



Canadian Securities
Administrators

Autorités canadiennes
en valeurs mobilières

Notice of Amendments to
National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities*,
Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*,
Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or*
***Auditor*,**
Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure* and
Companion Policy 51-101CP *Standards of Disclosure for Oil and Gas Activities*

October 12, 2007

Introduction

We, the Canadian Securities Administrators (CSA) are implementing amendments to National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* (NI 51-101), its related forms (the Forms) and its companion policy (CP 51-101). In this Notice, NI 51-101 and the Forms are collectively referred to as the Instrument.

The CSA adopted the Instrument and CP 51-101 in September 2003. NI 51-101 sets out the annual filing requirements for reporting issuers who are involved in oil and gas activities and the general disclosure standards for reporting issuers who are reporting on their oil and gas activities. The disclosure standards apply to any disclosure made by a reporting issuer throughout the year. CP 51-101 includes explanations, discussion, and examples on how the CSA will interpret and apply the Instrument.

The text of the amendments and black-lined versions of the Instrument follow the appendices. We are publishing a new version of CP 51-101, the text of which also follows the appendices.

The amendments to the Instrument have been made, or are expected to be made, by each member of the CSA.

Provided all necessary ministerial approvals are obtained, the amendments to the Instrument will come into force on **December 28, 2007**. The new version of CP 51-101 will come into effect at the same time as the amendments to the Instrument.

In Ontario, the amendments to the Instrument and the other materials required to be delivered to the minister responsible for the oversight of the Ontario Securities Commission were delivered on **October 10, 2007**.

In Québec, the Instrument is a regulation made under section 331.1 of *The Securities Act* (Québec) and the amendments to the Instrument must be approved, with or without amendment, by the Minister of Finance. The amendments to the Instrument will come into force on the date of their publication in the *Gazette officielle du Québec* or on any later date specified in the regulation. They must also be published in the Bulletin.

Substance and Purpose

The amendments to the Instrument fall into the following four broad categories:

1. Amendments to clarify some provisions of the Instrument.
2. Amendments to remove or amend certain requirements for the annual filing requirements where such requirements were determined to be burdensome for reporting issuers and of limited utility for investors and security holders.
3. Amendments to certain provisions to provide new guidelines for disclosure of resources that cannot currently be classified as reserves.
4. Amendments to streamline requirements in the Instrument.

Background

We published the proposed amendments for comment on January 19, 2007. The comment period ended in April 2007.

Summary of Written Comments Received by the CSA

During the comment period, we received submissions from 13 commenters. We have considered the comments received and thank all the commenters. Appendix A lists the names of the commenters and Appendix B summarizes their comments and our responses. The original comment letters are available on the Alberta Securities Commission website at www.albertasecurities.com.

After considering the comments, we have made changes to the amendments that we published for comment. However, as these changes are not material, we are not republishing the amendments for a further comment period.

Summary of Changes to Proposed Amendments

See appendix C for a summary of the changes made to the amendments as originally published.

We are also eliminating the following staff notices relating to the Instrument effective the implementation date of the amendments to the Instrument, as they are no longer necessary:

- CSA Staff Notice 51-313 *Frequently Asked Questions - National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities*
- CSA Staff Notice 51-321 *Questions and answers concerning resources and possible reserves National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities*
- CSA Staff Notice 51-317 *National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities Application of Canadian Oil and Gas Evaluation Handbook*
- National Policy Statement 22 - *Use of Information and Opinion Re Mining and Oil Properties by Registrants and Others*. (**Note:** National Policy Statement 22 has already been repealed in the Province of Quebec)

We are also publishing CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities*. This staff notice replaces Appendix 1 to CP 51-101.

Questions

Please refer your questions to any of the following:

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Appendix A

LIST OF COMMENTERS

	COMMENTER	NAME	DATE
1.	AJM Petroleum Consultants	Philip S. Kandel	January 25, 2007
2.	Vero Energy Inc.	Clinton T. Broughton	January 31, 2007
3.	Henry R. Lawrie	Henry R. Lawrie	February 12, 2007
4.	Norwest Corporation	Geoff Jordan	February 14, 2007
5.	SEPAC	Gary C. Leach	April 12, 2007
6.	Freehold Royalty Trust	William O. Ingram	April 17, 2007
7.	Reg Pitt	Reg Pitt	April 19, 2007
8.	Robinson Petroleum Consulting Ltd.	J. Glenn Robinson	April 19, 2007
9.	TSX Venture Exchange	Peter Varsanyi	April 29, 2007
10.	John Yu	John Yu	April 30, 2007
11.	Macleod Dixon LLP	Kevin E. Johnson	April 30, 2007
12.	Nexen Inc.	Ian McDonald	April 30, 2007
13.	The Canadian Advocacy Council of CFA Institute Canadian Societies	Blair Carey/Robert Morgan	May 1, 2007

Appendix B

Amendments to National Instrument 51-101 *Standards of Disclosure for Oil & Gas Activities*

Summary of Comments and CSA Responses

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
1.	General comment	One commenter agrees with the removal of the requirement to report reserves and future net revenue using constant prices and costs, the removal of the requirement to do a reconciliation of future net revenue, and the changing of the requirement to do reserves reconciliation using gross reserves instead of net reserves. The commenter believes this will significantly enhance the usefulness of disclosure to analysts and investors while reducing the burden on the reporting issuer.	We acknowledge the comment.
2.	General comment	One commenter representing several senior issuers with exemptions to report their oil and gas disclosure using US standards (“several senior issuers”) states that they generally support the purposes of the proposed amendments and the underlying principle of improving the quality of disclosure. The exempt issuers are concerned with certain aspects of the resource amendments.	We acknowledge the comment. We discuss the comment concerning resource amendments below by reference to the specific comments raised by the commenter concerning the resource amendments.
3.	General comment	One commenter that represents small and medium oil and gas issuers states that it fully supports the proposed amendments.	We acknowledge the comment.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
4.	General comment	<p>One commenter representing a Canadian stock exchange states that overall it supports the proposed amendments. The amendments improve the clarity and meaning of various provisions and significantly enhance the Instrument, particularly in terms of guidance to issuers with resource estimates.</p> <p>However, the commenter contends that securities regulatory authorities may be missing an opportunity to enhance the capital markets by not including sufficient guidance for certain emerging oil and gas issuers, particularly those with material undeveloped properties for which there are no resource estimates.</p>	<p>We acknowledge the comment.</p> <p>There are requirements for the disclosure of unproved properties where the issuer voluntarily discloses anticipated results relating to the unproved properties. However, the existing and proposed legislation do not contain any requirements that are triggered by the disclosure of a material unproved property. For this reason there is no guidance focused on this topic.</p>
5.	General comment	<p>One commenter agrees with the broad objectives and principles of the CSA initiative to improve the disclosure of resources through the proposed additional disclosure requirements. However, the commenter opposes the removal of certain disclosure that is currently required in respect of resources (existing section 5.9).</p>	<p>We acknowledge the comment. We discuss the repeal and substitution of existing section 5.9 at greater length in item 25.</p>
6.	General comment	<p>One commenter states he has not encountered any use or reporting of possible reserves or resources beyond proved or probable reserves but that the more rigorous guidelines appear to be of merit.</p>	<p>We acknowledge the comment.</p>

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
7.	General comment	One commenter states that the increased conservativeness brought about by adoption of the COGE Handbook and NI 51-101 has contributed to a disconnect between asset values as derived from reserve reports, particularly from proved reserves, and asset values as determined by market acquisitions and dispositions.	NI 51-101 is intended to provide reasonable and reliable disclosure reflecting, among other things, certain components of the issuer's oil and gas assets. The disclosure prescribed by the rule does not purport to reflect market value and should not be so construed.
NATIONAL INSTRUMENT 51-101 <i>STANDARDS OF DISCLOSURE FOR OIL AND GAS ACTIVITIES</i>			
8.	Paragraph 1.1(a.1) - "analogous information"	One commenter states that the addition of this term to the rule is necessary.	We acknowledge the comment.
9.	Paragraph 1.1(a.2) - "anticipated results"	One commenter thinks that "anticipated results" should refer to information that indicates the expected value or expected quantities of the resource instead of the potential value or quantities of the resource.	The term "expected value" or "expected quantity" has a specific and restricted meaning. Anticipated results would include the expected value or quantity. We do not propose to make a change to this definition because we would like the application of the term "anticipated results" to be more broad and inclusive.
10.	Repeal of existing paragraph 1.1(g) - "constant prices and costs"	Four commenters agree with the repeal of the definition and the associated annual filing requirement concerning constant prices and costs. One of the commenters, representing small and medium oil and gas issuers, states that forecast prices more accurately reflect the implied value of reserves. Making the constant price disclosure voluntary will simplify the report and will not be confusing for readers.	We acknowledge the comment.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
11.	Repeal of existing paragraph 1.1(g) - “constant prices and costs	One commenter does not support the amendment to make constant prices and cost reporting optional. The commenter favours a modified constant price and cost disclosure based on using: 1) the average of the price received for the last quarter or year; 2) operating costs averaged over the past year; 3) capital costs encountered in the last quarter. This would provide a report that could be compared to financial statements. Forecast prices introduce another source of error.	We remain of the view that the disclosure of forecast prices and costs provides more valuable information and that this aspect of the proposed amendments will be maintained. Constant prices and costs are presently defined to be those in effect at year end. Industry feedback has indicated that this determination of constant prices and costs is of little value. While it enables comparison to US and domestic peers, it may be skewed given its determination on a fixed date. While a modified constant price and cost definition such as that proposed by the commenter may have merit, it would not facilitate comparability and would also require further policy analysis.
12.	Repeal of existing paragraph 1.1(g) - “constant prices and costs”	One commenter does not support eliminating the requirement to disclose the constant prices and costs because: 1) without the constant case, it is difficult to compare issuers on a reasonably consistent and objective basis; 2) without the constant case, there is no baseline price making it difficult to judge the reasonableness and worthiness of the forecast price; 3) the Taskforce concluded that both constant and forecast cases should be presented; 4) the SEC requires constant cases to be disclosed; 5) constant cases are easily understood and not subject to inappropriate estimates; 6) the cost of developing the constant case is not material on a relative basis; and 7) there have been no complaints that the	1) Broad feedback persuades us that the mandatory use of the constant price and cost case is of little value and can be misleading and that this outweighs the value of facilitating comparisons based on arbitrary values; 2) we note that reporting issuers and evaluators take responsibility for their price estimates; mandatory disclosure of price forecasts assists investors in assessing the information disclosed; moreover, the year-end price may not be indicative of a reasonable price; 3) since the work of the Taskforce, we have had the benefit of seeing

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		constant case is misleading but there have been complaints that the forecast price is misleading.	four years of reporting and hearing feedback from industry participants and users that support the proposed change; 4) an issuer may optionally disclose constant prices and costs if it wishes to be compared to US peers; 5) use of a year-end price can yield an arbitrary and meaningless result; 6) the cost of developing the constant case was not material to the decision to eliminate it; and 7) there have been complaints that the constant case is misleading (for example, bitumen).
13.	Paragraph 1.1(j) - “forecast prices and costs”	One commenter states that there is more inconsistency than there needs to be between evaluation firms with respect to forecast prices. It is suggested that the same prices be specified for all reserves evaluators at any point in time, with those prices based on the market strip.	As alluded to in item #12, we are satisfied that the responsibility of issuers and evaluators coupled with the disclosure of the price forecast used provides useful information to investors and it is not our present intention to mandate a specified forecast price.
14.	Paragraphs 1.1(x) and (y) - “qualified reserves evaluator” and “qualified reserves auditor” and section 4.2	One commenter states that the reference to reserves data and resources in the proposed amended definitions of a qualified reserves evaluator and auditor and in proposed section 4.2 should be changed to “reserves and resources data”.	The term “reserves data” is a defined term in the rule and is a fundamental concept in the annual filing. The CSA does not believe it is advisable to change the definitions of qualified reserves evaluator or auditor unless these terms are changed in the COGE Handbook.
15.	Paragraph 1.1(z.1) - “reserves”	One commenter suggests changing the definition of “reserves” to more specifically refer to “individual estimates of volumes of proved, probable or possible	The proposed amendment applies at the individual and aggregated levels and therefore we believe that the definition in its

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		reserves or aggregated volumes of proved plus probable reserves or proved plus probable plus possible reserves”.	proposed form addresses the substance of the comment.
16.	Paragraph 1.1(aa) - “reserves data”	<p>One commenter recommends further amending the definition of reserves data to mean estimates of proved reserves and probable reserves and an aggregation of proved plus probable reserves and respective estimates of future net revenue for each category of reserves, estimated using forecast prices and costs.</p> <p>The commenter adds that estimates of possible reserves and aggregated proved plus probable plus possible reserves and related future net revenue may also be included. However, the commenter also appears to favour the inclusion of a statement indicating that the proved plus probable reserves estimates and related future net revenue represents the Company’s best estimates of reserves to be recovered and future net revenue to be received from the sale of the proved plus probable reserves.</p>	<p>We do not propose to make a change to the proposed definition. While we agree with the comment in principle, we believe that the proposed amendment covers these categories and is more succinct.</p> <p>The disclosure of possible reserves is optional disclosure in Form 51-101F1 and not an integral part of reserves data, as it is defined and applied in NI 51-101.</p>
17.	Section 2.2 - Notice to Announce Filing	One commenter, representing small and medium oil and gas issuers, disagrees with the proposed amendment which replaces the dissemination of a news release announcing the annual filing with the filing of a notice announcing the same. The commenter did not feel that this was a value added exercise given that the notice was filed on SEDAR like the report itself.	This amendment was initially proposed to facilitate the consistent and clear disclosure of the announcement. However, we agree with the comment and will maintain the existing provision permitting the dissemination of a news release, as this may be a more effective method of giving notice of the filed reports.
18.	Section 3.4 - Certain	In response to the CSA’s request for comment on the	We remain of the view that investor interests

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
	Responsibilities of Board of Directors	<p>benefit of requiring the board of directors to appoint the independent qualified reserves evaluator or auditor, one commenter's response was not altogether clear. The commenter states that it does not believe there would be a material enhancement to investor protection by requiring the board to make these appointments. The existing requirement that the board review the appointment is adequate.</p> <p>However, the commenter also states that to ensure greater independence, the board rather than management, should appoint the evaluator given that reserves represent significant assets for companies in the extractive industry.</p>	are adequately addressed by the required participation of the board in the review of the appointment and the approval of the annual filings under NI 51-101. NI 51-101 does not preclude the board from appointing the independent qualified reserves evaluator or auditor if in its judgement, this would be useful.
19.	Section 3.4 - Certain Responsibilities of Board of Directors	In response to the CSA's request for comment on the benefit of requiring the board of directors to appoint the independent qualified reserves evaluator or auditor, two commenters state that they do not perceive a need to make this change. One commenter states that there would be no material enhancement to investor protection and that the change would simply be one of formality not substance. Investor protection concerns are sufficiently addressed by the required participation of the board in the approval and execution of Form 51-101F3. The other commenter states that a change in current practice is not warranted. On the contrary, it is desirable to increase the separation and independence of the board of directors in reviewing and approving the work of the reserves evaluator.	We agree. No change will be made.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
20.	Subparagraph 5.2(a)(v) - Cautionary language concerning possible reserves	One commenter urges that the cautionary language concerning possible reserves be expanded to include a statement that proved plus probable reserves and related future net revenue represent the issuer's best estimate of reserves to be recovered and the future net revenue to be obtained.	We do not propose to make the suggested change. The additional disclosure on proved plus probable reserves does not provide additional necessary or useful information on possible reserves.
21.	Subparagraph 5.2(a)(v) - cautionary language concerning possible reserves	Two commenters state that the cautionary language is inconsistent with the COGE Handbook definition. One commenter states that the reference to percentage probability should be removed and replaced with the language in the COGE Handbook definition: "It is unlikely that the actual remaining quantities recovered will exceed the sum of proved + probable + possible reserves."	The definition quoted by the commenter refers to the lowest level [individual non-aggregated properties] at which reserves calculations are performed (see COGE Handbook, volume 1, section 5.4.1). However, reserves reported under NI 51-101 are Reported Reserves which are aggregated reserves (as referenced in the COGE Handbook) the criteria for which are numerical probabilities (see COGE Handbook, volume 1, section 5.4.3). We will amend the statement to remove the word "only". Although this does not duplicate the language in the COGE Handbook, it is consistent with the COGE Handbook and more understandable for investors.
22.	Section 5.3 - Reserves and Resources Classification	One commenter favours retaining the existing wording of section 5.3.	We believe that the amendment is warranted to ensure disclosure of resources is not misleading and more clear. The more specific resource categories convey more meaningful and accurate information to investors than the more general resource categories. For example, the general

