dodd-Frank Act in the US and those that have recently been proposed in the European Union, for the reporting of payments made by ASX-listed mining and oil and gas exploration and production companies to host governments in the jurisdictions in which they operate. It was considered that the disclosure of all payments made by extractive industry companies to host governments on a project-by-project basis would help promote better governance of natural resources and revenues to the benefit of local communities in resource rich countries where there is a high incidence of poverty. This information was also identified as being useful for investors in assessing the financial, political and reputational risks faced by particular companies.

ASX considers that the matters raised in relation to the disclosure of payments made by extractive resources companies to host governments are matters that would be more appropriately dealt with by the Australian Government, given they relate to financial reporting and concern broader public policy issues. As such, ASX will refer the matter and a copy of all relevant submissions received to the Commonwealth Treasury.

Based on the feedback received from the consultation process, ASX is proposing to:

- work with the Joint Ore Reserves Committee (JORC) to update the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (JORC Code) in a number of areas, in particular, in relation to the reporting of exploration results and targets, encouraging greater transparency in the reporting of mineral resources and ore reserves, introducing minimum level of study requirements for the announcement of maiden ore reserves and streamlining competent person sign-off requirements;
- introduce a requirement for petroleum reserves and other petroleum resources to be reported in accordance with the 'Petroleum Resources Management System' (SPE-PRMS); and

- introduce supplementary reporting requirements in Chapter 5 of the ASX Listing Rules (Listing Rules) applicable to:
 - the reporting of the key technical and other supporting information (via the inclusion of a summary of the key parameters in the announcement and the attachment of a completed Table 1 prepared on an 'if not, why not' basis) when an initial, or materially changed, estimates of Mineral Resources and Ore Reserves for a material project is publicly reported for the first time;
 - the reporting of the key technical and other supporting information when estimates of petroleum reserves, contingent resources and prospective resources are booked and reported for the first time for a material project;
 - annual reporting of mineral resources, ore reserves, petroleum reserves and other petroleum resources;
 - the reporting of production targets by listed mining companies;
 - the reporting of historical estimates of mineralisation by listed mining companies;
 - all public reporting of petroleum reserves and other petroleum resources;
 - the reporting of petroleum exploration and drilling results; and
 - the minimum professional qualifications and experience required to be a 'qualified reserves and resources evaluator' for the purpose of signing-off publicly reported petroleum reserves and other petroleum resources.

ASX is preparing draft amendments to the listing rules to reflect the proposed changes to the reserves and resources reporting requirements. An exposure draft of the proposed amendments to the listing rules is expected to be publicly released for comment mid-2012.

The remainder of this paper is divided into two parts:

- Part A: Mining Company Mineral Resources and Ore Reserves Reporting and the JORC Code; and
- Part B: Oil and Gas Company Petroleum Reserves and Resources Reporting.

Each part outlines the main feedback received from the written submissions and the consultation meetings held in late 2011 and early 2012 on each of the reporting issues under review.

ASX would like to acknowledge and thank all of the organisations (and, in particular, JORC and ASIC) and individuals who participated in, and contributed to, this important consultation process.

Part A: Mining Company Mineral Resources and Ore Reserves Reporting and the JORC Code

The ASX Issues Paper reviewed six reporting issues:

1. the disclosure of exploration results;
2. the disclosure of exploration targets;
3. the disclosure of key assumptions underpinning mineral resource and ore reserve estimates;
4. defining the level of study for a maiden ore reserve declaration;
5. the disclosure of production targets; and
6. annual reporting and reconciliation of mineral resource and ore reserve estimates.

While the consultation feedback indicates broad support for amending the reporting requirements applicable to all six reporting issues reviewed, there is very strong support for amending the reporting requirements for four of the reporting issues by way of the implementation of ASX's preferred option or implementation of one of the other options examined in the ASX Issues Paper. The four reporting issues where there has been strong support for the implementation of revised reporting requirements along the lines of what was outlined in the ASX Issues Paper are - the disclosure of exploration targets; the disclosure of the key assumptions underpinning initial, or materially changed, mineral resource and ore reserve estimates; defining the level of study for a maiden ore reserve declaration; and annual reporting and reconciliation of mineral resources and ore reserves.

With regard to the other two reporting issues - the disclosure of exploration results and the disclosure of production targets – there was considerable divergence of views as to what shape any new reporting requirements should take. In relation to the disclosure of production targets, there was almost universal support for any new reporting requirements to be included in chapter 5 of the listing rules rather than in the JORC Code. However, there was considerable divergence of views with respect to whether production targets and associated forecast financial information should be allowed to be disclosed when based solely off inferred mineral resources. It seems that the divergence in views on this issue can in part be explained by the type of mineralisation that the submission author has experience in. That is, certain styles of mineralisation (*ceteris paribus*) may provide a better basis for the disclosure of a production target based solely on inferred mineral resources than others. This issue and the feedback received on the other five reporting issues are discussed in greater detail in the remainder of this part of the paper.

Two new reporting issues arose in the course of the consultation process which ASX agrees have merit and should be progressed through this review:

- streamlining the competent person sign-off requirements for subsequent public reporting of mineral resource and ore reserve estimates; and
- removing the requirement to obtain a waiver from the listing rules to report historical estimates of mineralisation that can't be reported in accordance with the JORC Code and developing clear listing rule requirements that allow for the reporting of historical estimates.

Initiatives in these two additional areas will be aimed at enhancing regulatory efficiency and reducing unnecessary 'red-tape' for listed mining companies. A framework for the reporting of historical estimates would also be focused on supporting market integrity by ensuring that the market is fully informed of all material mineralisation held by listed mining companies. These matters will be included in the exposure draft of listing rule amendments to be released mid-year.

The other main feedback received through the consultation included strong opposition to the introduction of a requirement for the public release of a technical report supporting mineral resource and ore reserves estimates for material properties, similar to what is in place under the Canadian reporting regime.

ASX also received general commentary from a number of respondents on the governance issues relating to the supervision of compliance with the JORC Code and the lack of enforcement of the key principles of the JORC Code, in particular, in relation to 'competence'. A large number of respondents also provided general commentary on the need for, and the benefits that would be accrued from, undertaking further educational and awareness raising initiatives on the JORC Code.

While ASX does not have jurisdiction over the question of competence demonstrated by competent persons in evaluating and estimating mineral resources and ore reserves, ASX is giving consideration to the formation of a 'panel of experts', which can be called upon on an as needed basis, including in response to legitimate complaints, to provide advice to ASX regarding the adequacy of the disclosure of the key technical information supporting publicly reported exploration results and mineral resource and ore reserve estimates.

Issue 1: Disclosure of exploration results

The ASX Issues Paper examined the case for the introduction of a mandatory requirement or more explicit guidance for the disclosure of specific drill-hole and intercept information – the easting, northing, elevation, dip, azimuth, down hole width and depth, and the end of hole – when exploration results involving drilling operations are reported to the market. The ASX Issues Paper also raised the question of whether consideration should be given to requiring the disclosure of a summary of the quality of sampling and the sub-sampling techniques and sample preparation.

Consultation feedback

The feedback received on the question of whether there should be a mandatory requirement for the disclosure of the identified drill-hole and intercept information was mixed, with nearly half of the commenters supportive of a mandatory requirement. Most of the other commenters indicated that the issue would be more appropriately addressed through the introduction of explicit guidance encouraging the disclosure of the identified drill-hole and intercept information in Clauses 16 and 17, and Table 1 of the JORC Code.

While most commenters were of the view that the identified drill-hole and intercept information was generally relevant and should be disclosed when exploration results are publicly reported, a number of commenters indicated that the reporting framework should continue to provide flexibility for the competent person to determine when to report the specified information based on materiality. The main rationale for maintaining such flexibility is that for certain commodities and styles of mineralisation, in particular, bulk commodities such as metallurgical coal and iron ore involving a large number of drill-holes, such a requirement for all drill-holes would result in the disclosure of extensive data that may not be particularly useful. It was also suggested that such extensive data obscure the more relevant information on the spatial continuity and the geological context of the mineralisation.