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			category of “discovered resources” covers everything from cumulative production to unrecoverable resources, thus the disclosure of “discovered resources” may convey very little information to investors that is not necessarily helpful in rendering investment decisions.
23.	Section 5.3 - Reserves and Resources Classification	Two commenters indicate that the SPE/WPC have prepared new reserves and resources definitions that are similar to, but not exactly the same as, the definitions and categories in the COGE Handbook. One of the commenters notes that many senior issuers prefer the SPE/WPC definitions and the CSA should wait until these definitions are harmonized before making changes to resource disclosure.	<p>The proposed changes to the resource provisions are not being deferred for the following reasons:</p> <ul style="list-style-type: none"> • we have identified an immediate need to improve voluntary resource disclosure to ensure that the investment community is provided with meaningful and consistent information • we have endeavoured to accommodate this anticipated change by modifying the cautionary language in draft subparagraph 5.9(2)(c)(vi) to reference commercial viability (rather than economic viability and technical feasibility) of the resource based on the SPE/WPC use of the term “commercial”. We have also severed the glossary from the companion policy in a staff notice to accommodate a faster update of the resource definitions if the SPE/WPC

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			definitions are adopted in the COGE Handbook.
24.	Section 5.3 - Reserves and Resources Classification	The commenter representing exempt senior issuers states that the issuers concur with the CSA's objective of improving disclosure of resources to make the disclosure more meaningful for the investment community. However, the SPE/WPC standards are globally recognized and widely used. Issuers with assets outside Canada or which trade on a market outside Canada should have the ability to use the definitions and categories in either the COGE Handbook or those adopted by SPE/WPC.	We are of the view that the rule's substantive principle that the disclosure of reserves and resources is to be done in accordance with the terminology and categories set out in the COGE Handbook, must be maintained. However, we have made the changes noted in item 23 in anticipation of the potential adoption of the SPE/WPC definitions in the COGE Handbook.
25.	Repeal of existing section 5.9	Two commenters oppose the repeal of existing section 5.9 which prescribes disclosure requirements concerning prospects if anticipated results from a prospect(s) is disclosed. One commenter specifically opposes the removal of the following two disclosure requirements: 1. The removal of the disclosure of the expiry date of a leasehold interest in undeveloped property. The commenter states that this information can have a material impact on valuation and does not pose significant additional costs. 2. The removal of the requirement to disclose reasonably expected marketing and transportation arrangements. The commenter favours retaining and amending the existing disclosure requirement to read "whether infrastructure currently exists in the region to transport the resource."	With respect to the specific disclosures which the commenter wishes to retain, we do not propose to retain the disclosure requirements for the following reasons: 1. If an issuer provides a valuation of the leasehold interest, it is required to disclose the basis of the calculation of its value pursuant to paragraph 5.9(1)(e). The proposed companion policy guidance states that the remaining term of the unproved property may be a relevant consideration in the determination of value. This would depend on the circumstances of the particular issuer. Also, Form 51-101F1 requires the issuer to disclose annually the net area for which exploration and development rights

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			<p>expire within one year (item 6.2(2)). Additionally if an issuer discloses a resource volume or related value, it is required pursuant to proposed paragraph 5.9(2)(c)(iii) of NI 51-101 to disclose significant positive and negative factors relevant to the estimate, which could in certain circumstances necessitate a discussion of a leasehold expiry date. We will provide additional guidance in the companion policy to this effect. At the broader level of disclosure of anticipated results (subsection 5.9(1)), we do not believe that the specific disclosure of expiry dates is practical and meaningful, particularly where many leasehold interests are aggregated.</p> <p>2. We believe that the disclosure of infrastructure may be required when an issuer discloses a resource volume or associated value, pursuant to proposed subparagraph 5.9(2)(c)(iii) which requires the disclosure of significant positive and negative factors relevant to the estimate. We will provide additional guidance in the companion policy to this effect. Also, it may be prescribed pursuant to the requirement in proposed paragraph 5.9(2)(c) that an issuer disclosing a contingent resource volume must also disclose specific contingencies preventing the resource's classification as a</p>

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			reserve. At the present time, we do not wish to prescribe further requirements for infrastructure disclosure.
26.	Repeal of existing sections 5.9 and 5.10	One commenter, representing a Canadian stock exchange, opposes the elimination of existing sections 5.9 and 5.10. The elimination of these provisions will result in virtually no disclosure guidelines for issuers that have interests in material undeveloped properties with no resource estimates. The commenter believes that these provisions should be retained in some form and expanded to provide enhanced guidance to those issuers.	<p>We retained certain elements of existing sections 5.9 and 5.10 in the proposed amendments while expanding the requirements where necessary. For example, certain information prescribed in existing section 5.9 (nature of interest in the resource, location of the resource, associated risks) has been retained in proposed subsection 5.9(1) and the provision has been expanded to address anticipated results not only from prospects, but also from resources excluding reserves. Issuers are not precluded from disclosing additional relevant information, which may or may not include items listed in existing section 5.9.</p> <p>Similarly, the requirements of existing section 5.10 have been retained in a simpler and clearer form in proposed subsection 5.9(1)(e). Extensive additional guidance concerning this provision is provided in the companion policy.</p>
27.	General comment on section 5.9 - Disclosure of Resources	One commenter, representing small and medium oil and gas issuers, accepts the proposed changes to the disclosure of estimates of resource volumes or values.	We acknowledge the comment.

Reference	Subject (references are to proposed sections, items and paragraphs)	Summarized Comment	CSA Response
28.	General comment on section 5.9 - Disclosure of Resources	One commenter states that, while resource estimates are of interest to investors and analysts in a comparative context regarding future opportunity sets, these estimates are typically not considered material because of their inherent risk and uncertainty. They are not risked the way reserves are.	Resource estimate disclosure is increasingly common and it provides significant information to the investment community about the issuer's opportunities and potential value. It may be the only asset or a major asset of an issuer. The concepts of materiality and risk are distinct. The fact that a resource estimate is less certain or more risky than a reserves estimate does not make it less material from an investor's perspective.
29.	General comment on section 5.9 - Disclosure of Resources	<p>One commenter states that the resource amendments are problematic for the following reasons:</p> <ul style="list-style-type: none"> a. The resource amendments attempt to reflect the technical rigor and risk factor disclosure used in the mining rule (NI 43-101) despite the differences between the two industries. b. The resource amendments could impair the competitiveness of issuers in an international context whose joint venture partners would not be subject to similar disclosure requirements. They could also affect confidentiality for the issuer. c. The general disclaimer in proposed paragraph 5.9(2)(vi) undermines the intentions of requiring a qualified reserves evaluator to have prepared the resource estimate and indicates the limitations to the perception of additional rigor to resource disclosure estimates. Also, use of the term "no certainty" is inconsistent with the inherent definitional contingencies estimation of either 	<ul style="list-style-type: none"> a. The CSA appreciate the differences between the oil and gas industry and the mining industry and the resource amendments (undefined but which we infer to be proposed sections 5.3 and 5.9) do not endeavour to draw on any disclosure requirements in the mining rule, but are rather motivated by staff and user experience. b. If the issuer's partner is opposed to the additional disclosure requirements triggered by the issuer's voluntary disclosure of resource results, the issuer has the option not to disclose the resource results. There are no mandatory disclosure requirements for resources. It is unclear how the resource amendments would affect confidentiality for the issuer as the issuer has discretion not to

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		<p>discovering or developing the resources.</p> <p>d. The issuer prefers the US disclosure system, which only permits reserves, not resource, disclosure in SEC filings but permits prospect and other resource disclosure in press releases, provided cautionary language is disclosed.</p> <p>e. The issuer is a 10-K filer and will be required to disclose in its 10-K the resource information prescribed in subsections 5.9(1) and (2), which is not permitted under SEC law. The issuer is caught between two regimes because the US regime prohibits resource filings while the Canadian regime mandates it.</p> <p>f. For issuers with multiple resource opportunities, the information in section 5.9 is burdensome. It is also impractical as there is often 10 or more prospects underlying the anticipated result.</p>	<p>disclose information concerning resources. The issuer may also avail itself of the opportunity to file a confidential material change report where appropriate. See also item 31.</p> <p>c. The language referred to is not a disclaimer but rather cautionary language designed to give investors straightforward understandable information relating to the risks and uncertainties associated with the resource.</p> <p>d. Canadian and US reporting requirements share similarities in some regards. However, the CSA has determined a need to further regulate the voluntary disclosure of resources in order to ensure that a more balanced and informative picture is provided to investors.</p> <p>e. NI 51-101 does not mandate resource disclosure. Section 5.9 only prescribes additional disclosure concerning a resource if the issuer voluntarily discloses results concerning its resource. Section 5.9 would not be triggered if the issuer does not disclose resource information, which should be consistent with the 10-K requirements as described by the commenter.</p> <p>f. The additional disclosure prescribed in subsection 5.9(1) is significantly shorter than what is presently required for the disclosure</p>

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
			of prospects. The CSA reduced the requirements to those factors viewed as essential for the investor to know in connection with the anticipated result. If there are numerous prospects underlying the anticipated result, the issuer may summarize the prescribed information. See also item 34.
30.	General comment on section 5.9 - Disclosure of Resources	<p>One commenter states that the sophistication and internal controls of senior issuers should be recognized, such that only the following disclosure should be required, in lieu of the information prescribed by proposed subsections 5.9(1) and (2):</p> <ul style="list-style-type: none"> • a description of the issuer's resource estimation processes, and • uncertainties associated with certain types of disclosure, such as is required for reserves disclosure. 	We do not propose to make the suggested change. A description of the issuer's resource estimation processes may not be readily understood or helpful information to an investor. Rather, investors should be advised of the simplified list of information concerning anticipated results of a resource set out in subsection 5.9(1), which includes the disclosure of uncertainty recommended by the commenter. Alternatively, if actual volumes or associated values of a resource are disclosed, the issuer should provide additional information and proper cautions concerning the type of resource, as set out in subsection 5.9(2)
31.	General comment on section 5.9 - Disclosure of Resources	One commenter representing exempt senior issuers states that proposed section 5.9 may result in issuers being required to publicly disclose proprietary and competitively sensitive information. Protection of proprietary information such as success rate of exploration in a new area, certainty of recovery of the	The proposed amendment calls for the provision of certain basic and balanced information about the resource when anticipated results or volumes of the resource are voluntarily disclosed by the issuer. We are not persuaded that this requirement is

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
		resource associated with a new technology or technique and the probability of commerciality must be preserved. Proposed section 5.9 should be revised to allow for omitting certain information if the disclosure would be prejudicial to the issuer's interests, in a manner comparable to s.12.2 of NI 51-102 regarding the filing of material contracts.	<p>unduly onerous. We do not agree that basic information relating to the resource, such as its general location and the product types expected from the resource, should be omitted from disclosure to the investing public. With respect to the disclosure of the risk associated with the resource, we are of the view that basic information concerning the associated recovery risk is essential in order to provide investors with a fair and balanced picture concerning these resources. However, we are prepared to eliminate the requirement set out in proposed subparagraph 5.9(2)(c)(iv) as we are persuaded at this time that the other requirements of section 5.9 sufficiently convey necessary information associated with the resource to investors - please refer to the comments on this provision for further elaboration.</p> <p>With respect to s. 12.2 of NI 51-102, this provision applies to a mandatory disclosure requirement whereas section 5.9 of NI 51-101 is only triggered if an issuer voluntarily discloses anticipated results from its resources.</p>
32.	General comment on section 5.9 - Disclosure of Resources	One commenter expresses doubt concerning the disclosure of resources given the high level of	We disagree with the comment. There is an accepted regime to classify resources and our

Reference	Subject (references are to proposed sections, items and paragraphs)	Summarized Comment	CSA Response
		uncertainty associated with possible reserves.	goal is to ensure that the voluntary disclosure of resource information is consistent and transparent.
33.	Subsection 5.9(1) - anticipated results from resources	One commenter recommends changing the term “anticipated results” to “expected results”.	The term “expected results” has a specific and restricted meaning. We do not propose to make a change to this definition because we would like the application of the term “anticipated results” to be more broad and inclusive.
34.	Subsection 5.9(1) - anticipated results from resources	<p>The commenter representing several senior issuers states that if an issuer with many prospect areas wishes to disclose an aggregate resource number for its global operations, the disclosure requirements in proposed subsection 5.9(1) would likely require a supporting filing including a list of all the properties, their location and the product types reasonably expected from each.</p> <p>The commenter argues that this disclosure would be impractical and of little value to the investors. Compliance with paragraph 5.9(1)(d) (risk and level of uncertainty associated with recovery of the resources) and subparagraph 5.9(2)(c)(iii) (significant positive and negative factors) is not clear, i.e. would it apply to each individual property or to the aggregate estimate. The commenter recommends that a materiality qualifier be inserted which makes it clear that the specific items of disclosure need not be provided if it is not significant to the understanding of the estimate.</p>	If an aggregate estimate for numerous properties is disclosed, the issuer may, depending on the circumstances, satisfy the requirements of proposed subsection 5.9(1) by providing summarized information in respect of each prescribed requirement. The issuer must ensure that its disclosure is reasonable and at a level appropriate to its size. However, the issuer must ensure compliance with the categorization requirement in paragraph 5.9(2)(b). The intention of the amendment in subsection 5.9(1) is to simplify the existing requirements for prospect and other resource disclosure, while ensuring that investors are still provided with certain basic essential information. Similarly the requirements of paragraph 5.9(1)(d) and subparagraph 5.9(2)(c)(iii) may relate to the aggregate estimate concerning numerous properties,

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
			unless discussion of specific material prospects or other resources would be warranted. It would be important for an investor to be advised of the risks associated with the resource result disclosed pursuant to paragraph 5.9(1)(d). With respect to subparagraph 5.9(2)(c)(iii), it is in the issuer's discretion to determine if there are in fact any significant positive and negative factors relating to the resource estimate. For this reason, we do not believe a materiality qualifier is warranted.
35.	Paragraph 5.9(1)(d) - anticipated results from resources	One commenter recommends removing the requirement to disclose risks since the concept of risk conflicts with uncertainty.	The terms risk and uncertainty are not contradictory (see the COGE Handbook, volume 1, section 9.2.2). For example, the concept of risk would be appropriate to express the likelihood that an exploration well would be successful or not, and the concept of uncertainty to capture the possible range of results of a successful well. We will provide additional guidance in the companion policy to this effect.
36.	Paragraph 5.9(1)(e) - value of an unproved property	One commenter recommends replacing the term "unproved property" with "resource".	Proposed paragraph 5.9(1)(e) addresses value estimates of unproved property or undeveloped lands that are generally lease values. This paragraph is not intended to address values associated with resource volume estimates made by qualified reserves evaluators or auditors in subsection 5.9(2).