The majority of commenters indicated that the use of clear diagrams, such as plans and cross-sections showing drill-hole locations, would provide for more useful information because it provides the geological context. There was significant support for the introduction of a mandatory requirement for the disclosure of plans and cross-sections when exploration results are reported to the market.

In relation to the introduction of a requirement for the disclosure of plans and cross-sections, some commenters suggested that guidance would need to be provided on the key features of the diagrams, in particular, in relation to the grid system used in reporting location details. It was also suggested that the relevant diagrams should clearly differentiate the new data being reported from previously reported data.

Other issues raised in the consultation include the need for a requirement for the disclosure of the type of drilling undertaken and the scope of the exploration program, including the total number of holes drilled. It was also suggested that there is a need for greater clarity in the reporting requirements that all holes which did not intersect mineralisation within, or closing off, the boundaries of the area being reported on must be reported.

There was support from a small number of commenters for a mandatory requirement for the disclosure of a summary of the quality of sampling and the sub-sampling techniques and sample preparation. Those that were supportive of such a requirement also indicated general support of a requirement for the disclosure of a brief summary of the assay and analytical techniques used. Overall, the feedback in this area seemed to suggest that that these issues should only be reported on a materiality basis.

Issue 2: Disclosure of exploration targets

The ASX Issues Paper examined the case for the introduction of additional requirements for the inclusion of a cautionary statement that has the same prominence as, and is located proximate to, the stated exploration target in a public report. It was proposed that the 'same prominence' would be defined as the same font size and type as the stated exploration target and that 'proximate location' would be taken to mean that the cautionary statement must be in the same paragraph or immediately following the reported exploration target. As such, the inclusion of a cautionary statement by way of a footnote or a general disclaimer at the end of the public report would not satisfy the requirement.

Consultation questions were posed asking whether consideration should be given to either prohibiting the disclosure of exploration targets altogether or prohibiting the disclosure of the quantity of an exploration target in the headline statement of a market announcement.

The ASX Issues Paper also proposed that the disclosure rules and/or associated guidance applicable to the reporting of an exploration target be amended to provide greater clarity around what encompasses an exploration target and the supporting information that should be disclosed when an exploration target is publicly reported.

Consultation feedback

Almost all commenters provided strong support for retaining the ability for companies to report exploration targets to the market. The ability to report an exploration target was considered an important element in communicating a company's strategic priorities and provided the basis for justifying exploration expenditure and investment in a new project. It was emphasised that exploration targets can be material information, particularly for exploration mining companies, which are often primarily valued on their potential for discoveries. It was also suggested that exploration targets and the data used to support them was information that investors and their advisors are interested in and, as such, any move to prohibit the disclosure of exploration targets could have the consequence of increasing the risk of selective disclosure.

While there was overwhelming support for retaining the ability to report exploration targets, there was also strong support from most commenters for tightening the requirements for the inclusion of a cautionary statement and ensuring that appropriate qualifications were included in the public report to minimise the potential for such disclosures to be misinterpreted.

In relation to the inclusion of a cautionary statement, strong support was expressed for the introduction of a clear requirement for the cautionary statement to be included with the 'same prominence' and in a 'proximate location' to the reported exploration target as proposed in the ASX Issues Paper. However, a number of commenters considered that where an exploration target is reported more than once in a public report, there should be the ability to cross-reference the initial cautionary statement each time the exploration target is subsequently referred to in the same report.

A large number of commenters were also supportive of the introduction of a prohibition against including the quantity of an exploration target in the headline statement of a market announcement. This was on the basis that it would be difficult to adequately qualify the uncertainty associated with the targeted mineralisation in a headline statement.

In the context of ensuring publicly reported exploration targets are appropriately qualified, a number of commenters suggested the introduction of a mandatory requirement for the use of the term 'conceptual exploration target' when exploration targets are reported.

In relation to the question of why there continued to be a lack of compliance with Clause 18 of the JORC Code in the reporting of exploration targets, some commenters indicated that it was partly the result of there being a lack of guidance on what an exploration target was intended to cover and what it should be based on. The feedback indicated that there was some confusion as to whether an exploration target was intended to be a largely aspirational target that is announced prior to the commencement of an exploration and drilling program or whether the target should be based on preliminary data, albeit with a limited knowledge base, and announced after the commencement of the exploration program and drilling campaign. Some commenters also indicated that the restrictions that applied to the reporting of historical estimates that could not be reported in accordance with the JORC Code had also lead to companies using Clause 18 to report historical estimates of mineralisation that were considered to be material to the company.

There was significant support from commenters for amending the reporting requirements and introducing additional guidance to facilitate improved disclosure practices in this area. In this context, various submissions suggested that requirements for the disclosure of the following information to support reported exploration targets should be considered:

- the basis for the exploration target and the assumptions underpinning the reported target, including the nature of geological data (if any) underpinning the target;
- a summary of the exploration program, including information on whether it is budgeted and funded, and details as to the timing and schedule for exploration; and
- a brief summary of the method used to estimate the target size (range) of mineralisation.

A number of commenters also suggested that consideration should be given to introducing a requirement for competent person sign-off for the reported exploration target.

Issue 3: Disclosure of key assumptions underpinning mineral resource and ore reserve estimates

The ASX Issues Paper examined a range of options for facilitating greater transparency across the industry of the key assumptions and other key technical information underpinning mineral resource and ore reserve estimates when an initial, or materially changed, mineral resource or ore reserve estimate is reported to the market for the first time.

The ASX Issues Paper examined four options for promoting greater transparency of information underpinning mineral resource and ore reserve estimates by way of the introduction of a mandatory requirement for the disclosure of:

- a summary of information relating to a prescribed subset of items from Table 1 and any other items from Table 1 that are material to understanding the reported estimates. While a subset of items from Table 1 were put forward for comment, it was suggested that these would vary depending on whether mineral resource or ore reserves estimates were being reported;
- all the key assumptions relied on in the relevant study undertaken;
- a completed Table 1 report with companies having the ability to indicate that particular items in Table 1 are not relevant or material to understanding the relevant estimates for the specific project. However a brief explanation would be required for each item for which reporting is not relevant or material; and
- a technical report similar to that required under NI 43-101 in Canada.

While a requirement for a technical report similar to that required under the Canadian regime was not ASX's preferred option, ASX considered that there was merit in examining and undertaking consultation on such a requirement. This was on the basis that the requirement for a technical report is such an important element of the Canadian reserves and resources reporting regime, and because it had been raised with ASX by some stakeholders. The ASX Issues Paper posed a number of consultation questions seeking feedback on: the appropriateness of the subset of items from Table 1 identified for mandatory disclosure; the likely effectiveness of an 'if not, why not' reporting requirement for all of Table 1; the areas where there are likely to be commercial sensitivities; and the compliance costs for companies associated with a requirement for the disclosure of a technical report.

Consultation feedback

A significant majority of commenters expressed strong opposition to the introduction of a requirement for the public release of a technical report similar to that required under NI 43-101 in Canada.

For the most part, commenters considered that the significant compliance costs associated with such a requirement would exceed the likely benefits for investors. This assessment was based on the following arguments:

- technical reports are not particularly accessible to, and useful for, investors because they are long and cumbersome documents detailing very technical information. In this context, some respondents were of the view that this level of detail can obscure material information;
- the need to provide for a delay between the announcement to the market of the relevant mineral resource and ore reserve estimates and the public release of the technical report. This is to ensure the completion of the technical report does not result in a delay in information subject to the continuous disclosure regime being disclosed to the market. Most commenters were of the view that the key technical and other information underpinning a mineral resource and ore reserve announcement should be disclosed at the time that the estimate is announced, which is when investors would be expected to be making investment decisions; and
- the prescriptive information requirements for a technical report under the Canadian reporting framework are somewhat impractical given the inherent diversity between different commodities, deposit types and mineralisation styles for which the reporting requirements are applicable. It was also suggested that this type of approach risked material information for projects and properties not being disclosed.