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
			There is a discussion of this distinction in the companion policy. We do not propose to make the suggested change.
37.	Subsection 5.9(2) - disclosure of a resource quantity or associated value	One commenter states that “estimated value” should be changed to “estimated expected value” and “estimated quantity” to “estimated expected quantity”.	The terms “estimated expected value” and “estimated expected quantity” have a specific and restricted meaning. The desired disclosure is not limited to those restrictive meanings. We do not propose to make the suggested change.
38.	Paragraph 5.9(2)(a) - resource estimate prepared by a qualified reserves evaluator or auditor	One commenter believes it is reasonable to have resource estimates prepared by a qualified individual, being a person with 5 years of relevant experience.	We will not make the suggested change. It is not clear from the comment which individuals, other than a qualified reserves evaluator or auditor, should be permitted to carry out a resource estimate. We believe that any estimate of a resource volume or associated value must be prepared by an individual who satisfies the requirements of a qualified reserves evaluator or auditor.
39.	Subparagraphs 5.9(2)(c)(i) and (vi) - requirements relating to disclosure of resource quantity or associated value	The commenter representing exempt senior issuers states that the disclosure of the definition of the resource category and the associated cautionary language in the proposed amendments effectively convey the probability of success associated with the resources.	We acknowledge the comment.
40.	Subparagraph 5.9(2)(c)(iii) - requirement relating to disclosure of resource quantity or associated value	One commenter believes that the prescribed disclosure of “significant positive and negative factors” should be changed to “levels of uncertainty”.	The term significant positive and negative factors does not refer to disclosure of uncertainty but rather to a discussion of legal, business, infrastructure, capital or other factors highly relevant to the estimate.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
			Please refer to the companion policy for guidance.
41.	Subparagraph 5.9(2)(c)(iv) - requirement relating to disclosure of resource quantity or associated value	<p>Two commenters do not support the addition of the requirement to disclose an estimated percentage probability of discovery or commercial extraction, depending on the type of resource. One of the commenters stated that there is no accepted industry standard for determining such estimated percentage probabilities. The other commenter stated that there is no clear methodology to use for risk estimates for an issuer's global resources on an aggregated basis. The latter commenter also states that the disclosure of the definition of the resource category and the associated cautionary language (proposed subparagraphs 5.9(2)(c)(i) and (vi)) effectively convey the probability of success associated with the resources.</p> <p>The two commenters also state that it would provide an enhanced level of assurance to investors that is not achievable, given the inherent uncertainties of resource estimates.</p>	There are many components for the evaluation process for which there is no accepted industry standard. We acknowledge that there is no accepted industry standard for estimating percentage probabilities, but there is extensive technical literature that provides guidance. However, we will remove this requirement as we accept that the disclosure prescribed by proposed subparagraphs 5.9(2)(c)(i) and (vi) as noted by the commenter as well as the other requirements of section 5.9 sufficiently convey the level of uncertainty.
42.	Clauses 5.9(2)(c)(iv)(A) and (B) and 5.9(2)(c) (vi)(A) and (B)	One commenter states that the references to subcategories should be removed in these provisions.	We do not propose to make the suggested change. Pursuant to section 5.3, issuers must classify resources in their most specific categories. We wish to ensure that the prescribed disclosure is provided when a resource is disclosed in one of the subcategories.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
43.	Section 5.13 - Netbacks	One commenter believes that netbacks for each major product type of each production group should be required.	We do not propose to make the suggested change. It is difficult to break out netbacks by product type because an issuer commonly gets more than one product type from a well. We made this change to make the requirements less onerous. An issuer is not precluded from disclosing netbacks by product type, if it so chooses.
44.	Section 5.13 - Netbacks	One commenter wishes to replace the “netbacks” disclosure regulated in section 5.13 with a disclosure favoured by the commenter called “distribution of gross revenues”.	While this suggestion may have merit, it would require further review and public comment and is beyond the scope of the current amendments. We are of the view that netbacks are readily understood and widely used by industry and believe that it is more important to regulate the disclosure in its current format at this time and we will therefore not make this change.

FORMS 51-101 F1 STATEMENT OF RESERVES DATA AND OTHER OIL AND GAS INFORMATION

45.	General comments	One commenter supports the reduction of disclosure required in the existing NI 51-101F1.	We acknowledge the comment.
46.	Repeal of existing item 2.1 - Reserves Data (Constant Prices and Costs)	Four commenters support the removal of mandatory reserves data disclosure using constant prices and costs. One of the commenters, representing small and medium oil and gas issuers, states that forecast prices more accurately reflect the implied value of reserves. Making the constant price disclosure voluntary will simplify the	We acknowledge the comment. Regarding the issue of comparability, we note that issuers are not precluded from using the disclosure of constant prices and costs.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
		<p>report and will not be confusing for readers.</p> <p>One commenter states that constant prices and costs set as the effective date of a reserves evaluation can create a misleading representation of economic value. This is particularly relevant for heavy oil and bitumen that tend to be priced significantly below full year averages at year-end. However, one potential issue of this change is that the comparability of Canadian issuers or the comparability of those issuers to US peers may be affected.</p> <p>One commenter notes that the requirement to disclose both constant and forecast prices and costs in the same document creates conflicting disclosure.</p>	
47.	Optional disclosure of possible reserves in paragraph 1(g) of Item 2.1	One commenter suggests eliminating the disclosure of possible reserves because the U.S. does not permit the disclosure of probable reserves.	Possible reserves is an internationally recognized category of reserves. Our position is that proper disclosure of possible reserves should be permitted.
48.	Unit value disclosure in section 2 of Item 2.1	One commenter recommends that the proposed unit value disclosure in section 2 of Item 2.1 be moved to and amalgamated with paragraph 3(c) of Item 2.1. A sample chart should also be provided.	The instruction in section 2 of Item 2.1 allows for this. There is also a sample chart illustrating this which is provided with other sample charts in the companion policy.
49.	Unit value disclosure in section 2 of Item 2.1	One commenter believes the proposed additional requirement to disclose net present value of future net revenue on a unit basis may have some limited value and does not add a significant burden to the reporting issuer. The commenter believes that calculating unit values	We do not propose to make the suggested change. The future net revenue calculation takes into account royalties payable so we believe that it is more appropriate to use net reserves in the unit value calculation. It is

Reference	Subject (references are to proposed sections, items and paragraphs)	Summarized Comment	CSA Response
		based on net rather than gross reserves is inconsistent with investment analyst's and investor's common usage. If this requirement is retained, it should be based on gross reserves similar to the change to gross reserves in conducting reconciliations.	consistent with the requirement to report NPV of the future net revenue.
50.	Reporting of gross reserves in Item 2.1	One commenter states a return to the use of Company Interest reserves as the primary reporting number, or at least a clear identification of royalty reserves, should be adopted, with the use of Company Gross reserves relegated to secondary reporting.	At this time, issuers are required to disclose their company interest reserves although the terminology utilized in NI 51-101 and the associated forms is different. We acknowledge the comment but the terminology of NI 51-101 has been in use since implementation and we will not make this change at this time.
51.	Reporting of developed producing reserves in Item 2.1	One commenter recommends that proved plus probable developed producing reserves be referred to in reserve reports and disclosure.	We acknowledge the merit of the comment however a change of this type would require extensive industry consultation and is beyond the scope of the current amendments.
52.	Use of gross reserves in the reserves reconciliation in section 1 of Item 4.1	Two commenters state that reserves reconciliations should be done on a net reserves, not gross reserves, basis. Otherwise, issuers with primarily royalty interests would be disadvantaged. Net reserves are the only volumes that reflect reserves owned by the issuer. One commenter representing one of the largest holders of royalty lands in Western Canada does not support this change and wants to be permitted to quote working interest reserves plus royalty interests received as their	We do not propose to make the suggested change. It is our understanding that the reserves reconciliation prepared on a gross reserves basis is more helpful in revealing performance and acquisition activity. Reporting issuers are also required to disclose net reserves elsewhere in their annual filing. It is the issuer's responsibility to

Reference	Subject (references are to proposed sections, items and paragraphs)	Summarized Comment	CSA Response
		gross number. The commenter believes the proposed amendment will be seriously misleading and put it at a distinct disadvantage relative to its peers because: (i) a reconciliation of gross reserves will show only a small part of its oil and gas assets and would not contain any royalty information. Its unique structure will not lend itself to a direct comparison; and (ii) it would need to perform a reconciliation of net reserves which, when compared to other issuers' gross reconciliation could be misleading by understating its numbers.	communicate to investors the distinctive nature of their business. Form 51-101F1 does not prohibit optional additional disclosure of the reconciliation on a net reserves basis. However, to accommodate those issuers with significant royalty interests, brief guidance will be added to the companion policy clarifying that disclosure of the reserves reconciliation on a net reserves basis is permissible.
53.	Use of gross reserves in the reserves reconciliation in section 1 of Item 4.1	<p>Four commenters support the use of gross reserves in the reserves reconciliation. One commenter, representing small and medium oil and gas issuers, strongly supports the use of gross reserves in the reserves reconciliation since it ties directly to financial disclosure of production which is reported on a gross basis before royalties. The reconciliation on a net basis is confusing and adds little value to end users.</p> <p>The second commenter states that the requirement to do a reserves reconciliation using net reserves does not provide significant additional material information.</p> <p>The third commenter notes that investment analysts' reports use gross reserves based on forecast prices and costs to compare oil and gas companies.</p>	We acknowledge the comments.
54.	Paragraph 2(b) of Item 4.1 - breakdown of products in reserves reconciliation	One commenter states that synthetic oil should be added.	Synthetic oil is already included in the existing paragraph on products.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
55.	Categories of the reserves reconciliation in paragraph 2(c) of Item 4.1	One commenter states that the categories of extensions and improved recovery should not be merged. Rather, the category of “improved recovery” should be retained and “infill drilling” should be added to it.	We do not propose to make the suggested change as we would like to streamline and simplify the disclosure requirements where possible. However, we will add an instruction clarifying that in-fill drilling should be included in the category of extensions and improved recovery or disclosed in a separate category. A comment to this effect on in-fill drilling is also noted in the draft companion policy.
56.	Categories of the reserves reconciliation in paragraph 2(c) of Item 4.1	One commenter, representing small and medium oil and gas issuers, states that the reconciliation categories should be further simplified by adding discoveries to extensions and improved recovery as the distinction may not matter or the issuer may be unable to determine if there is a new discovery versus an extension. Also the commenter states that the categories of technical revisions and revisions due to economic factors should be merged since the distinction is not important.	We do not propose to make the suggested changes. The classes of extension and a discovery are based on standard industry usage that has been in use for many years. Economic and technical revisions are the result of fundamentally different factors, and we believe the distinction to be important.
57.	Repeal of existing item 4.2 - the Future Net Revenue Reconciliation	Two commenters support the repeal of the existing future net revenue reconciliation. One of the commenters, representing small and medium oil and gas issuers, supports the repeal of the future net revenue reconciliation on the basis that it is extremely complicated (leading to inconsistencies) and time consuming with limited value. The other commenter states that the future net revenue	We acknowledge the comment.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
		reconciliation does not provide significant additional material information.	
58.	Repeal of existing item 4.2 - the Future Net Revenue Reconciliation	<p>Two commenters do not support the repeal of the future net revenue reconciliation. One commenter states that the calculation should be modified (to, inter alia, reduce categories) and that it provides a lot of critical information, if done correctly.</p> <p>The other commenter supports retaining the requirement to disclose the reconciliation of changes in reported future net revenue because: 1) without the reconciliation, the reasons for changes are difficult to identify and quantify and these reasons are important to investors; 2) without the reconciliation, it is difficult to compare issuers on a reasonably, consistent and objective basis; 3) the Taskforce concluded that reconciliation should be required; 4) the SEC requires reconciliation; 5) the cost of preparing the reconciliation is not material on a relative basis; and 6) the reconciliation is useful to investors and not misleading.</p>	We have received feedback that the future net revenue reconciliation is complex and confusing and provides a great burden of work and cost. It is of limited value as it is highly theoretical and not widely used. Staff experience is that it is improperly prepared and inaccurate. For these reasons, we will not make the suggested change.
59.	Item 5.1 - Undeveloped Reserves	One commenter does not support the amendment to reduce the PUD history from 5 years to 3 years, as it may take up to 5 years to develop the PUDs.	We do not propose to make the suggested change. This item was amended to require disclosure of both historic and future-oriented information concerning the PUDs and we believe that the future-oriented disclosure in item 5.1 will help to illuminate the development or lack of development of the PUDs.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
60.	Future development costs in clause 1(b)(i) of item 5.3	One commenter is opposed to eliminating the requirement to disclose the future development costs at a discounted rate as this represented the time value of money.	We do not propose to make the suggested change as we do not believe this level of detail is required.
61.	Item 6.2 - Properties with No Attributed Reserves	One commenter, representing a Canadian stock exchange, states that item 6.2 should be amended to include, at a minimum, the expanded disclosure in existing section 5.9 of NI 51-101. The existing item 6.2 does not provide sufficient guidance for issuers with material undeveloped properties without reserves estimates.	It would not be advisable to expand the mandatory disclosure requirements on resources in item 6.2 to include the information prescribed by existing section 5.9 since the latter information is not mandatory. It only has to be disclosed if the issuer voluntarily discloses anticipated results about its prospects.
62.	Production estimates in section 1 of item 6.8	One commenter does not support the proposed change to disclose production estimates based on volumes reflected in the estimates of gross proved and probable reserves. He favors using net reserves.	The issue with the existing requirement is that it references future net revenue which could be based on proved or proved and probable reserves. The change was intended to make more clear the basis for the production estimate. The change was also made to provide consistency with item 6.9 which requires disclosure of production estimates based on gross reserves such that production estimates could be compared with production history over time.
63.	Netback disclosure in item 6.9	One commenter states that he would prefer not to use netbacks or BOE disclosure and favours using distribution of gross revenue disclosure.	Please refer to the CSA response regarding section 5.13 of NI 51-101.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
FORM 51-101 F2 REPORT ON RESERVES DATA BY INDEPENDENT QUALIFIED RESERVES EVALUATOR OR AUDITOR			
64.	Additional language concerning variations	One commenter supports the proposed additional language.	We acknowledge the comment.
65.	Additional language concerning variations	Two commenters do not support the proposed additional language stating that, while revisions will generally be upwards, there will be exceptions. Revisions need to be examined on average, over time, not case by case. The commenter representing several senior issuers believes that the qualifier is inaccurate. It focuses on technical revisions and disregards variations due to other factors. Substantially more expansive language would be required to correct the qualifier and such a qualifier may not be meaningful to investors.	The additional language is intended to elaborate on the disclaiming statement that variations from the reserve data estimates may be material. The CSA is of the view that the additional language is important to ensure that reserves data estimates are made responsibly and in compliance with COGE Handbook standards, which categorize reserves according to their probability of recovery. While the additional language primarily addresses technical revisions, it does not preclude legitimate variations arising from economic factors, unforeseen factors or subsequent events. Variations from estimates may result from a number of factors and must be assessed within the appropriate context for a reporting issuer. Some of the factors that could result in variations would clearly not be within the control of an evaluator or a reporting issuer. Additional guidance is provided in the companion policy.
FROM 51-101 F3 REPORT OF MANAGEMENT AND DIRECTORS ON OIL AND GAS DISCLOSURE			

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
66.	Additional language concerning variations	One commenter supports this amendment.	We acknowledge the comment.
67.	Additional language concerning variations	The commenter representing several senior issuers believes that the qualifier is inaccurate. It focuses on technical revisions and disregards variations due to other factors. Revisions need to be examined on average, over time, not case by case. Substantially more expansive language would be required to correct the qualifier and such a qualifier may not be meaningful to investors.	The additional language is intended to elaborate on the disclaiming statement that variations from the reserve data estimates may be material. The CSA is of the view that the additional language is important to ensure that reserves data estimates are made responsibly and in compliance with COGE Handbook standards, which categorize reserves according to their probability of recovery. While the additional language primarily addresses technical revisions, it does not preclude legitimate variations arising from economic factors, unforeseen factors or subsequent events. Variations from estimates may result from a number of factors and must be assessed within the appropriate context for a reporting issuer. Some of the factors that could result in variations would clearly not be within the control of an evaluator or a reporting issuer. Additional guidance is provided in the companion policy.
COMPANION POLICY 51-101 CP			
68.	General comments	One commenter notes that the proposed companion policy is a marked improvement over the existing companion policy and provides greater clarity and	At the present time, the rule does not mandate the disclosure of resources, excluding reserves. Such resources would

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
		improved guidance for issuers with resource estimates. However, it provides little, if any, guidance to issuers with material properties that do not have attributed resource estimates. More guidance should be added.	include material properties with no attributed resource estimates. Disclosure requirements are only triggered if the issuer voluntarily discloses anticipated results concerning its resources. For example, if an issuer discloses a lease value on a material unproved property, the issuer must comply with the requirements of proposed subsection 5.9(1) and there is extensive guidance in the draft companion policy on this type of disclosure. At this time, the CSA is not prepared to mandate disclosure of resources. Thus, the guidance is restricted to the prescribed disclosure requirements of resources which arise when their anticipated results are disclosed.
69.	General comments	One commenter states that it would be beneficial to provide more detailed guidance regarding the estimation of future income tax expenses, or alternatively, to disclose the amount of income tax paid in previous years.	NI 51-101 is not designed to provide detailed guidance on evaluation practices, including after-tax evaluation. Evaluation engineers should consult the appropriate experts to obtain advice and direction.
70.	Paragraph 1.1(2) - forecast prices and costs	One commenter states that independent qualified reserves evaluators or auditors do not have sufficient expertise to determine forecast prices. An issuer should be able to reference price estimates by other parties recognized as reasonable authorities, such as PIRA or CERA.	The definition of forecast prices and costs incorporates a test that the future prices represent a reasonable outlook of the future. This does not preclude reliance on an estimate by PIRA or CERA, provided that the qualified reserves evaluator or auditor supplying the report accepts that future price

Reference	Subject (references are to proposed sections, items and paragraphs)	Summarized Comment	CSA Response
			as being a reasonable outlook of the future. It is the qualified reserves evaluator's or auditor's responsibility to evaluate the reserves and associated future net revenue, and as such, they must accept the forecast price estimates utilized. We will provide additional guidance in the companion policy.
71.	Paragraph 1.1(4) - non-conventional activities	One commenter notes that the examples of products from non-conventional activities do not include references to shale gas, shale oil and hydrates.	While these are referenced in the definition of product types, we agree that there is merit in referencing them in the guidance. We will make the change.
72.	Paragraph 1.2 - COGE Handbook	One commenter states that the reserves definitions and categories were developed through the joint effort of the Calgary Chapter of the Society of Petroleum Evaluation Engineers and the Standing Committee on Reserves Definitions of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), not merely by the latter.	We do not propose to make the suggested change given that the statement in paragraph 1.2 of the companion policy is consistent with the preface to volume 1 of the COGE Handbook.
73.	Paragraph 1.3	One commenter states that the terms "unproved properties" and "resources" are synonymous.	The terms "unproved properties" and "resources" as defined in the glossary in Appendix 1 of the companion policy are related but not synonymous.
74.	Paragraph 2.7(3)(a) - computation of tax in future net revenue	One commenter states that the guidance on the tax rate to be estimated in a royalty trust structure is confusing and contradictory. The commenter also states that the issue of determining taxes should be moved to the NI 51-101 section.	It is not clear how this guidance is confusing or contradictory. The guidance provides that a zero tax rate may be used in these structures, where appropriate. Regarding the second comment, we believe

Reference	Subject (references are to proposed sections, items and paragraphs)	Summarized Comment	CSA Response
			that the commenter expressed a preference for the rule prescribing requirements on the determination of tax. We do not propose to make this change as the rule should not prescribe information of this specific nature.
75.	Paragraph 2.7(5) - financial instruments	One commenter states that there is confusion about where contractual prices are used in the evaluation.	Contractual prices are to be taken into account in the determination of a forecast (or constant) price or cost, such as, for example, in the determination of a forecast price in the computation of future net revenue.
76.	Paragraph 5.2(2) - reserves	In the guidance on reserves, the commenter makes brief reference to his comments from NI 51-101F1 on disclosing proved, proved plus probable and proved plus probable plus possible reserves and his statement that “Proved plus Probable reserves are the Company’s best estimate of the reserves to be recovered and the related Future Net Revenue is the result of producing and selling these reserves.”	It is not clear whether the commenter is referring to earlier comments made in NI 51-101 or Form 51-101F1. We have assumed it is the former. To this end, please refer to the CSA response concerning paragraph 1.1(aa) of NI 51-101 above.
77.	Paragraph 5.5 - disclosure of resources	One commenter states that the following guidance implies that resources must be estimated using probabilistic methods, not deterministic methods: “Disclosure of resources requires the use of statistical measures that may be unfamiliar to a user.” The use of the deterministic method should be permitted, and if it is, the guidance should be clarified.	The guidance was not intended to exclude the use of deterministic methods and will be amended as follows: “Disclosure of resources <i>may involve</i> the use of statistical measures that may be unfamiliar to a user.”
78.	Paragraphs 5.5 (1) and (3) -	One commenter states that the disclosure of resources does not necessarily require the use of statistical	We agree. We have made the change to paragraph 5.5(1). We have not made a

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
	disclosure of resources	measures and that the guidance in sections 5.5(1) and (3) should be amended accordingly.	change to paragraph 5.5(3) as the guidance states that the COGE Handbook recommends the use of probabilistic methods for making resource estimates; the guidance does not require the use of this method.
79.	Paragraph 5.5(3)(c) - application of subsection 5.9(2) of NI 51-101	<p>A. One commenter recommends changing the word “median” to “best” in the reference to the resource estimate’s “middle value being the median estimate”.</p> <p>B. In respect of the guidance on disclosure of estimated percentage probability pursuant to subparagraph 5.9(2)(c)(iv) of NI 51-101, the commenter makes the following two comments:</p> <ol style="list-style-type: none"> 1. The terms “risk” and “uncertainty” are not synonymous. The term “risk” should be removed throughout the instrument. 2. The example given of an interval ranging from “20% to 30%” is not an appropriate example of an interval that would likely capture the mostly likely outcome. <p>C. In respect of the example of disclosure satisfying paragraph 5.9(2)(c), the commenter states that the new COGE Handbook definition of contingent resources would not define them as “recoverable but uneconomic”. There are contingent resources that are economic.</p>	<p>A. We agree. We changed the word “median” to “best” as this is more accurate.</p> <p>B. In respect of the commenter’s comments relating to the disclosure of an estimated percentage probability pursuant to subparagraph 5.9(2)(c)(iv) of NI 51-101, the CSA will retract this subparagraph from the amendments to the rule as well as the associated companion policy guidance.</p> <p>C. The definition of contingent resources in the COGE Handbook may change at a later date but at the present time, the example cites the current definition of contingent resources in the COGE Handbook. The example states that such resources are not currently economic, but this does not preclude the resource from becoming economic at a later date.</p>

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
80.	Paragraph 5.9 - finding and development costs	One commenter states that finding and development costs, as it is improperly used in the industry, causes significant problems in booking reserves.	NI 51-101 provides a standardized method of calculating finding and development costs pursuant to section 5.15.
81.	Withdrawal of existing Part 8 (commentary on exemptions)	<p>Two of the commenters, both of which have exemptive relief pursuant to Part 8 of the companion policy or represent issuers having such relief, support retaining the guidance on the exemptions, in the same or a simplified or clarified form. One commenter states that the guidance provides valuable background to the original granting of the relief. It would therefore be of assistance in determining the continued applicability of the exemptions if the sunset provisions are triggered and the availability of discretionary exemptive relief in the future.</p> <p>To the extent that the existing guidance results in applications that misconstrue the applicability of the guidance, the guidance could be retained but clarified.</p>	<p>We will not retain the guidance on exemptions in the Companion Policy. The guidance is unusually lengthy and we do not feel that this relief is applicable to the majority of issuers. The removal of the guidance in the companion policy does not affect any existing exemptive relief orders or the ability to apply for future discretionary exemptive relief.</p> <p>It is more appropriate for securities regulatory authorities to consider discretionary relief on a case-by-case basis.</p>
82.	Existing discretionary exemptive relief guidance	One of the commenters does not support eliminating the requirement for independent reserves evaluation or audit for some issuers.	We assume the commenter is referring to the discretionary exemptive relief orders granted to certain issuers. The proposed amendments were developed without reference to and consideration for any discretionary exemptive relief orders, which are considered on a case-by-case basis.

<i>Reference</i>	<i>Subject (references are to proposed sections, items and paragraphs)</i>	<i>Summarized Comment</i>	<i>CSA Response</i>
83.	Appendix 1 - definition of “prospective resources”	One commenter notes that the word “uneconomic” in the definition of “prospective resources” should be replaced with “economic” to properly reflect the meaning of the term and its definition in the COGE Handbook.	We agree. The definition of “prospective resources” has been changed to reflect the comment.
84.	Appendix 2 - Reserves and Resources Classification chart	Two commenters state that the reserves and resources classification chart does not duplicate the charts in the COGE Handbook.	We have withdrawn the chart as it would need to be modified if the SPE/WPC definitions of resources are adopted in the COGE Handbook - see item 23.

Appendix C

Summary of Changes to Published Amendments

NI 51-101

Part 2 Annual Filing Requirements

- We have not proceeded with the proposed amendment to require that a notice announcing the filing be filed with the *securities regulatory authority* as well as disseminated.

Part 5 Requirements Applicable to all Disclosure

- We have removed the requirement in subparagraph 5.9(2)(c)(iv) to disclose the estimated percentage probability of hydrocarbon discovery in the case of *undiscovered resources* or commercial extraction in the case of *discovered resources*.
- We have modified the cautionary language prescribed in subparagraph 5.9(2)(c)(vi) of the published amendments [subparagraph 5.9(2)(c)(v) of the amendments being implemented] to state that there is no certainty that it will be commercially viable, rather than economically viable or technically feasible, to produce the *resource*. The use of the term “commercially viable” is consistent with the language originally published for comment and it anticipates a potential change in the *COGE Handbook* to adopt resource definitions contained in the *Petroleum Resource Management System*¹ which incorporate the concept of commerciality.

Form 51-101F1 Statement of Reserves Data and Other Oil and Gas Information

- We have added an instruction concerning the categorization of infill drilling *reserves* in the *reserves* reconciliation.

CP 51-101

- We have added additional guidance regarding:
 - the *reserves* reconciliation in the annual filing;
 - variations from *reserves data* estimates reported in *Form 51-101F2*;
 - the requirements relating to the disclosure of *resources* that cannot currently be classified as *reserves* in section 5.9 of *NI 51-101*;
- We have retained the definitions of *reserves* (excerpted from the *COGE Handbook*) contained in Part 2 of Appendix 1 to CP 51-101. We have also severed the glossary in Appendix 1 (including Parts 1 and 2) from CP 51-101 and will publish the glossary as

¹ The *Petroleum Resource Management System* was prepared by the Society of Petroleum Engineers and jointly sponsored by the World Petroleum Council, the American Association of Petroleum Geologists and the Society of Petroleum Evaluation Engineers.

CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities*. The publication of the glossary as a staff notice will facilitate more timely updates of the definitions provided in the glossary.

- We have removed Appendix 2 to CP 51-101, which provided a chart summarizing the current *COGE Handbook reserves and resources* classification.

AMENDMENTS TO NATIONAL INSTRUMENT 51-101
Standards of Disclosure for Oil and Gas Activities

1. *National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities is amended by this Instrument.*

2. *The Notes are amended by repealing Note 1 and substituting the following:*

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms, including those defined in this Part, that are printed in italics in this *Instrument*, *Form 51-101F1*, *Form 51-101F2*, *Form 51-101F3* or Companion Policy 51-101CP.

3. *Part 1 is amended by,*

a. *in paragraph 1.1(a), striking out “National Instrument 51-102 Continuous Disclosure Obligations” and substituting “NI 51-102”,*

b. *after paragraph 1.1(a), adding the following paragraphs:*

(a.1) "*analogous information*" means information about an area outside the area in which the *reporting issuer* has an interest or intends to acquire an interest, which is referenced by the *reporting issuer* for the purpose of drawing a comparison or conclusion to an area in which the *reporting issuer* has an interest or intends to acquire an interest, which comparison or conclusion is reasonable, and includes:

- (i) historical information concerning *reserves*;
- (ii) estimates of the volume or value of *reserves*;
- (iii) historical information concerning *resources*;
- (iv) estimates of the volume or value of *resources*;
- (v) historical *production* amounts;
- (vi) *production* estimates; or
- (vii) information concerning a *field*, well, basin or *reservoir*;

(a.2) "*anticipated results*" means information that may, in the opinion of a reasonable person, indicate the potential value or quantities of *resources* in respect of the *reporting issuer's resources* or a portion of its *resources* and includes:

- (i) estimates of volume;

- (ii) estimates of value;
 - (iii) areal extent;
 - (iv) pay thickness;
 - (v) flow rates; or
 - (vi) hydrocarbon content;
- c. *repealing paragraph 1.1(d) and substituting the following:***
 - (d) "CICA Accounting Guideline 16" means Accounting Guideline AcG-16 "Oil and gas accounting - full cost" included in the *CICA Handbook*, as amended from time to time; ,
- d. *repealing paragraph 1.1(g),***
- e. *in paragraph 1.1(o), striking out “qualified reserves evaluator or auditor, has the meaning set out in the COGE Handbook” and substituting “person or company, means a relationship between the reporting issuer and that person or company in which there is no circumstance that could, in the opinion of a reasonable person aware of all relevant facts, interfere with that person’s or company’s exercise of judgment regarding the preparation of information which is used by the reporting issuer”,***
- f. *after paragraph 1.1(r), adding the following paragraph:***
 - (r.1) "NI 51-102" means National Instrument 51-102 *Continuous Disclosure Obligations*;
- g. *in subparagraph 1.1(v)(ii),***
 - i. *in clause (C) striking out the “or”,***
 - ii. *in clause (D) striking out the period and substituting a semi-colon, and***
 - iii. *after clause (D) adding the following clauses:***
 - (E) shale oil; or
 - (F) shale gas; ,
- h. *in subparagraph 1.1(x)(i), adding “, resources” after “reserves data”, wherever it occurs;***
- i. *in subparagraph 1.1(y)(i), adding “, resources” after “reserves data”, wherever it occurs;***

j. after paragraph 1.1(z), adding the following:

(z.1) "reserves" means *proved, probable or possible reserves*;

k. repealing paragraph 1.1(aa) and substituting the following:

(aa) "reserves data" means an estimate of *proved reserves* and *probable reserves* and related *future net revenue*, estimated using *forecast prices and costs*; and, **and**

l. in subsection 1.2(2), striking out "shall apply" and substituting "applies".

4. Part 4 is amended by,

a. in paragraph 4.1(a), striking out "5" and substituting "16",

b. repealing section 4.2 and substituting the following:

4.2 Consistency in Dates - The date or period with respect to which the effects of an event or transaction are recorded in a *reporting issuer's* annual financial statements must be the same as the date or period with respect to which they are first reflected in the *reporting issuer's* annual *reserves data* disclosure under Part 2.