However, a small number of commenters were supportive of the introduction of a requirement for a technical report similar to that in place in Canada. These commenters argued the requirements under the Canadian reporting framework had led to a general increase in both the quality of reports and the level of transparency of the key technical and other information underpinning mineral resource and ore reserve estimates. It was also suggested that an NI 43-101 compliant technical report had global brand power.

While there was minimal support for the introduction of a technical report requirement, many commenters acknowledged the need for increased transparency and consistency in the reporting of the key technical and other information underpinning mineral resource and ore reserve estimates across the industry. In this context, a significant number of commenters expressed support for the introduction of a mandatory requirement for the disclosure of a summary of information relating to a prescribed subset of items from Table 1 and any other items from Table 1 that are material to understanding the reported estimates.

A significant number of commenters also expressed support for the introduction of a mandatory requirement for the disclosure of a completed Table 1, which could be completed on an 'if not, why not' basis. It was suggested that the benefit of both approaches was that they are underpinned by the JORC Code and existing reporting framework.

However, some commenters were of the view that the JORC Code already provided for adequate disclosure and that additional measures were not required.

A number of commenters considered that a mandatory requirement for the disclosure of a summary of information relating to a prescribed subset of items from Table 1 (including any other items from Table 1 that are material to understanding the reported estimates) achieved an appropriate regulatory balance in terms of company compliance costs and in delivering greater consistency and transparency in reporting across the industry. The other main feedback that was received on this option included:

- a number of commenters considered that the subset of items identified in the ASX Issues Paper generally represented the key information that should be reported on;
- some commenters suggested additional items that should also be reported on: data quality and integrity; assaying techniques; compositing methods and lengths; top-cuts assigned to each element; density assumptions and how they were derived; mill recoveries; all losses and dilution; processing recovery factors; for open pit mines, the ore to waste ratio environmental; transport infrastructure; and permitting and land tenure;
- some commenters were of the view that the subset of items were a little too skewed towards geology and did not focus enough on engineering;
- it was generally considered that if this approach to reporting was to be implemented, two separate subsets of items from Table 1 would need to be introduced – one applicable to the reporting of mineral resource estimates and the other applicable to the reporting of ore reserves estimates;
- in relation to the reporting of ore reserve estimates, one commenter suggested that consideration should be given requiring a company to test the ore reserves using three-year average current pricing to ensure it is economic and to disclose the fact that it was economic at the time of reporting using such a price assumption;
- a number of commenters expressed concern regarding a potential unintended consequence of introducing a mandatory requirement for reporting against a subset of items from Table 1 (and any other items from Table 1 that are material to understanding the reported estimates). These commenters were concerned that competent persons and companies may end up taking a ‘tick-the-box’ approach and only give consideration to, and report against, the subset without focusing on all of Table 1. However, some respondents were of the view that this potential unintended consequence could be minimised by ensuring that the reporting requirement clearly sets out the obligation to report on any other items that are material to understanding the reported estimates; and
- a number of commenters expressed concern about any proposal for a mandatory requirement for the cost and revenue factors to be disclosed as this was commercially sensitive information and its public release would disadvantage existing shareholders.

A significant number of commenters were of the view that a mandatory requirement for the disclosure of a completed Table 1 (on an ‘if not, why not’ basis) would address concerns about competent persons and companies not adequately engaging with all of Table 1. They also believed that it would likely be effective in improving transparency in reporting and allow greater scrutiny by investors and peers. However, there were some commenters that were not supportive of this option on the basis of one or more of the following:

- the potential compliance costs for companies preparing documentation covering all of Table 1 to a standard for public release for all public reports of initial, or materially changed, mineral resource and ore reserve estimates the first time they are reported. However, a number of other commenters were of the view that the compliance costs would not be significant because companies should already have the information internally for the purpose of estimation;
- reporting based on Table 1 could potentially lead to the disclosure of information that is not material to understanding the reported estimates; and
- the ‘if not, why not’ approach to addressing the items in Table 1 would likely lead to the reporting of information that was neither material nor relevant to understanding the estimates.

Other feedback received on improving disclosure of the key assumptions and technical information underpinning first time public reporting of initial, or materially changed, mineral resources and ore reserves was that:

- consideration should be given to the introduction of a requirement for companies to form a 'resources and reserves committee' comprising directors of the company. It was suggested that the committee should have a similar function to that of the audit committee and should be required to sign-off on material mineral resource and ore reserve estimates and announcements;
- consideration should be given to the introduction of a mandatory requirement for the competent person to attest (in the competent person statement) that all of the matters in Table 1 had been considered in determining the relevant estimates and in signing-off on the content of the public report;
- a definition or guidance should be provided on what a material change in a mineral resource/ore reserve estimate is in terms of a percentage change in tonnage and a percentage change in grade for the purpose of triggering additional reporting; and
- there seemed to be greater (but not universal) support for a requirement to have all assumptions and information published in the one report rather than allowing cross-referencing on the basis that it would be less confusing and more accessible for investors. It was also suggested that such a requirement would minimise the chance that the company could miss something.

Issue 4: Defining the level of study for a maiden ore reserve declaration

The ASX Issues Paper examined the case for the introduction of a requirement for the completion of a preliminary feasibility study, at a minimum, to support a maiden ore reserve declaration. The ASX Issues Paper also proposed a definition for the term 'scoping study', and that the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) definitions for a 'preliminary feasibility study' and 'feasibility study' be adopted in the reporting framework.

Consultation feedback

The majority of commenters expressed support for the introduction of a requirement for the completion of a preliminary feasibility study, at a minimum, to support a maiden ore reserve declaration. A number of those who were supportive were so on the basis that it was consistent with their internal processes for declaring maiden ore reserves. Completing a preliminary feasibility study was also generally considered necessary in providing the basis and confidence for declaring a maiden ore reserve by a number of commenters.

However, a number of commenters indicated that while they were generally supportive of, at least, a preliminary feasibility study being undertaken in the process of estimating maiden ore reserves, they were not supportive of the introduction of a mandatory requirement. They considered that it should be the responsibility of the company, in consultation with the competent person, to determine the appropriate level of study based on the scale and complexity of the project and on the company's other operations.

Some commenters indicated that in some instances a preliminary feasibility study may not be necessary, for example, for extensions to existing operations and where an operating mine is to be utilised for a satellite deposit for additional mill feed. In these circumstances, it was suggested that a life of mine plan for an existing operation could be relied on.

In relation to the proposed definitions, there was strong support from almost all commenters for the adoption of the CRIRSCO definitions of preliminary feasibility study and feasibility study to promote greater international harmonisation. There was also strong support for the adoption of the definition of scoping study as proposed in the ASX Issues Paper. A large number of commenters emphasised the importance of introducing definitions for the various level of study if a preliminary feasibility study requirement was to be introduced. This reflects the significant variation in interpretations across the industry in relation to what is covered by, and the accuracy level of, a preliminary feasibility study.

Furthermore, some commenters suggested the need for the definitions of the different levels of study to incorporate the level of accuracy for the relevant study, with the following suggestions provided:

- scoping study – a level of accuracy of +/- 30 to 40%;
- preliminary feasibility study – a level of accuracy of +/- 20 to 25%; and
- feasibility study – a level of accuracy of +/- 10 to 15%.

It has also been suggested that consideration should be given to the introduction of a requirement for the disclosure of who completed the preliminary feasibility study. In addition, it was suggested that the provision of non-prescriptive guidance on what should be addressed in a preliminary feasibility study could facilitate greater consistency across the industry of the main elements to be covered in such studies.

Issue 5: Disclosure of productions targets

The ASX Issues Paper examined the case for the introduction of reporting requirements applicable to the reporting of production targets, and forecast financial information derived from production targets, to address concerns that have emerged in the market regarding the basis for some publicly reported production targets, and to improve disclosure practices in this area.

The ASX Issues Paper examined three options for facilitating improved disclosure of production targets. All options proposed requirements for the disclosure of the key assumptions, key risks and qualifications, and the basis for the production target. The differences between the three options relate to the level of geological confidence of the underlying resources required for the disclosure of a production target.