5. Part 5 is amended by,

a. repealing section 5.2 and substituting the following:

5.2 Disclosure of Reserves and Other Information - If a *reporting issuer* makes disclosure of *reserves* or other information of a type that is specified in *Form 51-101F1*, the *reporting issuer* must ensure that the disclosure satisfies the following requirements:

- (a) estimates of *reserves* or *future net revenue* must
 - (i) disclose the *effective date* of the estimate;
 - (ii) have been prepared or audited by a *qualified reserves evaluator or auditor*;
 - (iii) have been prepared or audited in accordance with the *COGE Handbook*;
 - (iv) have been made assuming that development of each *property* in respect of which the estimate is made will occur, without regard to the likely availability to the *reporting issuer* of funding required for that development; and

- (v) in the case of estimates of *possible reserves* or related *future net revenue* disclosed in writing, also include a cautionary statement that is proximate to the estimate to the following effect:

“Possible reserves are those additional reserves that are less certain to be recovered than probable reserves. There is a 10% probability that the quantities actually recovered will equal or exceed the sum of proved plus probable plus possible reserves.”;

- (b) for the purpose of determining whether *reserves* should be attributed to a particular undrilled *property*, reasonably estimated future abandonment and reclamation costs related to the *property* must have been taken into account;
 - (c) in disclosing aggregate *future net revenue* the disclosure must comply with the requirements for the determination of *future net revenue* specified in *Form 51-101F1*; and
 - (d) the disclosure must be consistent with the corresponding information, if any, contained in the statement most recently filed by the *reporting issuer* with the *securities regulatory authority* under item 1 of section 2.1, except to the extent that the statement has been supplemented or superseded by a report of a material change³ filed by the *reporting issuer* with the *securities regulatory authority*.,
- b. in section 5.3, striking out “be consistent with” and substituting “apply” and adding “and must relate to the most specific category of *reserves* or *resources* in which the *reserves* or *resources* can be classified” after “set out in the *COGE Handbook*”,**
 - c. in section 5.4, adding “the quantities and” after “marketable quantities, reflecting”,**
 - d. in section 5.6, adding “Market” after “Not Fair”,**
 - e. repealing section 5.9 and substituting the following:**

5.9 Disclosure of Resources

- (1) If a *reporting issuer* discloses *anticipated results* from *resources* which are not currently classified as *reserves*, the *reporting issuer*

³ “Material change” has the same meaning ascribed to the term under *securities legislation* of the applicable jurisdiction.

must also disclose in writing, in the same document or in a *supporting filing*:

- (a) the *reporting issuer's* interest in the *resources*;
 - (b) the location of the *resources*;
 - (c) the *product types* reasonably expected;
 - (d) the risks and the level of uncertainty associated with recovery of the *resources*; and
 - (e) in the case of *unproved property*, if its value is disclosed,
 - (i) the basis of the calculation of its value; and
 - (ii) whether the value was prepared by an *independent* party.
- (2) If disclosure referred to in subsection (1) includes an estimate of a quantity of *resources* in which the *reporting issuer* has an interest or intends to acquire an interest, or an estimated value attributable to an estimated quantity, the estimate must
- (a) have been prepared or audited by a *qualified reserves evaluator or auditor*;
 - (b) relate to the most specific category of *resources* in which the *resources* can be classified, as set out in the *COGE Handbook*, and must identify what portion of the estimate is attributable to each category; and
 - (c) be accompanied by the following information:
 - (i) a definition of the *resources* category used for the estimate;
 - (ii) the *effective date* of the estimate;
 - (iii) the significant positive and negative factors relevant to the estimate;
 - (iv) in respect of *contingent resources*, the specific contingencies which prevent the classification of the *resources* as *reserves*; and

- (v) a cautionary statement that is proximate to the estimate to the effect that:
 - (A) in the case of *discovered resources* or a subcategory of *discovered resources* other than *reserves*:

“There is no certainty that it will be commercially viable to produce any portion of the resources.”; or
 - (B) in the case of *undiscovered resources* or a subcategory of *undiscovered resources*:

“There is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.”
- (3) Paragraphs 5.9(1)(d) and (e) and subparagraphs 5.9(2)(c)(iii) and (iv) do not apply if:
 - (a) the *reporting issuer* includes in the written disclosure a reference to the title and date of a previously filed document that complies with those requirements; and
 - (b) the *resources* in the written disclosure, taking into account the specific *properties* and interests reflected in the *resources* estimate or other *anticipated result*, are *materially* the same *resources* addressed in the previously filed document.,

f. repealing section 5.10 and substituting the following:

5.10 Analogous Information

- (1) Sections 5.2, 5.3 and 5.9 do not apply to the disclosure of *analogous information* provided that the *reporting issuer* discloses the following:
 - (a) the source and date of the *analogous information*;
 - (b) whether the source of the *analogous information* was *independent*;

- (c) if the *reporting issuer* is unable to confirm that the *analogous information* was prepared by a *qualified reserves evaluator or auditor* or in accordance with the *COGE Handbook*, a cautionary statement to that effect proximate to the disclosure of the *analogous information*; and
 - (d) the relevance of the *analogous information* to the *reporting issuer's oil and gas activities*.
 - (2) For greater certainty, if a *reporting issuer* discloses information that is an *anticipated result*, an estimate of a quantity of *reserves* or *resources*, or an estimate of value attributable to an estimated quantity of *reserves* or *resources* for an area in which it has an interest or intends to acquire an interest, that is based on an extrapolation from *analogous information*, sections 5.2, 5.3 and 5.9 apply to the disclosure of the information., **and**
- g. in section 5.13, repealing paragraph (a).**
- 6. Part 6 is amended by, in subsection 6.1(2),**
 - a. striking out “shall” and substituting “must discuss the *reporting issuer's* reasonable expectation of how the material change has affected its *reserves data* or other information.”, and**
 - b. repealing paragraphs (a) and (b).**
- 7. Part 8 is amended by adding the following after section 8.1:**
 - 8.2 Exemption for Certain Exchangeable Security Issuers**
 - (1) An exchangeable security issuer, as defined in subsection 13.3(1) of *NI 51-102*, is exempt from this *Instrument* if all of the requirements of subsection 13.3(2) of *NI 51-102* are satisfied;
 - (2) For the purposes of subsection (1), the reference to “continuous disclosure documents” in clause 13.3(2)(d)(ii)(A) of *NI 51-102* includes documents filed in accordance with this *Instrument*.
- 8. With the exception of subsection 1.2(2), all provisions containing the word “shall” are amended by striking out “shall” and substituting “must”.**
- 9. This amendment comes into force December 28, 2007.**

AMENDMENTS TO

**Form 51-101F1 Statement of Reserves Data and Other Oil and Gas Information,
Form 51-101F2 Report on Reserves Data by Independent Qualified Reserves Evaluator or
Auditor, and
Form 51-101F3 Report of Management and Directors on Oil and Gas Disclosure**

1. ***Form 51-101F1 Statement of Reserves Data and Other Oil and Gas Information, Form 51-101F2 Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor, and Form 51-101F3 Report of Management and Directors on Oil and Gas Disclosure are amended by this Instrument.***
2. ***Form 51-101F1 Statement of Reserves Data and Other Oil and Gas Information is amended by,***

(a) ***repealing note 1 to instruction (1) of the General Instructions and substituting the following:***

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms that are printed in italics (or, in the Instructions, in bold type) in this *Form 51-101F1* or in *NI 51-101*, *Form 51-101F2*, *Form 51-101F3* or Companion Policy 51-101CP.,

(b) ***repealing Item 2.1 and substituting the following:***

Item 2.1 *Reserves Data (Forecast Prices and Costs)*

1. **Breakdown of Reserves (Forecast Case)** – Disclose, by country and in the aggregate, *reserves*, *gross* and *net*, estimated using *forecast prices and costs*, for each *product type*, in the following categories:
 - (a) *proved developed producing reserves*;
 - (b) *proved developed non-producing reserves*;
 - (c) *proved undeveloped reserves*;
 - (d) *proved reserves (in total)*;
 - (e) *probable reserves (in total)*;
 - (f) *proved plus probable reserves (in total)*; and
 - (g) if the *reporting issuer* discloses an estimate of *possible reserves* in the statement:

- (i) *possible reserves* (in total); and
 - (ii) *proved plus probable plus possible reserves* (in total).
- 2. Net Present Value of *Future Net Revenue* (Forecast Case) – Disclose, by country and in the aggregate, the net present value of *future net revenue* attributable to the *reserves* categories referred to in section 1 of this Item, estimated using *forecast prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using discount rates of 5 percent, 10 percent, 15 percent and 20 percent. Also disclose the same information on a unit value basis (e.g., \$/Mcf or \$/bbl using *net reserves*) using a discount rate of 10 percent and calculated before deducting *future income tax expenses*. This unit value disclosure requirement may be satisfied by including the unit value disclosure for each category of *proved reserves* and for *probable reserves* in the disclosure referred to in paragraph 3(c) of Item 2.1.
- 3. Additional Information Concerning *Future Net Revenue* (Forecast Case)
 - (a) This section 3 applies to *future net revenue* attributable to each of the following *reserves* categories estimated using *forecast prices and costs*:
 - (i) *proved reserves* (in total);
 - (ii) *proved plus probable reserves* (in total); and
 - (iii) if paragraph 1(g) of this Item applies, *proved plus probable plus possible reserves* (in total).
 - (b) Disclose, by country and in the aggregate, the following elements of *future net revenue* estimated using *forecast prices and costs* and calculated without discount:
 - (i) revenue;
 - (ii) royalties;
 - (iii) *operating costs*;
 - (iv) *development costs*;
 - (v) abandonment and reclamation costs;
 - (vi) *future net revenue* before deducting *future income tax expenses*;
 - (vii) *future income tax expenses*; and

(viii) *future net revenue* after deducting *future income tax expenses*.

- (c) Disclose, by *production group* and on a unit value basis for each production group (e.g., \$/Mcf or \$/bbl using *net reserves*), the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *forecast prices and costs* and calculated using a discount rate of 10 percent.,

(c) ***repealing Item 2.2 and substituting the following:***

Item 2.2 Supplemental Disclosure of Reserves Data (Constant Prices and Costs)

The *reporting issuer* may supplement its disclosure of *reserves data* under Item 2.1 by also disclosing the components of Item 2.1 in respect of its *proved reserves* or its *proved and probable reserves*, using *constant prices and costs* as at the last day of the *reporting issuer's* most recent financial year.,

(d) ***repealing instruction (3) to Part 2 and substituting the following:***

(3) ***Constant prices and costs*** are prices and costs used in an estimate that are:

- (a) *the **reporting issuer's** prices and costs as at the **effective date** of the estimation, held constant throughout the estimated lives of the **properties** to which the estimate applies;*
- (b) *if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the **reporting issuer** is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in paragraph (a).*

*For the purpose of paragraph (a), the **reporting issuer's** prices will be the posted price for oil and the spot price for gas, after historical adjustments for transportation, gravity and other factors.,*

(e) ***in Item 3.1,***

- i. ***in the heading, adding “Supplemental” after “Constant Prices Used in”,***
- ii. ***at the beginning of the paragraph, striking out “For” and substituting “If supplemental disclosure under Item 2.2 is made, then disclose, for”,***
- iii. ***striking out “disclose” after “each product type”, and***

- iv. at the end of the paragraph, striking out “2.1” and substituting “2.2”,*
- (f) in paragraph 1.(a) of Item 3.2, striking out “2.2” and substituting “2.1”,*
- (g) in instruction (2) to Part 3, striking out “defined terms” and substituting “term”, and adding “the defined term” after “constant prices and costs” and”,*
- (h) in the heading to Part 4, striking out “RECONCILIATIONS OF CHANGES IN RESERVES AND FUTURE NET REVENUE” and substituting “RECONCILIATION OF CHANGES IN RESERVES”,*
- (i) in paragraph 1.(a) of Item 4.1, striking out “net” and substituting “gross”,*
- (j) in paragraph 1.(b) of Item 4.1, striking out “net” and substituting “gross”,*
- (k) in paragraph 1.(c) of Item 4.1, striking out “net” and substituting “gross”,*
- (l) in paragraph 2.(b) of Item 4.1,*
 - i. at the end of subparagraph (iii), striking out “and”,*
 - ii. at the end of subparagraph (iv), striking out “and other products from non-conventional oil and gas activities”,*
 - iii. adding the following subparagraphs after subparagraph (iv):*
 - (v) bitumen;*
 - (vi) coal bed methane;*
 - (vii) hydrates;*
 - (viii) shale oil; and*
 - (ix) shale gas,;*
- (m) in paragraph 2.(c) of Item 4.1,*
 - i. in subparagraph (i), adding “and improved recovery”,*
 - ii. repealing subparagraph (ii); and*
 - iii. renumbering subparagraphs (iii),(iv), (v), (vi), (vii), and (viii) as (ii), (iii), (iv), (v), (vi), and (vii), respectively,*

- (n) *in instruction (1) to Item 4.1,*
 - i. *striking out “may” and substituting “must”; and*
 - ii. *striking out “either constant prices and costs or”,*
- (o) *adding the following instruction after instruction (3) to Item 4.1:*
- (4) *Reporting issuers must not include infill drilling reserves in the category of technical revisions specified in clause 2(c)(ii). Reserves additions from infill drilling must be included in the category of extensions and improved recovery in clause 2(c)(i) (or, alternatively, in an additional separate category under paragraph 2(c) labelled “infill drilling”). ,*
- (p) *repealing Item 4.2,*
- (q) *repealing the instructions to Part 4,*
- (r) *in paragraph 1.(a) of Item 5.1, striking out “five” and substituting “three”, and at the end of the paragraph, striking out “or” and substituting “and”,*
- (s) *in paragraph 2.(a) of Item 5.1, striking out “five” and substituting “three”, and at the end of the paragraph, striking out “or” and substituting “and”,*
- (t) *in paragraph 1.(a) of Item 5.3,*
 - i. *repealing subparagraph (i), and*
 - ii. *renumbering subparagraphs (ii) and (iii) as subparagraphs (i) and (ii), respectively,*
- (u) *in subparagraph 1.(b)(i) of Item 5.3, striking out “and using a discount rate of 10 percent”,*
- (v) *in paragraph 2.(a) of Item 6.3, striking out “3860” and substituting “3861”,*
- (w) *in the instruction to Item 6.4, striking out of “and clause 3(b)(v) of Item 2.2”,*
- (x) *in section 1. of Item 6.8, striking out “future net revenue” and substituting “gross proved reserves and gross probable reserves”, and striking out “Items 2.1 and 2.2” and substituting “Item 2.1.”, and*
- (y) *at the end of the instruction to Item 6.9, adding “Resulting netbacks may be disclosed on the basis of units of equivalency between oil and gas (e.g. BOE) but if so that must be made clear and disclosure must comply with section 5.14 of NI 51-101.”.*

3. Form 51-101F2 Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor is amended, in the prescribed form “Report on Reserves Data” under section 2, by

(a) repealing note 1 and substituting the following:

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101, Form 51-101F1, Form 51-101F3* or Companion Policy 51-101CP.,

(b) in section 1, striking out “consist of the following:” and substituting “are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer’s most recently completed financial year], estimated using forecast prices and costs.”,

(c) repealing paragraphs 1(a) and (b),

(d) in note 2, striking out “2.2” and substituting “2.1”, and

(e) at the end of section 7, adding the following:

“However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.”.

4. Form 51-101F3 Report of Management and Directors on Oil and Gas Disclosure is amended, in the prescribed form “Report of Management and Directors on Oil and Gas Disclosure” under section 2, by

(a) repealing note 1 and substituting the following:

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101, Form 51-101F1, Form 51-101F2* or Companion Policy 51-101CP.,

(b) in the paragraph beginning “Management of [name of reporting issuer]”, striking out “consist of the following:” and substituting “are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer’s most recently completed financial year], estimated using forecast prices and costs.”,

(c) after the paragraph beginning “Management of [name of reporting issuer]”, repealing subparagraphs(a) and (b),

- (d) *after the paragraph beginning* “The [Reserves Committee of the] board of directors of the Company has”, *in subparagraph (b), striking out* “because of the” *and substituting* “in the event of a”,
 - (e) *after the paragraph beginning* “The [Reserves Committee of the] board of directors has reviewed”, *in subparagraph (a), striking out* “the” *after* “securities regulatory authorities of” *and substituting* “Form 51-101F1 containing”,
 - (f) *after the paragraph beginning* “The [Reserves Committee of the] board of directors has reviewed”, *in subparagraph (b), adding* “Form 51-101F2 which is” *after* “the filing of”, *and*
 - (g) *at the end of the paragraph beginning* “Because the reserves data are based on judgements” *adding* “However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.”.
5. ***Form 51-101F1 Statement of Reserves Data and Other Oil and Gas Information, Form 51-101F2 Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor, and Form 51-101F3 Report of Management and Directors on Oil and Gas Disclosure are amended by striking out “shall” and substituting “must” wherever it appears.***
6. ***This amendment comes into force December 28, 2007.***

NATIONAL INSTRUMENT 51-101
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

TABLE OF CONTENTS

Part 1 APPLICATION AND TERMINOLOGY

- 1.1 Definitions
- 1.2 *COGE Handbook* Definitions
- 1.3 Applies to *Reporting Issuers* Only
- 1.4 *Materiality* Standard

Part 2 ANNUAL FILING REQUIREMENTS

- 2.1 *Reserves Data* and Other Oil and Gas Information
 - 1. Statement of *Reserves Data* and Other Information
 - 2. Report of *Independent Qualified Reserves Evaluator or Auditor*
 - 3. Report of Management and Directors
- 2.2 News Release to Announce Filing
- 2.3 Inclusion in *Annual Information Form*
- 2.4 *Reservation* in Report of *Qualified Reserves Evaluator or Auditor*

Part 3 RESPONSIBILITIES OF *REPORTING ISSUERS* AND DIRECTORS

- 3.1 Interpretation
- 3.2 *Reporting Issuer* to Appoint *Independent Qualified Reserves Evaluator or Auditor*
- 3.3 *Reporting Issuer* to Make Information Available to *Qualified Reserves Evaluator or Auditor*
- 3.4 Certain Responsibilities of Board of Directors
- 3.5 *Reserves Committee*
- 3.6 repealed

Part 4 MEASUREMENT

- 4.1 Accounting Methods
- ~~4.2 Requirements for Disclosed *Reserves Data*~~
- 4.2 Consistency in Dates**

Part 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

- 5.1 Application of Part 5
- 5.2 ~~Consistency with~~ **Disclosure of** *Reserves Data* and Other Information
- 5.3 *Reserves and Resources* Classification
- 5.4 *Oil and Gas Reserves* and Sales
- 5.5 *Natural Gas By-Products*
- 5.6 *Future Net Revenue* Not Fair **Market** Value
- 5.7 Consent of *Qualified Reserves Evaluator or Auditor*
- 5.8 Disclosure of Less Than All *Reserves*
- 5.9 Disclosure ~~Concerning *Prospects*~~ **of Resources**

~~5.10 Estimates of Fair Value of an Unproved Property, Prospect or Resource~~

5.10 Analogous Information

5.11 Net Asset Value and Net Asset Value per Share

5.12 *Reserve* Replacement

5.13 Netbacks

5.14 *BOEs* and *McGEs*

5.15 Finding and *Development Costs*

Part 6 MATERIAL CHANGE DISCLOSURE

6.1 Material Change from Information Filed under Part 2

Part 7 OTHER INFORMATION

7.1 Information to be Furnished on Request

Part 8 EXEMPTIONS

8.1 Authority to Grant Exemption

8.2 Exemption for Certain Exchangeable Security Issuers

Part 9 INSTRUMENT IN FORCE

9.1 Coming Into Force

9.2 Transition

NATIONAL INSTRUMENT 51-101
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

PART 1 APPLICATION AND TERMINOLOGY¹

1.1 Definitions² - In this *Instrument*:

- (a) "annual information form" has the same meaning as "AIF" in National Instrument 51-102 *Continuous Disclosure Obligations*; **NI 51-102**;

(a.1) "analogous information" means information about an area outside the area in which the reporting issuer has an interest or intends to acquire an interest, which is referenced by the reporting issuer for the purpose of drawing a comparison or conclusion to an area in which the reporting issuer has an interest or intends to acquire an interest, which comparison or conclusion is reasonable, and includes:

(i) historical information concerning reserves;

(ii) estimates of the volume or value of reserves;

(iii) historical information concerning resources;

(iv) estimates of the volume or value of resources;

(v) historical production amounts;

(vi) production estimates; or

(vii) information concerning a field, well, basin or reservoir;

(a.2) "anticipated results" means information that may, in the opinion of a reasonable person, indicate the potential value or quantities of resources in respect of the reporting issuer's resources or a portion of its resources and includes:

¹ For the convenience of readers, Appendix 1 to Companion Policy 51-101CP **CSA Staff Notice 51-324 Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities** sets out the meanings of terms, including those defined in this Part, that are printed in italics in this *Instrument*, Form 51-101F1, Form 51-101F2, Form 51-101F3 or the Companion Policy **51-101CP**.

² A national definition instrument has been adopted as *NI 14-101*. It contains definitions of certain terms used in more than one national or multilateral instrument. *NI 14-101* provides that a term used in a national or multilateral instrument and defined in the statute relating to securities of the applicable *jurisdiction*, the definition of which is not restricted to a specific portion of the statute, will have the meaning given to it in that statute unless the context otherwise requires. *NI 14-101* also provides that a provision or a reference within a provision of a national or multilateral instrument that specifically refers by name to a jurisdiction other than the local jurisdiction shall not have any effect in the local jurisdiction, unless otherwise stated in that national or multilateral instrument.

- (i) estimates of volume;
 - (ii) estimates of value;
 - (iii) areal extent;
 - (iv) pay thickness;
 - (v) flow rates; or
 - (vi) hydrocarbon content;
- (b) "BOEs" means barrels of *oil* equivalent;
 - (c) "CICA" means The Canadian Institute of Chartered Accountants;
 - (d) "*CICA Accounting Guideline 516*" means Accounting Guideline AcG-5 "~~Full cost~~ **16 "Oil and gas** accounting in the oil and gas industry- **full cost**" included in the *CICA Handbook*, as amended from time to time;
 - (e) "*CICA Handbook*" means the Handbook of the *CICA*, as amended from time to time;
 - (f) "*COGE Handbook*" means the "Canadian Oil and Gas Evaluation Handbook" prepared jointly by The Society of Petroleum Evaluation Engineers (Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society), as amended from time to time;
 - (g) ~~"constant prices and costs" means the prices and costs used in an estimate that are:~~ **repealed;**
 - ~~(i) — the reporting issuer's prices and costs as at the effective date of the estimation, held constant throughout the estimated lives of the properties to which the estimate applies;~~
 - ~~(ii) — if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the reporting issuer is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in subparagraph (i);~~
 - (h) "*effective date*", in respect of information, means the date as at which, or for the period ended on which, the information is provided;
 - (i) "*FAS 19*" means United States Financial Accounting Standards Board Statement of Financial Accounting Standards No. 19 "Financial Accounting and Reporting by Oil and Gas Producing Companies", as amended from time to time;

- (j) "forecast prices and costs" means future prices and costs that are:
 - (i) generally accepted as being a reasonable outlook of the future;
 - (ii) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in subparagraph (i);
- (k) "foreign geographic area" means a geographic area outside North America within one country or including all or portions of a number of countries;
- (l) "Form 51-101F1" means Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*;
- (m) "Form 51-101F2" means Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor*;
- (n) "Form 51-101F3" means Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure*;
- (o) "independent", in respect of the relationship between a *reporting issuer* and a ~~qualified reserves evaluator or auditor~~, has the meaning set out in the *COGE Handbook*; **person or company, means a relationship between the reporting issuer and that person or company in which there is no circumstance that could, in the opinion of a reasonable person aware of all relevant facts, interfere with that person's or company's exercise of judgment regarding the preparation of information which is used by the reporting issuer;**
- (p) "McfGEs" means thousand cubic feet of *gas* equivalent;
- (q) "NI 14-101" means National Instrument 14-101 *Definitions*;
- (r) **repealed;**
- (r.1) "NI 51-102" means National Instrument 51-102 Continuous Disclosure Obligations;**
- (s) "oil and gas activities"
 - (i) include:
 - (A) the search for *crude oil* or *natural gas* in their natural states and original locations;

- (B) the acquisition of property rights or *properties* for the purpose of further exploring for or removing *oil* or *gas* from *reservoirs* on those *properties*;
 - (C) the construction, drilling and *production* activities necessary to retrieve *oil* and *gas* from their natural *reservoirs*, and the acquisition, construction, installation and maintenance of *field* gathering and storage systems including lifting the *oil* and *gas* to the surface and gathering, treating, *field* processing and *field* storage; and
 - (D) the extraction of hydrocarbons from oil sands, shale, coal or other non-conventional sources and activities similar to those referred to in clauses (A), (B) and (C) undertaken with a view to such extraction; but
- (ii) do not include:
- (A) transporting, refining or marketing *oil* or *gas*;
 - (B) activities relating to the extraction of natural resources other than *oil* and *gas* and their by-products; or
 - (C) the extraction of geothermal steam or of hydrocarbons as a by-product of the extraction of geothermal steam or associated geothermal resources;
- (t) "*preparation date*", in respect of written disclosure, means the most recent date to which information relating to the period ending on the *effective date* was considered in the preparation of the disclosure;
- (u) "*production group*" means one of the following together, in each case, with associated by-products:
- (i) light and medium *crude oil* (combined);
 - (ii) *heavy oil*;
 - (iii) *associated gas* and *non-associated gas* (combined); and
 - (iv) *bitumen*, *synthetic oil* or other products from non-conventional *oil and gas activities*.
- (v) "*product type*" means one of the following:
- (i) in respect of conventional *oil and gas activities*:
 - (A) light and medium *crude oil* (combined);

- (B) *heavy oil*;
 - (C) *natural gas* excluding *natural gas liquids*; or
 - (D) *natural gas liquids*; and
- (ii) in respect of non-conventional *oil and gas activities*:
 - (A) *synthetic oil*;
 - (B) *bitumen*;
 - (C) coal bed methane; ~~or~~
 - (D) ~~hydrates;~~
 - (E) shale oil; or**
 - (F) shale gas;**
- (w) "*professional organization*" means a self-regulatory organization of engineers, geologists, other geoscientists or other professionals whose professional practice includes *reserves evaluations* or *reserves audits*, that:
 - (i) admits members primarily on the basis of their educational qualifications;
 - (ii) requires its members to comply with the professional standards of competence and ethics prescribed by the organization that are relevant to the estimation, *evaluation*, *review* or *audit* of *reserves data*;
 - (iii) has disciplinary powers, including the power to suspend or expel a member; and
 - (iv) is either:
 - (A) given authority or recognition by statute in a Canadian jurisdiction; or
 - (B) accepted for this purpose by the *securities regulatory authority* or the *regulator*;
- (x) "*qualified reserves auditor*" means an individual who:
 - (i) in respect of particular *reserves data*, **resources** or related information, possesses professional qualifications and experience appropriate for the estimation, *evaluation*, *review* and *audit* of the *reserves data*, **resources** and related information; and
 - (ii) is a member in good standing of a *professional organization*;

- (y) "qualified reserves evaluator" means an individual who:
 - (i) in respect of particular *reserves data*, *resources* or related information, possesses professional qualifications and experience appropriate for the estimation, *evaluation* and *review* of the *reserves data*, *resources* and related information; and
 - (ii) is a member in good standing of a *professional organization*;
- (z) "qualified reserves evaluator or auditor" means a *qualified reserves auditor* or a *qualified reserves evaluator*;
- ~~(aa) "reserves data" means the following estimates, as at the last day of the reporting issuer's most recent financial year:~~
 - ~~(i) proved reserves and related future net revenue estimated:~~
 - ~~(A) using constant prices and costs as at the last day of that financial year; and~~
 - ~~(B) using forecast prices and costs; and~~
- (z.1) "reserves" means proved, probable or possible reserves;**
- (aa) (ii) "reserves data" means an estimate of proved reserves and** *probable reserves and related future net revenue,* ² *estimated using forecast prices and costs;* **and**
- (bb) "supporting filing" means a document filed by a *reporting issuer* with a *securities regulatory authority*.

1.2 COGE Handbook Definitions

- (1) Terms used in this *Instrument* but not defined in this *Instrument*, *NI 14-101* or the securities statute in the *jurisdiction*, and defined or interpreted in the *COGE Handbook*, have the meaning or interpretation ascribed to those terms in the *COGE Handbook*.
- (2) In the event of a conflict or inconsistency between the definition of a term in this *Instrument*, *NI 14-101* or the securities statute in the *jurisdiction* and the meaning ascribed to the term in the *COGE Handbook*, the definition in this *Instrument*, *NI 14-101* or the securities statute in the *jurisdiction*, as the case may be, ~~shall apply.~~ **applies.**

1.3 Applies to Reporting Issuers Only - This *Instrument* applies only to *reporting issuers* engaged, directly or indirectly, in *oil and gas activities*.

1.4 **Materiality Standard**

- (1) This *Instrument* applies only in respect of information that is *material* in respect of a *reporting issuer*.
- (2) For the purpose of subsection (1), information is *material* in respect of a *reporting issuer* if it would be likely to influence a decision by a reasonable investor to buy, hold or sell a security of the *reporting issuer*.

PART 2 ANNUAL FILING REQUIREMENTS

2.1 *Reserves Data and Other Oil and Gas Information* - A *reporting issuer* ~~shall~~must, not later than the date on which it is required by *securities legislation* to file audited financial statements for its most recent financial year, file with the *securities regulatory authority* the following:

1. **Statement of Reserves Data and Other Information** - a statement of the *reserves data* and other information specified in *Form 51-101F1*, as at the last day of the *reporting issuer's* most recent financial year and for the financial year then ended;
2. **Report of Independent Qualified Reserves Evaluator or Auditor** - a report in accordance with *Form 51-101F2* that is:
 - (a) included in, or filed concurrently with, the document filed under item 1; and
 - (b) executed by one or more *qualified reserves evaluators or auditors* each of whom is *independent* of the *reporting issuer*, who ~~shall~~must in the aggregate have:
 - (i) *evaluated* or audited at least 75 percent of the *future net revenue* (calculated using a discount rate of 10 percent) attributable to *proved* plus *probable reserves*, as reported in the statement filed or to be filed under item 1; and
 - (ii) *reviewed* the balance of such *future net revenue*; and
3. **Report of Management and Directors** – a report in accordance with *Form 51-101F3* that
 - (a) refers to the information filed or to be filed under items 1 and 2;
 - (b) confirms the responsibility of management of the *reporting issuer* for the content and filing of the statement referred to in item 1 and for the filing of the report referred to in item 2;
 - (c) confirms the role of the board of directors in connection with the information referred to in paragraph (b);

- (d) is contained in, or filed concurrently with, the statement filed under item 1; and
- (e) is executed by two senior officers and two directors of the *reporting issuer*.

2.2 News Release to Announce Filing - A *reporting issuer* ~~shall~~must, concurrently with filing a statement and reports under section 2.1, disseminate a news release announcing that filing and indicating where a copy of the filed information can be found for viewing by electronic means.

2.3 Inclusion in Annual Information Form - The requirements of section 2.1 may be satisfied by including the information specified in section 2.1 in an *annual information form* filed within the time specified in section 2.1.

2.4 Reservation in Report of Qualified Reserves Evaluator or Auditor

- (1) If a *qualified reserves evaluator or auditor* cannot report on *reserves data* without *reservation*, the *reporting issuer* ~~shall~~must ensure that the report of the *qualified reserves evaluator or auditor* prepared for the purpose of item 2 of section 2.1 sets out the cause of the *reservation* and the effect, if known to the *qualified reserves evaluator or auditor*, on the *reserves data*.
- (2) A report containing a *reservation*, the cause of which can be removed by the *reporting issuer*, does not satisfy the requirements of item 2 of section 2.1.