Option 1 proposed that a prohibition be introduced relating to the disclosure of a production target based solely on an exploration target (i.e. a company must have mineral resources and/or ore reserves as defined under the JORC Code). Option 2 proposed the introduction of a prohibition of the disclosure of a production target that includes or is partially based on an exploration target. Option 3 proposed the introduction of a prohibition of the disclosure of a production target that is solely based on inferred mineral resources (or a combination of inferred mineral resources and an exploration target) in a greenfield project.

The ASX Issues Paper identified option 1 as the preferred option on the basis that it largely takes a disclosure-based approach to the issue and relies on the company to determine when it has a reasonable basis to disclose a production target with regard to its obligations under the *Corporations Act 2001* (Corporations Act) and its own circumstances. When a company determines that it has a reasonable basis to disclose a production target, it is proposed that the listing rules would set out the supporting information that must be disclosed to enable investors to understand and assess the basis and reliability of the stated production target.

ASX's preferred option seeks to achieve the appropriate balance between:

- minimising the potential for the disclosure of misleading information; and
- not preventing the disclosure of information where the company has determined it has a reasonable basis and where it may have a material effect on the price or value of the company's securities.

ASX considers that an appropriate balance is largely achieved by requiring greater disclosure of the basis of the production target and the inclusion of relevant qualifications and cautionary statements highlighting the level of geological uncertainty associated with the underlying resources.

Consultation feedback

The vast majority of commenters considered that it would be more appropriate to introduce any new reporting requirements applicable to the disclosure of production targets through chapter 5 of the listing rules rather than in the JORC Code. This is on the basis that the JORC Code is a code for the classification of mineralisation and the reporting of exploration results and volume estimates of mineral resources and ore reserves. It is not a code for the development or production or valuation of mineral resources and ore reserves.

Overall, there was considerable support for ASX largely taking a disclosure-based approach to addressing this issue in the listing rules by focusing any new requirements on the disclosure of the key information underpinning the production target to facilitate greater transparency of the (reasonable) basis for the reported target.

However, while commenters were generally supportive of the introduction of this new requirement, a number of commenters emphasised the need for such a requirement to be focused on production targets with a longer time horizon and those that are based on resources with a lower level of geological confidence. The rationale for this is that the additional disclosure required should be scalable and proportionate to the risks and level of geological uncertainty associated with the production target to manage compliance costs. In this context, it was suggested that any new reporting requirements should only apply to longer term production projections and should not apply to short-term production guidance (which could be defined as production guidance provided for within the next two years). This was on the basis that short-term production guidance would generally be underpinned by ore reserves and operating mines or advanced properties with operations soon to be commenced.

In relation to the disclosure of the key assumptions underpinning the production target, a large number of commenters expressed concern regarding the commercial sensitivity of their financial assumptions. In particular, a number of commenters indicated that any new reporting requirements would need to take account of commercially sensitive information, especially relating to commodity price (particularly in certain commodities), capital expense and operating expense assumptions. To not do so may disadvantage existing shareholders.

Almost all commenters supported the introduction of a prohibition of the disclosure of a production target based solely on an exploration target as there were no circumstances they could envisage where a company would have a reasonable basis for such a disclosure.

As to whether a production target that includes or is partially based on exploration potential should be allowed to be publicly reported, a number of commenters expressed support for prohibiting the disclosure of a production target that is partially based on an exploration target. They considered that there was too great a level of uncertainty associated with the exploration target and that the inclusion of an exploration target in a production target had the potential to confuse investors. However, the majority of commenters did not support prohibiting the disclosure of a production target that included some exploration potential where the production target was supported by a combination of mineral resources and ore reserves.

There was considerable divergence of views as to whether the disclosure of a production target that is based solely on inferred mineral resources (or a combination of inferred mineral resources and an exploration target) should be prohibited. Around half of the commenters indicated that they didn't support the introduction of such a prohibition as they considered that there were circumstances where a company could have a reasonable basis to disclose a production target based solely on inferred mineral resources. These circumstances included:

- a producer with inferred mineral resources in nuggety gold or nuggety tin, where some commenters indicated that it was extremely difficult (if at all) to convert the resources to indicated;
- some bulk commodities, such as, coal, iron ore and bauxite, where large tonnages, a relatively uniform style of mineralisation is involved and many years of drilling is required to convert the resources to indicated or measured; and
- an ASX-listed company in a joint venture with a private foreign company which commenced the development of a mine on a greenfield property with inferred mineral resources. The decision to commit the funds to develop the mine was based on the completion of a feasibility study. The ASX-listed company determined that it had an obligation under the continuous disclosure regime to disclose the production target and the results of the feasibility study.

Given there may be circumstances where a company may have a reasonable basis for a production target based solely on inferred mineral resources, the unintended consequences of introducing a prohibition would be that the market may not be fully informed of material information for a company. It was also suggested that such a prohibition would likely lead to a gap emerging between what is publicly reported and what is privately presented (i.e. creating a problem of selective disclosure). A number of commenters also considered that prohibiting the disclosure of a production target based solely on inferred mineral resources would make it more difficult for junior mining companies to raise the finance required to fund the next stage of project development.

Another potential unintended consequence that was identified was that in certain jurisdictions companies with early stage projects may be expected to disclose a production profile in order to justify a change in lease type, for example, from an exploration lease to a retention lease.

However, a number of commenters expressed support for prohibiting the disclosure of a production target based solely on inferred mineral resources based on the low level of geological confidence of the resources and the potential for such disclosure to mislead investors.

The wide divergence in views can in part be explained by the type of mineralisation that the submission author has experience in. It seems that certain styles of mineralisation (*ceteris paribus*) may provide a better basis for the disclosure of a production target based solely on inferred mineral resources than others.

There was very little support for requiring competent person sign-off for publicly disclosed production targets. The vast majority of commenters (both professionals that perform the role of competent person and companies alike) considered that production targets were the responsibility of directors and company officers, particularly as a production target involves inputs from a number of disciplines, which is beyond the scope of expertise of a competent person.

Issue 6: Annual reporting and reconciliation of mineral resources and ore reserves

The ASX Issues Paper examined the case for the introduction of a requirement for companies to report, in their annual report or in a separate document cross-referenced in, and released concurrently with, their annual report, on:

- the results of their annual review of mineral resources and ore reserves; and
- their aggregated holdings of mineral resources and ore reserves as at company balance date.

The ASX Issues Paper also proposed the introduction of a requirement for the disclosure of a reconciliation of the aggregated mineral resource and ore reserve holdings with that from the previous year.

The ASX Issues Paper posed a number of questions seeking feedback on:

- whether these proposals would involve significant compliance costs for companies;
- the implications of the aggregated mineral resources and ore reserves information being required to be reported as at the company's balance date;
- whether it is appropriate for the reporting company to determine the level of disaggregation in reporting based on materiality; and
- the items to be covered by, and the form that, the reconciliation should take.

Consultation feedback

The vast majority of commenters were supportive of the proposal for mandatory annual reporting requirements for the disclosure of the results of a company's review of its mineral resources and ore reserves and its aggregated holdings of mineral resources and ore reserves.

There was also broad support for a requirement for an annual reconciliation of a company's aggregated mineral resources and ore reserves with the estimates from the previous year. This would require companies to identify material changes resulting from: mining; acquisitions and divestments; discoveries; movements between resource/reserve classifications and categories; and technical revisions. A number of commenters indicated that the term reconciliation was generally used in the industry to refer to a production reconciliation. It was suggested, for the purpose of comparing aggregated mineral resources and ore reserves against the previous year, that a different term be used, such as, 'annual resource balance'. In terms of the format that the reconciliation should take, the majority of respondents considered that it should not be prescribed, but that the company should be able to determine the most effective way to communicate the relevant information. However, others indicated that a tabular format would provide for greater consistency in reporting.

While almost all commenters were supportive of companies disclosing their updated mineral resource and ore reserves holdings annually, a number expressed concern in relation to the proposal for the mineral resources and ore reserves to be reported as at the company's balance date. This was on the basis that some companies chose (for legitimate business reasons) to undertake their corporate planning cycle and the annual review of their mineral resources and ore reserves at a different time of the year. It was also suggested that a mandatory requirement for annual reporting as at the company's balance date would likely lead to companies that do not have internal resources difficulty engaging external competent persons at the end of the financial year.

The majority of commenters expressed support for companies determining the level of disaggregation in reporting based on materiality as it was the most effective way to manage compliance costs for large companies.

The majority of commenters believed that the proposed annual reporting requirements would not involve significant compliance costs for companies because companies should already be tracking this information internally. Although this was contingent on issues around reporting as at the company's balance date being addressed and companies being able to determine the level of disaggregation in reporting based on materiality.

There was greater support for a requirement that the annual resources update and reconciliation be included the annual report, rather than in a separate document, on the basis that it is more accessible to investors.

Additional issues being considered in the review

Streamlining Competent Person sign-off

Throughout the consultation meetings, a number of listed companies raised the issue of the administrative burden of being required to obtain competent person sign-off every time previously reported exploration results and estimates of mineral resources and ore reserves are subsequently referred to in public reports, including investor presentations.

ASX considers that there is merit in working with all stakeholders to enhance regulatory efficiency in this area by streamlining the competent person sign-off requirements. It is proposed that the requirement for competent person sign-off should continue to apply to a company's annual mineral resources and ore reserves reporting, and when exploration results and estimates of mineral resources and ore reserves (and materially changed estimates) are reported to the market for the first time. However, subsequent public reporting of the same exploration results and estimates of mineral resources and ore reserves would not need competent person sign-off provided that:

- the public report cross-references the original announcement with all material supporting information and the competent person sign-off; and
- all material assumptions and technical parameters underpinning the exploration results and estimates of mineral resources and ore reserves continue to apply and remain unchanged.

Reporting historical and foreign estimates of mineralisation

As discussed under the section of the paper on the disclosure of exploration targets, a number of commenters identified the restrictions on reporting historical and foreign estimates of mineralisation that can't be reported in accordance with the JORC Code as one of the reasons why companies were inappropriately using Clause 18 of the JORC Code.

ASX considers that there is merit in removing the requirement for companies to obtain a waiver from the listing rules to report historical and foreign estimates of mineralisation that can't be reported in accordance with the JORC Code and developing listing rule requirements to allow for the reporting of these estimates.

In developing the new listing rules applicable to the reporting of historical and foreign estimates, ASX will consider the main elements of the joint ASX and JORC Companies Update 11/07 and the reporting requirements applicable to reporting such estimates in other relevant jurisdictions. ASX will also undertake further consultation on this matter with listed companies and other key stakeholders.

ASX considers that the development of a reporting framework for historical and foreign estimates is not only aimed at improving regulatory efficiency, but is an important initiative supporting market integrity by ensuring that the market is fully informed of all material mineralisation held by listed mining companies.

Part B: Oil and Gas Company Petroleum Reserves and Resources Reporting

The ASX Issues Paper reviewed seven reporting issues:

1. the adoption of standardised petroleum resources definitions and a comprehensive classification system;
2. general reporting requirements for the reporting of reserves and other resources;
3. annual reserves and resources reporting requirements;
4. reporting of exploration and drilling results;
5. disclosure of key assumptions underpinning reserves and resources estimates;
6. disclosure of production targets; and
7. qualified reserves and resources evaluator requirements.

The feedback from the consultation has demonstrated overwhelming support for ASX updating the reporting framework for petroleum reserves and other petroleum resources under the listing rules. In this context, there was strong support for the adoption of the 'Petroleum Resources Management System' (SPE-PRMS) in the new reporting framework.

The consultation feedback also acknowledged the need for developing general and other specific reporting requirements to supplement SPE-PRMS given it is an internal project management tool and not a reporting guideline.

The consultation provided strong support for the proposal to remove the guidance in Guidance Note 8 'Continuous Disclosure: Listing Rule 3.1' related to regular reporting on drilling progress so that it is clearer that companies are only required to report on progress in drilling programmes under listing rule 3.1 when the information would be expected to have a material effect of the price or value of the entity's securities.

The consultation has also demonstrated strong support for the listing rules continuing to set out the minimum professional qualifications and experience required to be recognised as a 'qualified reserves and resources evaluator' for the purpose of signing-off on publicly reported estimates of petroleum reserves and other petroleum resources.

The feedback received indicates broad support for a large number of the proposed general and annual reporting requirements. There was also support for requirements for the disclosure of key technical and other information related to the disclosure of a booking of petroleum reserves and other petroleum resources estimates for material projects as set out in the ASX Issues Paper.

However, all parties emphasised that any new reporting requirements must take into account the need to protect commercially sensitive information to ensure that Australian listed oil and gas exploration and production (E&P companies) companies are not at a competitive disadvantage to large global oil and gas companies not subject to the same disclosure requirements. In this regard, strong opposition was expressed in relation to any requirements for commodity price assumptions underpinning reserve and resource estimates to be disclosed. It was contended that such a requirement would compromise the ability of E&P companies to negotiate with third parties.

In relation to the disclosure of production targets, feedback suggests that the issues of concern which have emerged in relation to the reporting of such targets in hard minerals are not, at this stage, a significant problem in the petroleum industry. However, this is an area that ASX will continue to monitor and, if it becomes evident that a significant problem is emerging, ASX may seek to introduce listing rule requirements at a later stage.

A reporting issue that arose during the course of the consultation process that ASX is giving consideration to relates to the reporting of unconventional resources and whether they are reported under SPE-PRMS or the JORC Code. It is understood that there is not a consistent approach regarding whether unconventional resources are required to be reported under SPE-PRMS or the JORC Code across the various pieces of State and Territory legislation. As such, some companies report their unconventional resources under SPE-PRMS to the market, while others report in accordance with the JORC Code. It was suggested that the ASX should consider addressing this issue for the purpose of market disclosure to reduce the potential for investor confusion.

The main feedback received on each of the reporting issues examined in the ASX Issues Paper is discussed in the remaining pages of this paper.

Issue 1: The adoption of standardised petroleum resources definitions and a comprehensive classification system

The ASX Issues Paper proposed to update the petroleum resources definitions and introduce a comprehensive petroleum resources classification system under the listing rules through the adoption of SPE-PRMS. It was proposed that the introduction of a requirement for companies to classify and report their petroleum resources in accordance with a single set of definitions and guidelines would provide for a better understanding of petroleum resources by investors and minimise the potential for investor confusion about terminology. The adoption of SPE-PRMS in the reporting framework would also align the reporting framework with industry-developed standards and guidelines that have been widely adopted by the industry and would assist in managing compliance costs.

Consultation feedback

Almost all commenters expressed strong support for the introduction of a requirement for E&P companies to report petroleum reserves and other petroleum resources in accordance with SPE-PRMS.

Overall, commenters were of the view that it was timely to adopt SPE-PRMS given it is now widely used for internal resource management by many companies globally. Commenters were also supportive of the adoption of SPE-PRMS in the reporting framework as the petroleum resources definitions included in SPE-PRMS are now broadly aligned with those encompassed in the reporting regimes in other major listing markets.

A large number of E&P company commenters indicated that requiring reporting in accordance with SPE-PRMS would not lead to significant additional compliance costs because their company already used SPE-PRMS internally. However, it was acknowledged that additional compliance costs could be incurred by those companies that do not currently use SPE-PRMS.

Issue 2: General reporting requirements for the reporting of reserves and other resources

Since SPE-PRMS is a principles-based project management system for petroleum resources and is not a set of reporting guidelines, the ASX Issues Paper proposed the development of a regulatory framework and minimum reporting requirements applicable to the reporting of petroleum resources under the listing rules to complement SPE-PRMS. The ASX Issues Paper set out a number of general requirements applicable to all public reporting of petroleum resources to facilitate greater consistency in reporting. The proposed general reporting requirements were also aimed at minimising the potential for investor confusion in relation to the main risks and uncertainties associated with the different classes and categories of petroleum resources.