PART 3 RESPONSIBILITIES OF *REPORTING ISSUERS* AND DIRECTORS

3.1 Interpretation - A reference to a board of directors in this Part means, for a *reporting issuer* that does not have a board of directors, those individuals whose authority and duties in respect of that *reporting issuer* are similar to those of a board of directors.

3.2 Reporting Issuer to Appoint Independent Qualified Reserves Evaluator or Auditor - A *reporting issuer* ~~shall~~must appoint one or more *qualified reserves evaluators or auditors*, each of whom is *independent* of the *reporting issuer*, to report to the board of directors of the *reporting issuer* on its *reserves data*.

3.3 Reporting Issuer to Make Information Available to Qualified Reserves Evaluator or Auditor - A *reporting issuer* ~~shall~~must make available to the *qualified reserves evaluators or auditors* that it appoints under section 3.2 all information reasonably necessary to enable the *qualified reserves evaluators or auditors* to provide a report that will satisfy the applicable requirements of this *Instrument*.

3.4 Certain Responsibilities of Board of Directors - The board of directors of a *reporting issuer* ~~shall~~must

- (a) review, with reasonable frequency, the *reporting issuer's* procedures relating to the disclosure of information with respect to *oil and gas activities*, including its

procedures for complying with the disclosure requirements and restrictions of this *Instrument*;

- (b) review each appointment under section 3.2 and, in the case of any proposed change in such appointment, determine the reasons for the proposal and whether there have been disputes between the appointed *qualified reserves evaluator or auditor* and management of the *reporting issuer*;
- (c) review, with reasonable frequency, the *reporting issuer's* procedures for providing information to the *qualified reserves evaluators or auditors* who report on *reserves data* for the purposes of this *Instrument*;
- (d) before approving the filing of *reserves data* and the report of the *qualified reserves evaluators or auditors* thereon referred to in section 2.1, meet with management and each *qualified reserves evaluator or auditor* appointed under section 3.2, to
 - (i) determine whether any restrictions affect the ability of the *qualified reserves evaluator or auditor* to report on *reserves data* without reservation; and
 - (ii) review the *reserves data* and the report of the *qualified reserves evaluator or auditor* thereon; and
- (e) review and approve
 - (i) the content and filing, under section 2.1, of the statement referred to in item 1 of section 2.1;
 - (ii) the filing, under section 2.1, of the report referred to in item 2 of section 2.1; and
 - (iii) the content and filing, under section 2.1, of the report referred to in item 3 of section 2.1.

3.5 Reserves Committee

- (1) The board of directors of a *reporting issuer* may, subject to subsection (2), delegate the responsibilities set out in section 3.4 to a committee of the board of directors, provided that a majority of the members of the committee
 - (a) are individuals who are not and have not been, during the preceding 12 months:
 - (i) an officer or employee of the *reporting issuer* or of an affiliate of the *reporting issuer*;

- (ii) a person who beneficially owns 10 percent or more of the outstanding voting securities of the *reporting issuer*; or
 - (iii) a relative of a person referred to in subparagraph (a)(i) or (ii), residing in the same home as that person; and
- (b) are free from any business or other relationship which could reasonably be seen to interfere with the exercise of their independent judgement.
- (2) Despite subsection (1), a board of directors of a *reporting issuer* ~~shall~~must not delegate its responsibility under paragraph 3.4(e) to approve the content or the filing of information.
- (3) A board of directors that has delegated responsibility to a committee pursuant to subsection (1) ~~shall~~must solicit the recommendation of that committee as to whether to approve the content and filing of information for the purpose of paragraph 3.4(e).

3.6 repealed

PART 4 MEASUREMENT

4.1 Accounting Methods - A *reporting issuer* engaged in oil and gas activities that discloses financial statements prepared in accordance with *Canadian GAAP* ~~shall~~must use

- (a) the full cost method of accounting, applying *CICA Accounting Guideline 516*; or
- (b) the successful efforts method of accounting, applying *FAS 19*.

4.2 ~~Requirements for Disclosed Reserves Data~~

- ~~(1) A *reporting issuer* shall ensure that estimates of reserves or future net revenue contained in a document filed with the securities regulatory authority under this Instrument satisfy the following requirements:~~
 - ~~(a) the estimates shall be~~
 - ~~(i) prepared or audited by a *qualified reserves evaluator or auditor*;~~
 - ~~(ii) prepared or audited in accordance with the *COGE Handbook*; and~~
 - ~~(iii) estimated assuming that development of each *property* in respect of which the estimate is made will occur, without regard to the likely availability to the *reporting issuer* of funding required for that development;~~

- (b) ~~for the purpose of determining whether *reserves* should be attributed to a particular undrilled *property*, reasonably estimated future abandonment and reclamation costs related to the *property* shall be taken into account; and~~
- (c) ~~aggregate *future net revenue* shall be estimated deducting~~
 - (i) ~~reasonably estimated future *well abandonment costs*; and~~
 - (ii) ~~*future income tax expenses* (unless otherwise specified in this Instrument, Form 51-101F1 or Form 51-101F2).~~

4.2 ~~(2)~~ **Consistency in Dates** - The date or period with respect to which the effects of an event or transaction are recorded in a *reporting issuer's* annual financial statements ~~shall~~**must** be the same as the date or period with respect to which they are first reflected in the *reporting issuer's* annual *reserves data* disclosure under Part 2.

PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

5.1 **Application of Part 5** - This Part applies to disclosure made by or on behalf of a *reporting issuer*

- (a) to the public;
- (b) in any document filed with a *securities regulatory authority*; or
- (c) in other circumstances in which, at the time of making the disclosure, the *reporting issuer* knows, or ought reasonably to know, that the disclosure is or will become available to the public.

5.2 ~~Consistency with~~**Disclosure of Reserves Data and Other Information** - If a *reporting issuer* makes disclosure of ~~*reserves or other*~~ information of a type that is ~~required to be included in a statement filed with a *securities regulatory authority* under item 1 of section 2.1, the information shall be~~**specified in Form 51-101F1, the reporting issuer must ensure that the disclosure satisfies the following requirements:**

- (a) ~~prepared in accordance with Part 4; and~~**estimates of reserves or future net revenue must**
 - (i) **disclose the effective date of the estimate;**
 - (ii) **have been prepared or audited by a qualified reserves evaluator or auditor;**
 - (iii) **have been prepared or audited in accordance with the COGE Handbook;**

- (iv) have been made assuming that development of each *property* in respect of which the estimate is made will occur, without regard to the likely availability to the reporting issuer of funding required for that development; and
- (v) in the case of estimates of *possible reserves* or related *future net revenue* disclosed in writing, also include a cautionary statement that is proximate to the estimate to the following effect:

“Possible reserves are those additional reserves that are less certain to be recovered than probable reserves. There is a 10% probability that the quantities actually recovered will equal or exceed the sum of proved plus probable plus possible reserves.”;

- (b) for the purpose of determining whether *reserves* should be attributed to a particular undrilled *property*, reasonably estimated future abandonment and reclamation costs related to the *property* must have been taken into account;
- (c) in disclosing aggregate *future net revenue* the disclosure must comply with the requirements for the determination of *future net revenue* specified in *Form 51-101F1*; and
- (d) ~~(b)~~ the disclosure must be consistent with the corresponding information, if any, contained in the statement most recently filed by the reporting issuer with the securities regulatory authority under item 1 of section 2.1, except to the extent that ~~such~~the statement has been supplemented or superseded by a report of a material change³ filed by the reporting issuer with the securities regulatory authority.

5.3 Reserves and Resources Classification - Disclosure of *reserves* or *resources* ~~shall be consistent with~~must apply the *reserves* and *resources* terminology and categories set out in the *COGE Handbook* and must relate to the most specific category of *reserves* or *resources* in which the *reserves* or *resources* can be classified.

5.4 Oil and Gas Reserves and Sales - Disclosure of *reserves* or of sales of *oil*, *gas* or associated by-products ~~shall~~must be made only in respect of *marketable* quantities, reflecting the quantities and prices for the product in the condition (upgraded or not upgraded, processed or unprocessed) in which it is to be, or was, sold.

5.5 Natural Gas By-Products - Disclosure concerning *natural gas* by-products (including *natural gas liquids* and sulphur) ~~shall~~must be made in respect only of volumes that have been or are to be recovered prior to the point at which *marketable gas* is measured.

³

"Material change" has the meaning ascribed to the term under *securities legislation* of the applicable *jurisdiction*.

5.6 Future Net Revenue Not Fair Market Value - Disclosure of an estimate of *future net revenue*, whether calculated without discount or using a discount rate, ~~shall~~**must** include a statement to the effect that the estimated values disclosed do not represent fair market value.

5.7 Consent of *Qualified Reserves Evaluator or Auditor*

- (1) A *reporting issuer* ~~shall~~**must** not disclose a report referred to in item 2 of section 2.1 that has been delivered to the board of directors of the *reporting issuer* by a *qualified reserves evaluator or auditor* pursuant to an appointment under section 3.2, or disclose information derived from the report or the identity of the *qualified reserves evaluator or auditor*, without the written consent of that *qualified reserves evaluator or auditor*.
- (2) Subsection (1) does not apply to
 - (a) the filing of that report by a *reporting issuer* under section 2.1;
 - (b) the use of or reference to that report in another document filed by the *reporting issuer* under section 2.1; or
 - (c) the identification of the report or of the *qualified reserves evaluator or auditor* in a news release referred to in section 2.2.

5.8 Disclosure of Less Than All Reserves - If a *reporting issuer* that has more than one *property* makes written disclosure of any *reserves* attributable to a particular *property*

- (a) the disclosure ~~shall~~**must** include a cautionary statement to the effect that
"The estimates of reserves and future net revenue for individual properties may not reflect the same confidence level as estimates of reserves and future net revenue for all properties, due to the effects of aggregation"; and
- (b) the document containing the disclosure of any *reserves* attributable to one *property* ~~shall~~**must** also disclose total *reserves* of the same classification for all *properties* of the *reporting issuer* in the same country (or, if appropriate and not misleading, in the same *foreign geographic area*).

5.9 Disclosure ~~Concerning Prospects~~ — of Resources

- (1) If a *reporting issuer* discloses *anticipated results* from a ~~prospect~~**resources which are not currently classified as reserves**, the *reporting issuer* ~~shall~~**must** also disclose in writing, in the same document or in a *supporting filing*, ~~in respect of the prospect;~~
 - ~~(a) — the location and basin name;~~

- ~~(a)~~ ~~(b) the reporting issuer's gross and net's interest in the property,~~
~~expressed in units of area (acres or hectares);~~ **resources;**
- ~~(c) — in the case of undeveloped property in which the reporting issuer holds a~~
~~leasehold interest, the expiry date of that interest;~~
- ~~(d) — the name, geologic age and lithology of the target zone;~~
- ~~(e) — the distance to the nearest analogous commercial production;~~
- (b) the location of the resources;**
- ~~(c)~~ ~~(f) the product types reasonably expected;~~
- ~~(d)~~ ~~(g) the range of pool or field sizes;~~
- ~~(h) — the depth of the target zone;~~
- ~~(i) — the estimated cost to drill and test a well to the target depth;~~
- ~~(j) — reasonably expected drilling commencement and completion dates;~~
- ~~(k) — the anticipated prices to be received for each product type reasonably~~
~~expected;~~
- ~~(l) — reasonably expected marketing and transportation arrangements;~~
- ~~(m) — the identity and relevant experience of the operator;~~
- ~~(n) — risks and the probability of success; and~~ **level of uncertainty associated**
with recovery of the resources; and
- ~~(o) — the applicable information specified in section 5.10.~~

~~5.10 — Estimates of Fair Value of an Unproved Property, Prospect or Resource~~

- ~~(e)~~ **in the case of unproved property, if its value is disclosed,**
 - ~~(i)~~ **the basis of the calculation of its value; and**
 - ~~(ii)~~ **whether the value was prepared by an independent party.**
- (2) If disclosure referred to in subsection (1) includes an estimate of a quantity of**
resources in which the reporting issuer has an interest or intends to acquire
an interest, or an estimated value attributable to an estimated quantity, the
estimate must
 - (a) have been prepared or audited by a qualified reserves evaluator or**
auditor;

(b) relate to the most specific category of *resources* in which the *resources* can be classified, as set out in the *COGE Handbook*, and must identify what portion of the estimate is attributable to each category; and

(c) be accompanied by the following information:

(i) a definition of the *resources* category used for the estimate;

(ii) the effective date of the estimate;

(iii) (1) If a *reporting issuer* discloses in writing an estimate of the fair value of an *unproved property, prospect or resource*, or discloses expected results from a *prospect*, the disclosure shall include all the significant positive and negative factors relevant to the estimate or expectation;

~~(2) If a *reporting issuer* discloses in writing an estimate of the fair value of an *unproved property, prospect or resource*~~

~~(a) in the case of an estimate of the fair value of an *unproved property*, except as provided in paragraph (b), the estimate shall be based on the first applicable item listed below, and that item shall be described as the basis of the estimate in the document containing the disclosure or in a *supporting filing*:~~

~~1. the acquisition cost to the *reporting issuer*, provided that there have been no material changes in the *unproved property*, the surrounding *properties*, or the general oil and gas economic climate since acquisition;~~

~~2. recent sales by others of interests in the same *unproved property*;~~

~~3. terms and conditions, expressed in monetary terms, of recent farm-in agreements related to the *unproved property*;~~

~~4. terms and conditions, expressed in monetary terms, of recent work commitments related to the *unproved property*;~~

~~5. recent sales of similar *properties* in the same general area;~~

~~(b) in the case of an estimate of fair value to which none of the items listed in paragraph (a) applies~~

~~(i) the estimate shall be prepared or accepted by a professional valuator (who is not a "related party" of the *reporting issuer* within the meaning of the term as used in the *CICA Handbook*) applying valuation standards established by the professional body of which~~

the valuator is a member and from which the valuator derives professional standing;

(ii) ~~the estimate shall consist of at least three values that reflect a range of reasonable likelihoods (the low value being conservative, the middle value being the median and the high value being optimistic) reflecting courses of action expected to be followed by the reporting issuer;~~

(iii) ~~the estimate, and the identities of the professional valuator and of the professional body referred to in subparagraph (i), shall be set out in the document containing the disclosure or in a supporting filing; and~~

(iv) the *reporting issuer* shall obtain from the professional valuator referred to in subparagraph (i) **in respect of contingent resources, the specific contingencies which prevent the classification of the resources as reserves; and**

(v) **a cautionary statement that is proximate to the estimate to the effect that:**

(A) a report on the estimate that does not contain **in the case of discovered resources or a subcategory of discovered resources other than reserves;**

(I) a disclaimer that materially detracts from the usefulness of the estimate; or

(II) a statement that the report may not be relied on; and

“There is no certainty that it will be commercially viable to produce any portion of the resources.”; or

(B) the professional valuator's written consent to the disclosure of the report by the *reporting issuer* to the public **in the case of undiscovered resources or a subcategory of undiscovered resources;**

“There is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.”

(3) Paragraphs 5.9(1)(d) and (e) and subparagraphs 5.9(2)(c)(iii) and (iv) do not apply if:

- (a) the reporting issuer includes in the written disclosure a reference to the title and date of a previously filed document that complies with those requirements; and
- (b) the resources in the written disclosure, taking into account the specific properties and interests reflected in the resources estimate or other anticipated result, are materially the same resources addressed in the previously filed document.