Consultation feedback

The majority of commenters acknowledged the need for ASX to implement an appropriate reporting framework in conjunction with the adoption of SPE-PRMS in order to promote greater consistency in companies' public reporting of petroleum resources. There was broad support for the majority of proposals to update the general reporting requirements applicable to all public reporting of petroleum reserves and other petroleum resources. In particular, the majority of commenters provided broad support for:

- prohibiting the use of the term 'reserves' in any context other than the reporting of estimates of commercially recoverable quantities of petroleum. Further, it was suggested that ASX should consider requiring that reserves have a high level of confidence of commercial producibility and that there be 'reasonable certainty' of commercial producibility in relation to 1P reserves;
- requiring estimates of petroleum resources to be reported according to the most specific resource class (i.e reserves or contingent resources or prospective resources) and the most specific reserve category (i.e 1P, 2P, 3P or the equivalent incremental quantities) or contingent resource category (i.e. 1C, 2C, 3C) or prospective resource category (low estimate, best estimate, high estimate);
- requiring the disclosure of 1P and 2P reserves if 3P reserves are reported and, similarly, requiring the disclosure of 1C and 2C contingent resources and the low and high estimates of prospective resources if 3C contingent resources and a high estimate of prospective resources are reported. While commenters considered that there were circumstances where 1P reserves may be zero, there was broad support for requiring the disclosure of the fact that 1P reserves were zero and for requiring the disclosure of a brief explanation of why this was the case for material accumulations or projects;
- prohibiting the disclosure of a mean estimate of reserves and contingent resources. A number of commenters considered that the mean estimate of prospective resources was useful information for investors, especially given it is one of the main parameters used internally by companies to characterise prospects. There were mixed views regarding the need for a requirement for the mean estimate to be disclosed in conjunction with the probability that the quantities actually recovered will equal or exceed the mean estimate. Some commenters also suggested that the company's assessment of the chance of discovery and the chance of development should also be required to be disclosed when estimates of prospective resources were publicly reported;
- requiring the inclusion of a cautionary statement that is proximate to, and of the same prominence as, reported estimates of prospective resources highlighting the risks and uncertainties associated with those estimates. There was also broad support for requiring the inclusion of a cautionary statement requirement along the lines of 'the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons'. However, it was argued that reports filled with cautionary statements were not reader friendly. It was suggested that the cautionary statement should be required to be proximate to, and of the same prominence as, the reported prospective resources the first time the resources are stated in the public report, but that consideration should be given to allowing the cautionary statement to be included via a footnote for subsequent references to the prospective resources in the report;
- allowing reserves and other resources to be estimated using either deterministic (incremental or scenario method) or probabilistic methods. There was also broad support for a requirement that, if probabilistic methods are used, publicly reported estimates can only be aggregated probabilistically up to the field, property or project level. Further aggregation beyond this should generally be by simple arithmetic summation by category. It was suggested that consideration be given to requiring the disclosure of the method of aggregation used and requiring the inclusion of a statement cautioning that 1P aggregated reserves may be conservative and 3P aggregated reserves may be optimistic due to the portfolio effects of arithmetic summation. It was also suggested that consideration should be given to requiring the arithmetic summation total to be noted when estimates are reported using probabilistic aggregation. This is to ensure that the effect of the different aggregation methods can be assessed; and

- requiring the disclosure of the conversion factor used to convert gas to oil or oil to gas when estimated reserves and other resources are reported in units of equivalency between oil and gas. It was also suggested that ASX should consider requiring the disclosure of the units of equivalency for energy units used, such as the petajoules equivalent.

A number of commenters raised concerns regarding aspects of some of the proposed general reporting requirements:

- the requirement for reserves and resources estimates to be reported on a net working interest basis, based on the company's beneficial interest in the relevant reserves and other resources after the deduction of royalties. The majority of commenters indicated that such requirements would need to take into account the different fiscal regimes for royalties such that where the royalties are effectively a tax to be paid in cash and where this payment is recorded as a liability in the financial statements, they should not be deducted from the reserves and other resources estimates. A number of commenters also suggested that the requirements should allow for the reporting of interests under production sharing contracts and international risk sharing contracts (but not in relation to pure risk service contracts). In relation to international risk sharing contracts, it was suggested that in the circumstances where a company receives a revenue stream rather than a production entitlement, any new rules should allow for the booking of reserves or resources on the volume basis of the revenue entitlement. A number of commenters also suggested that the reporting requirements would also need to address the issue of volume-based private overriding royalties;
- the requirement for reserves and contingent resources estimates to be reported as at the reference point which is the first custody transfer point. The majority of commenters indicated that such a requirement could involve significant compliance costs for companies as industry practices vary as to the valuation point. It was suggested that it would be more appropriate to require disclosure of the reference point used by the company in estimating the relevant reserves and contingent resources; and
- the requirement for reserves and contingent resources estimates to be reported net of lease fuel. Notwithstanding the SPE-PRMS guidelines on this issue, some commenters did not support a requirement to report net of lease fuel on the basis that a number of major gas-producing companies reported fuel consumed in their operations as reserves. It was argued that requiring companies to note the proportion of the estimates that are expected to be used as fuel in operations would provide adequate transparency. However, the majority of commenters were supportive of requiring reserves and contingent resources estimates to be reported net of fuel, flare and vent up to the reference point.

In relation to the commodity price assumptions underpinning reserves, the majority of commenters were supportive of ASX's approach of allowing companies to use either contract prices or their own reasonable forecast of future prices. This was on the basis that prescribed current pricing (such as that used under the SEC reporting regime) would not align with the pricing assumptions used internally by companies for planning purposes, investment decisions and other transactions. As such, requiring companies to report using prescribed pricing assumptions would require companies to operate more than one set of estimates of reserves. However, there was some support for requiring estimates to be reported using prescribed current pricing. This was on the basis that it provides consistency and comparability in reporting across companies. It was suggested that if reserves could be reported using other 'reasonable' forecasts, there should be a requirement to disclose the basis for those forecasts.

Almost all commenters were supportive of the approach proposed by ASX regarding the listing rules not prescribing specific testing requirements for the purpose of confirming commercial producibility of a known accumulation and assigning reserves. It was considered that technology used to demonstrate commercial producibility is constantly evolving and that there are circumstances where reserves can be assigned without direct evidence of commercial producibility from production or formation tests. There was also broad support for requiring the disclosure of the basis for assigning reserves in relation to material fields or projects if no production or formation testing had been undertaken.

Issue 3: Annual reserves and resources reporting requirements

The ASX Issues Paper proposed introducing a mandatory requirement for the annual reporting of company level reserves and other aggregated reserves information, including a reconciliation against the estimates from the previous year, as at the company's balance date. In addition, it was proposed that a requirement be introduced for companies to annually report on the governance arrangements and internal controls, including the frequency and scope of any reviews or audits undertaken, relating to its reserves and resources estimates and the estimation process more generally.

The ASX Issues Paper canvassed a range of reporting proposals and posed a number of questions on the level of aggregation and the breakdown of reserves and resources information that should be required to be reported annually. The main areas of focus were:

- whether the annual mandatory reporting requirements should only apply to 1P and 2P reserves, with the reporting of 3P reserves and 2C contingent resources remaining voluntary;
- whether company level and other aggregated reserves data should be required to be broken down and reported according to whether they are developed or undeveloped reserves;
- whether material unconventional resources should be separately identified; and
- whether a requirement should be introduced for the annual disclosure of a brief explanation of the reasons why material concentrations of reserves in material fields, properties or projects have remained undeveloped for five or more years after being booked as undeveloped reserves.

Consultation feedback

The majority of commenters were supportive of mandatory requirements for annual reporting of:

- company level 1P and 2P reserves by product;
- aggregated 1P and 2P reserves by product and by geographical area (to be determined by the company based on materiality);
- company level 1P and 2P reserves based on unconventional resources; and
- a reconciliation of company level 1P and 2P reserves by product against the figures from the previous year. A number of commenters considered that the reconciliation categories to be reported on should be determined by the company based on materiality.

The majority of commenters suggested that annual reporting of company level and other aggregated data on 3P reserves or contingent resources should remain voluntary. However, a number of commenters suggested that if a company chooses to report company level or other aggregated data on 3C contingent resources, it should be required to report the corresponding data for 1C and 2C contingent resources. It was also suggested that if a company chooses to report company level contingent resources, it should be required to disclose an annual reconciliation of 2C contingent resources against the estimates from the previous year.

A number of commenters expressed support for only mandating annual reporting of company level and other aggregated data on 2P reserves. This was on the basis that the 2P estimate is the best estimate of reserves. It is the estimate upon which most Australian companies base their investment decisions. As such, it was suggested that company level and other aggregated data on 2P reserves was the most useful information for investors. A number of commenters also expressed support for only mandating annual reporting of:

- a reconciliation of company level 2P reserves by product against the estimates from the previous year;
- company level developed and undeveloped 2P reserves by product; and

- aggregated developed and undeveloped 2P reserves by product and by geographical area (to be determined by the company based on materiality).

However, one commenter expressed support for only mandating annual reporting of 1P reserves data, with the disclosure of data on 2P reserves and 2C contingent resources remaining optional. This was on the basis of promoting consistency with the way the majority of major international oil and gas companies report reserves under the SEC reporting regime. It was also suggested that consideration should be given to allowing companies, which report under the SEC reporting framework, to file SEC compliant Form 10-K and 20-F reports for the purpose of satisfying annual reserves reporting requirements under the listing rules. Such an approach would minimise the administrative burden and compliance costs for companies reporting in both jurisdictions.

A number of commenters did support a mandatory requirement for the annual reporting of company level and aggregated estimates by geographical area for 1P and 2P developed and undeveloped reserves. This was the basis that it provided transparency of the different risk profiles of the respective reserves.

There was mixed feedback on whether there should be an annual requirement for the disclosure of a brief explanation of why material concentration of reserves in material assets had remained undeveloped for five or more years after being assigned as undeveloped reserves. A number of commenters were supportive of requiring companies to identify and provide a brief explanation of why material concentrations of undeveloped reserves in material assets had remained undeveloped for more than five years. However, some commenters suggested that a threshold of seven years for the purpose of triggering such a requirement would be more appropriate as undeveloped reserves are often associated with large and long-term LNG projects which are supplied by multiple fields. Almost all commenters did not support requiring the disclosure of the company's development plans or projected timing of development on the basis of the compliance costs for companies, and the commercial sensitivity of the information.

The majority of commenters were supportive of an annual requirement for companies to disclose the governance arrangements and internal controls, including the frequency and scope of any reviews or audits undertaken, relating to its reserves and contingent resources. A number of commenters considered that a disclosure-based approach was more appropriate than introducing requirements for internal audit given the significant compliance costs associated with such a requirement, and the diversity of companies to which it would apply.

Issue 4: Disclosure of drilling progress and exploration information

The ASX Issues Paper proposed removing the guidance from Guidance Note 8 'Continuous Disclosure: Listing Rule 3.1' which sets out the expectation that companies adopt a regime of structured reporting at regular intervals for each drilling programme following disclosure of progress in that programme under listing rule 3.1. It also sets out a number of proposals to update listing rule 5.9 and the reporting requirements therein relating to what should be disclosed when a company publicly reports on exploration results and progress in a drilling programme.

The ASX Issues Paper posed a number of questions on whether:

- the proposals to update listing rule 5.9 are equally applicable to unconventional resources or whether separate and additional reporting requirements should be put in place for unconventional resources; and
- existing reporting requirements adequately take account of the increased use of seismic surveys and seismic data in the evaluation and estimation of petroleum resources and, as such, provide for appropriate disclosure.

Consultation feedback

Almost all commenters expressed support for the proposal to remove Guidance Note 8 references related to regular reporting on drilling progress so that it is clearer that companies are only required to report on progress in drilling programmes under listing rule 3.1 when the information would be expected to have a material effect of the price or value of the entity's securities.

The feedback was mixed on the proposal to update the reporting requirements in listing rule 5.9 regarding the information that should be disclosed when a company publicly reports on progress in a drilling programme. Although a number of commenters expressed support for the majority of the proposed reporting requirements on the basis that they would provide for the disclosure of useful information for investors.

Almost all commenters indicated that it would not be appropriate to require the disclosure of pressure data, including pressure build-up, and data on fluid contacts and the lowest known hydrocarbon. This was largely on the basis that the reporting of such data at the time that drilling results are reported would not be useful for investors. Commenters also indicated that the raw data requires significant interpretation, which generally takes considerable time, and so the results of this analysis would not usually be available at the time drilling results are reported under the continuous disclosure regime. This data and its interpretation is generally used in the evaluation process for reserves estimation. Commenters also indicated that this data is commercially sensitive and the introduction of a requirement for its disclosure would disadvantage existing shareholders.

Some commenters also indicated that the results on the net pay thickness of an interval for conventional resources may be of a preliminary nature and not known with a high level of confidence when drilling progress and the gross pay thickness is reported. In relation to unconventional resources, almost all respondents were of the view that, at this stage, net pay was not applicable.

Some commenters suggested that ASX consider introducing requirements for the disclosure of the following when updating listing rule 5.9:

- the number of fracture stimulation stages, if applicable; and
- any material volumes of non-hydrocarbon gases (such as, CO₂, N₂ and H₂S) in both conventional and unconventional reservoirs.

Almost all commenters were of the view that, other than the reporting of net pay, all of the proposed reporting requirements were equally applicable to conventional and unconventional resources. Commenters were also of the view that additional requirements specifically for the reporting of drilling progress in unconventional reservoirs were not required.

The majority of commenters were of the view that existing reporting requirements for reporting progress on a geophysical survey were adequate for reporting on seismic surveys and that any additional information beyond the minimum required under the listing rules should be disclosed at the discretion of the company. Generally, commenters considered the seismic data and its interpretation to be commercially sensitive.

Issue 5: Disclosure of key assumptions underpinning reserves and resource estimates

The ASX Issues Paper proposed introducing reporting requirements that would facilitate greater disclosure of the key technical and other information supporting the booking of reserves, contingent resources and prospective resources for material fields, properties or projects when they are reported to the market.

Three separate proposals were put forward for the disclosure of supporting information which would be applicable to the reporting of reserves, contingent resources and prospective resources.

A number of questions were posed on the areas of commercial sensitivity, and whether specific additional disclosure requirements relevant to the booking of unconventional reserves, contingent resources and prospective resources should be introduced.

Consultation feedback

Almost all commenters did not support the introduction of requirements for the disclosure of the key economic assumptions, in particular, commodity price assumptions, used to calculate reserve estimates. This was on the basis that commodity pricing and other economic assumptions used to calculate reserves are commercially sensitive as they are used in project investment decision-making, bidding for exploration licence acreage, contract negotiations and merger and acquisition decision-making. While the forward curve for oil prices is readily available, commenters indicated that given the long time horizon for projects, companies were required

to take a long term view of commodity prices. It is this long-term view of commodity prices that is commercially sensitive. In addition, LNG and gas prices are usually defined in long-term sales contracts with confidentiality clauses. Commenters contended that a requirement to disclose such information will:

- adversely affect the company's negotiating ability in commercial transactions with third parties;
- give away commercially sensitive and valuable information to competitors;
- discourage potential joint venture participants and customers from dealing with the company; and
- disadvantage Australian-listed oil and gas companies compared to large global oil and gas companies that are in competition for the same exploration acreage and customers, and who are not subject to the same requirements.

The majority of commenters did not consider the alternative of requiring the disclosure of a price range, within which there would be no material change to the reserve estimates, would address concerns around commercial sensitivity. It was suggested that a price range would also be commercially sensitive as it would indicate the company's high and low price tolerance levels.

However, the majority of commenters were supportive of the disclosure of a brief explanation of the methodology used to determine the price assumptions underpinning the reserve estimates when they were booked for material projects. Most commenters were of the view that this would provide investors with useful information in terms of understanding the basis for the company's pricing assumptions, while also protecting commercially sensitive information. More importantly, it was contended that it would allow companies to continue to report the reserve estimates that were used internally by management for investment decision-making.

A significant number of commenters were supportive of requiring the disclosure of information relevant to the following when announcing the booking of reserves for a material project/asset to the market:

- whether the company has operator or non-operator interests;
- the type of permits and/or licenses held with respect to the project;
- a brief description of the basis for confirming commercial producibility and assigning reserves (i.e. general commentary on the tests performed, logging and coring analysis, and any relevant analogous information);
- a brief description of the analytical procedures used to estimate the reserves;
- the estimated quantities (aggregated) that will be recovered from existing wells and facilities and the estimated quantities that will be recovered through significant future investments (i.e. developed and undeveloped);
- a brief description of the proposed extraction method; and
- a brief description of any specialised processing required following extraction, if applicable.

Some commenters raised concerns about requiring disclosure of information relating to the development plan and timing of development for reported undeveloped reserves. This was on the basis that this information may be commercially sensitive, and that it may also be too uncertain at the time the initial booking is announced to the market. In relation to this issue, one commenter suggested that ASX should consider introducing a requirement for companies to demonstrate their commitment to develop the relevant resources prior to being able to book them as reserves.

The majority of commenters supported a number of the proposed reporting requirements applicable to the announcement of contingent resources estimates for a material project/asset. In particular, there was broad support for the disclosure of information relating to the following:

- the type of permits and/or licenses held with respect to field, property or project for which the estimates are reported;
- a brief description of the basis for determining the existence of the discovery (i.e. of a significant quantity of potentially moveable hydrocarbons);
- a brief description of the analytical procedures used to estimate the contingent resources;
- a brief description of any further appraisal drilling and/or evaluation work to be undertaken to assess the potential for economic recovery, and to progress the project; and
- where one of the key contingencies preventing the contingent resources from being classified as reserves is technology under development, a brief explanation of:
 - whether the technology is under active development and whether a pilot is planned and budgeted; and
 - whether the technology has been demonstrated to be commercially viable in analogous reservoirs and, if not, whether it has been demonstrated to be commercially viable in other reservoirs.

The majority of commenters were not supportive of requiring the disclosure of contingent resources according to the project maturity sub-classes included in SPE-PRMS - development pending, development unclarified or on hold, development not viable. This was on the basis that E&P companies do not internally categorise contingent resources according to sub-classes. As such, a requirement for the disclosure according to such sub-classes would involve significant compliance costs for companies.

A number of commenters also did not support requiring the disclosure of the key contingencies preventing contingent resources from being classified as reserves. This was on the basis that it may be commercially sensitive, and it would likely involve a significant compliance burden for companies. However, a number of commenters were supportive of requiring the disclosure of the key contingencies for material projects/assets as it is useful information for investors seeking to assessing the likelihood (and conversely the risks) of the contingent resources being eventually converted into reserves. A number of commenters also expressed support for requiring the disclosure of the land area and the number of wells on which the contingent resource estimates of unconventional resources are based. It was also suggested that consideration could be given to requiring independent verification of the booking of unconventional contingent resources for material projects.

In relation to the reporting of estimates of prospective resources, a number of commenters did not support requiring the disclosure of prospective resources according to their project maturity sub-class – lead, play, prospect. This was on the basis that the definitions of the respective sub-classes did not currently provide sufficient clarity to render such disclosure meaningful. However, it was suggested that consideration should be given to requiring companies to disclose their assessment of the chance of discovery and the chance of development of the reported prospective resources.

One commenter suggested that consideration should be given to prohibiting the disclosure of estimates of prospective resources altogether on the basis that they are subject to discovery risk, and because of the inherent uncertainties in estimating recoverable volumes where production mechanisms are yet to be defined.

Issue 6: Disclosure of production targets

The ASX Issues Paper examined whether there was merit in introducing disclosure requirements under the listing rules applicable to the reporting of production targets, and any associated forecast financial information, to minimise the potential for such disclosures to confuse or mislead investors.

Consultation feedback

Almost all company commenters reiterated their concerns regarding any requirements for the disclosure of commercially sensitive information, such as the economic assumptions underpinning production targets. The other main feedback received suggests that the issues of concern in relation to the reporting of production targets in hard minerals have not emerged, at this stage, as a significant problem requiring regulatory action in the petroleum industry.

A large number of companies indicated that they only disclosed production guidance for the current or forthcoming year based on reserves, and that they did not disclose longer-term production targets based on contingent resources and prospective resources. Almost all companies considered that the main potential unintended consequence of requiring the disclosure of the key assumptions underpinning short-term production guidance is that it could lead to a reluctance of companies to disclose such guidance, which would be of detriment to investors.

While a large number of companies indicated that they did not disclose longer-term production targets based on contingent resources and prospective resources, there was not strong support for prohibiting such disclosure. The majority of commenters were of the view that if any new measures were required, they should be focused on facilitating the disclosure of the key assumptions where the production target was based on contingent resources and prospective resources.

However, there were a number of companies that were supportive of prohibiting the disclosure of a production target based on prospective resources on the basis of the considerable risks and uncertainties associated with estimates of prospective resources.

Based on the feedback received, ASX does not consider that there is a sufficient problem with reporting practices in this area to require the introduction of listing rule requirements, at this time. ASX proposes to continue to monitor the reporting of production targets, and to consult further on the introduction of appropriate reporting requirements when it is evident that there is a significant problem to be addressed.

Issue 7: Qualified reserves and resources evaluator requirements

The ASX Issues Paper examined the case for the listing rules continuing to set out the minimum professional qualifications and experience required to be recognised as a 'qualified reserves and resources evaluator' for the purpose of signing-off on publicly reported estimates of petroleum reserves and other petroleum resources. It proposed that the minimum professional qualifications and experience be updated and aligned with the SPE "Standards Pertaining to the Estimation and Auditing of Oil and Gas Reserves Information".

The Paper also posed a question on whether consideration should be given to introducing a requirement for the disclosure of a brief summary of the professional qualifications and relevant experience of the person responsible for evaluating and preparing the reserves and resources estimates in the relevant public report.

Consultation feedback

All commenters expressed support for the listing rules continuing to specify the minimum professional qualifications and experience required to be recognised as a 'qualified reserves and resources evaluator'.

While there was broad support for generally aligning the listing rule requirements with that provided in the SPE "Standards Pertaining to the Estimation and Auditing of Oil and Gas Reserves Information", a number of commenters indicated that they were supportive of maintaining the higher standard of five years practical industry experience and three years experience in reserves and resources evaluation being maintained under the listing rules.

Some commenters expressed concern that a requirement for a minimum of three years recent practical experience in petroleum engineering or petroleum production geology could involve a significant compliance costs for some pre-production companies that do not have a petroleum engineer or a petroleum production geologist on staff. It was suggested that the proposed requirement be amended such that experience in petroleum geology would be sufficient. It was also suggested that the requirement for 'recent' experience could have the effect of excluding qualified and competent individuals from signing off on publicly reported reserves and resources estimates notwithstanding that they have a considerable number of years of relevant experience.

One respondent also suggested that ASX should give consideration to the introduction of a requirement for those responsible for signing-off on publicly reported reserves and resources estimates to undertake training approved by the Joint Committee of Reserves Evaluator Training or a similar organisation.

In relation to requiring the disclosure of a brief summary of the professional qualifications and relevant experience of the person responsible for signing off on the publicly reported reserves and resources estimates, feedback received was split between those who were supportive of (or did not object to) a such a requirement and those that did not support it. Some commenters were of the view that the introduction of a requirement for a 'qualified reserves and resources evaluator' to be either a Certified Petroleum Geologist with the professional division of the American Association of Petroleum Geologists (or equivalent), or a Registered Petroleum Engineer (or have equivalent experience and degrees), would be more effective in promoting market confidence.