5.10 Analogous Information

- (1) Sections 5.2, 5.3 and 5.9 do not apply to the disclosure of analogous information provided that the reporting issuer discloses the following:
 - (a) the source and date of the analogous information;
 - (b) whether the source of the analogous information was independent;
 - (c) if the reporting issuer is unable to confirm that the analogous information was prepared by a qualified reserves evaluator or auditor or in accordance with the COGE Handbook, a cautionary statement to that effect proximate to the disclosure of the analogous information; and
 - (d) the relevance of the analogous information to the reporting issuer's oil and gas activities.
- (2) For greater certainty, if a reporting issuer discloses information that is an anticipated result, an estimate of a quantity of reserves or resources, or an estimate of value attributable to an estimated quantity of reserves or resources for an area in which it has an interest or intends to acquire an interest, that is based on an extrapolation from analogous information, sections 5.2, 5.3 and 5.9 apply to the disclosure of the information.

5.11 Net Asset Value and Net Asset Value per Share - Written disclosure of net asset value or net asset value per share ~~shall~~must include a description of the methods used to value assets and liabilities and the number of shares used in the calculation.

5.12 Reserve Replacement - Written disclosure concerning *reserve* replacement ~~shall~~must include an explanation of the method of calculation applied.

5.13 Netbacks - Written disclosure of a netback must

- (a) ~~shall include separate netbacks for each product type by country (or, if appropriate and not misleading, by foreign geographic area);~~repealed
- (b) ~~shall~~ reflect netbacks calculated by subtracting royalties and *operating costs* from revenues; and

- (c) ~~shall~~ state the method of calculation.

5.14 BOEs and McfGEs - If written disclosure includes information expressed in *BOEs*, *McfGEs* or other units of equivalency between *oil* and *gas*

- (a) the information ~~shall~~must be presented
- (i) in the case of *BOEs*, using *BOEs* derived by converting *gas* to *oil* in the ratio of six thousand cubic feet of *gas* to one barrel of *oil* (6 *Mcf*:1 *bbl*);
 - (ii) in the case of *McfGEs*, using *McfGEs* derived by converting *oil* to *gas* in the ratio of one barrel of *oil* to six thousand cubic feet of *gas* (1 *bbl*:6 *Mcf*); and
 - (iii) with the conversion ratio stated;
- (b) if the information is also presented using *BOEs* or *McfGEs* derived using a conversion ratio other than a ratio specified in paragraph (a), the disclosure ~~shall~~must state that other conversion ratio and explain why it has been chosen;
- (c) if the information is presented using a unit of equivalency other than *BOEs* or *McfGEs*, the disclosure ~~shall~~must identify the unit, state the conversion ratio used and explain why it has been chosen; and
- (d) the disclosure ~~shall~~must include a cautionary statement to the effect that:
- "BOEs [or '*McfGEs*' or other applicable units of equivalency] may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 *Mcf*: 1 *bbl* [or '*An McfGE* conversion ratio of 1 *bbl*: 6 *Mcf*'] is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead".

5.15 Finding and Development Costs - If written disclosure is made of finding and development costs:

- (a) those costs ~~shall~~must be calculated using the following two methods, in each case after eliminating the effects of acquisitions and dispositions:

$$\text{Method 1:} \quad \frac{a+b+c}{x}$$

$$\text{Method 2:} \quad \frac{a+b+d}{y}$$

where

- a = *exploration costs* incurred in the most recent financial year
- b = *development costs* incurred in the most recent financial year
- c = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves*

- d = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves* and *probable reserves*
- x = additions to *proved reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency
- y = additions to *proved reserves* and *probable reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency

(b) the disclosure ~~shall~~must include

- (i) the results of both methods of calculation under paragraph (a) and a description of those methods;
- (ii) if the disclosure also includes a result derived using any other method of calculation, a description of that method and the reason for its use;
- (iii) for each result, comparative information for the most recent financial year, the second most recent financial year and the averages for the three most recent financial years;
- (iv) a cautionary statement to the effect that:

"The aggregate of the exploration and development costs incurred in the most recent financial year and the change during that year in estimated future development costs generally will not reflect total finding and development costs related to reserves additions for that year"; and

- (v) the cautionary statement required under paragraph 5.14(d).

PART 6 MATERIAL CHANGE DISCLOSURE

6.1 Material Change⁴ from Information Filed under Part 2

- (1) This Part applies in respect of a material change that, had it occurred on or before the *effective date* of information included in the statement most recently filed by a *reporting issuer* under item 1 of section 2.1, would have resulted in a significant change in the information contained in the statement.
- (2) In addition to any other requirement of *securities legislation* governing disclosure of a material change, disclosure of a material change referred to in subsection (1) ~~shall~~must discuss the reporting issuer's reasonable expectation of how the material change has affected its reserves data or other information.
 - (a) ~~identify the statement filed under Part 2 that contains the original information referred to in subsection (1); and~~

4

In this Part, "material change" has the meaning ascribed to the term under *securities legislation* of the applicable jurisdiction.

- (b) ~~discuss the *reporting issuer's* reasonable expectation of how the material change, had it occurred on or before the *effective date* referred to in subsection (1), would have affected the *reserves data* or other information contained in the document identified under paragraph (a).~~

PART 7 OTHER INFORMATION

- 7.1 Information to be Furnished on Request** - A *reporting issuer* ~~shall~~must, on the request of the *regulator*, deliver additional information with respect to the content of a document filed under this *Instrument*.

PART 8 EXEMPTIONS

8.1 Authority to Grant Exemption

- (1) The *regulator* or the *securities regulatory authority* may grant an exemption from this *Instrument*, in whole or in part, subject to such conditions or restrictions as may be imposed in the exemption.
- (2) Despite subsection (1), in Ontario only the *regulator* may grant an exemption.

8.2 Exemption for Certain Exchangeable Security Issuers

- (1) An exchangeable security issuer, as defined in subsection 13.3(1) of NI 51-102, is exempt from this *Instrument* if all of the requirements of subsection 13.3(2) of NI 51-102 are satisfied;
- (2) For the purposes of subsection (1), the reference to “continuous disclosure documents” in clause 13.3(2)(d)(ii)(A) of NI 51-102 includes documents filed in accordance with this *Instrument*.

PART 9 INSTRUMENT IN FORCE

- 9.1 Coming Into Force** - This *Instrument* comes into force on September 30, 2003.

- 9.2 Transition** - Despite section 9.1, this *Instrument* does not apply to a *reporting issuer* until the earlier of:

- (a) the date by which the *reporting issuer* is required under *securities legislation* to file audited annual financial statements for its financial year that includes or ends on December 31, 2003; and
- (b) the first date on which the *reporting issuer* files with the *securities regulatory authority* the statement referred to in item 1 of section 2.1.

FORM 51-101F1
STATEMENT OF RESERVES DATA
AND OTHER OIL AND GAS INFORMATION

TABLE OF CONTENTS

GENERAL INSTRUCTIONS

PART 1 DATE OF STATEMENT

Item 1.1 Relevant Dates

PART 2 DISCLOSURE OF *RESERVES DATA*

Item 2.1 *Reserves Data (~~Constant~~Forecast Prices and Costs)*

Item 2.2 **Supplemental Disclosure of** *Reserves Data (~~Forecast~~Constant Prices and Costs)*

Item 2.3 *Reserves* Disclosure Varies with Accounting

Item 2.4 *Future Net Revenue* Disclosure Varies with Accounting

PART 3 PRICING ASSUMPTIONS

Item 3.1 Constant Prices Used in **Supplemental** Estimates

Item 3.2 Forecast Prices Used in Estimates

PART 4 ~~RECONCILIATIONS~~**RECONCILIATION** OF CHANGES IN *RESERVES*
~~AND FUTURE NET REVENUE~~

Item 4.1 *Reserves* Reconciliation

~~Item 4.2 *Future Net Revenue* Reconciliation~~

PART 5 ADDITIONAL INFORMATION RELATING TO *RESERVES DATA*

Item 5.1 *Undeveloped Reserves*

Item 5.2 Significant Factors or Uncertainties

Item 5.3 *Future Development Costs*

PART 6 OTHER *OIL* AND *GAS* INFORMATION

Item 6.1 *Oil and Gas Properties* and Wells

Item 6.2 *Properties* With No Attributed *Reserves*

Item 6.3 Forward Contracts

Item 6.4 Additional Information Concerning Abandonment and Reclamation Costs

Item 6.5 Tax Horizon

Item 6.6 Costs Incurred

Item 6.7 Exploration and Development Activities

Item 6.8 *Production* Estimates

Item 6.9 *Production* History

FORM 51-101F1
STATEMENT OF RESERVES DATA
AND OTHER OIL AND GAS INFORMATION

This is the form referred to in item 1 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

GENERAL INSTRUCTIONS

- (1) *Terms for which a meaning is given in NI 51-101 have the same meaning in this **Form 51-101F1**¹.*
- (2) *Unless otherwise specified in this **Form 51-101F1**, information under item 1 of section 2.1 of NI 51-101 ~~shall~~**must** be provided as at the last day of the **reporting issuer's** most recent financial year or for its financial year then ended.*
- (3) *It is not necessary to include the headings or numbering, or to follow the ordering of Items, in this **Form 51-101F1**. Information may be provided in tables.*
- (4) *To the extent that any Item or any component of an Item specified in this **Form 51-101F1** does not apply to a **reporting issuer** and its activities and operations, or is not **material**, no reference need be made to that Item or component. It is not necessary to state that such an Item or component is "not applicable" or "not material". Materiality is discussed in NI 51-101 and Companion Policy 51-101CP.*
- (5) *This **Form 51-101F1** sets out minimum requirements. A **reporting issuer** may provide additional information not required in this **Form 51-101F1** provided that it is not misleading and not inconsistent with the requirements of NI 51-101, and provided that material information required to be disclosed is not omitted.*
- (6) *A **reporting issuer** may satisfy the requirement of this **Form 51-101F1** for disclosure of information "by country" by instead providing information by **foreign geographic area** in respect of countries outside North America as may be appropriate for meaningful disclosure in the circumstances.*

¹ For the convenience of readers, Appendix 1 to Companion Policy 51-101CP CSA Staff Notice 51-324 Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities sets out the meanings of terms that are printed in italics (or, in the Instructions, in bold type) in this **Form 51-101F1** or in NI 51-101, **Form 51-101F2**, **Form 51-101F3** or the Companion Policy **51-101CP**.

PART 1 DATE OF STATEMENT

Item 1.1 Relevant Dates

1. Date the statement.
2. Disclose the *effective date* of the information being provided.
3. Disclose the *preparation date* of the information being provided.

INSTRUCTIONS

- (1) *For the purpose of Part 2 of NI 51-101, and consistent with the definition of **reserves data** and General Instruction (2) of this **Form 51-101F1**, the **effective date** to be disclosed under section 2 of Item 1.1 is the last day of the **reporting issuer's** most recent financial year. It is the date of the balance sheet for the **reporting issuer's** most recent financial year (for example, "as at December 31, 20xx") and the ending date of the **reporting issuer's** most recent annual statement of income (for example, "for the year ended December 31, 20xx").*
- (2) *The same **effective date** applies to **reserves** of each category reported and to related **future net revenue**. References to a change in an item of information, such as changes in **production** or a change in **reserves**, mean changes in respect of that item during the year ended on the **effective date**.*
- (3) *The **preparation date**, in respect of written disclosure, means the most recent date to which information relating to the period ending on the **effective date** was considered in the preparation of the disclosure. The **preparation date** is a date subsequent to the **effective date** because it takes time after the end of the financial year to assemble the information for that completed year that is needed to prepare the required disclosure as at the end of the financial year.*
- (4) *Because of the interrelationship between certain of the **reporting issuer's reserves data** and other information referred to in this **Form 51-101F1** and certain of the information included in its financial statements, the **reporting issuer** should ensure that its financial auditor and its **qualified reserves evaluators or auditors** are kept apprised of relevant events and transactions, and should facilitate communication between them.*
- (5) *If the **reporting issuer** provides information as at a date more recent than the **effective date**, in addition to the information required as at the **effective date**, also disclose the date as at which that additional information is provided. The provision of such additional information does not relieve the **reporting issuer** of the obligation to provide information as at the **effective date**.*

PART 2 DISCLOSURE OF *RESERVES DATA*

Item 2.1 *Reserves Data (Constant Prices and Costs)*

1. ~~Breakdown of *Proved Reserves (Constant Case)* — Disclose, by country and in the aggregate, *reserves, gross and net*, estimated using *constant prices and costs*, for each *product type*, in the following categories:~~
 - (a) ~~*proved developed producing reserves*;~~
 - (b) ~~*proved developed non-producing reserves*;~~
 - (c) ~~*proved undeveloped reserves*; and~~
 - (d) ~~*proved reserves (in total).*~~
2. ~~Net Present Value of *Future Net Revenue (Constant Case)* — Disclose, by country and in the aggregate, the net present value of *future net revenue* attributable to the *reserves* categories referred to in section 1 of this Item, estimated using *constant prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using a discount rate of 10 percent.~~
3. ~~Additional Information Concerning *Future Net Revenue (Constant Case)*~~
 - (a) ~~This section 3 applies to *future net revenue* attributable to *proved reserves (in total)* estimated using *constant prices and costs*.~~
 - (b) ~~Disclose, by country and in the aggregate, the following elements of *future net revenue* estimated using *constant prices and costs* and calculated without discount:~~
 - (i) ~~revenue;~~
 - (ii) ~~royalties;~~
 - (iii) ~~*operating costs*;~~
 - (iv) ~~*development costs*;~~
 - (v) ~~abandonment and reclamation costs;~~
 - (vi) ~~*future net revenue* before deducting *future income tax expenses*;~~
 - (vii) ~~*future income tax expenses*; and~~
 - (viii) ~~*future net revenue* after deducting *future income tax expenses*.~~

- ~~(c) Disclose, by *production group*, the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *constant prices and costs* and calculated using a discount rate of 10 percent.~~

~~Item 2.2 — **Reserves Data (Forecast Prices and Costs)**~~

1. Breakdown of Reserves (Forecast Case) – Disclose, by country and in the aggregate, reserves, gross and net, estimated using *forecast prices and costs*, for each *product type*, in the following categories:
 - (a) *proved developed producing reserves*;
 - (b) *proved developed non-producing reserves*;
 - (c) *proved undeveloped reserves*;
 - (d) *proved reserves (in total)*;
 - (e) *probable reserves (in total)*;
 - (f) *proved plus probable reserves (in total)*; and
 - (g) if the *reporting issuer* discloses an estimate of *possible reserves* in the statement:
 - (i) *possible reserves (in total)*; and
 - (ii) *proved plus probable plus possible reserves (in total)*.
2. Net Present Value of Future Net Revenue (Forecast Case) – Disclose, by country and in the aggregate, the net present value of *future net revenue* attributable to the *reserves* categories referred to in section 1 of this Item, estimated using *forecast prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using discount rates of 5 percent, 10 percent, 15 percent and 20 percent. **Also disclose the same information on a unit value basis (e.g., \$/Mcf or \$/bbl using net reserves) using a discount rate of 10 percent and calculated before deducting future income tax expenses. This unit value disclosure requirement may be satisfied by including the unit value disclosure for each category of proved reserves and for probable reserves in the disclosure referred to in paragraph 3(c) of Item 2.1.**
3. Additional Information Concerning Future Net Revenue (Forecast Case)
 - (a) This section 3 applies to *future net revenue* attributable to each of the following reserves categories estimated using *forecast prices and costs*:
 - (i) *proved reserves (in total)*;
 - (ii) *proved plus probable reserves (in total)*; and

- (iii) if paragraph 1(g) of this Item applies, *proved plus probable plus possible reserves* (in total).
- (b) Disclose, by country and in the aggregate, the following elements of *future net revenue* estimated using *forecast prices and costs* and calculated without discount:
 - (i) revenue;
 - (ii) royalties;
 - (iii) *operating costs*;
 - (iv) *development costs*;
 - (v) abandonment and reclamation costs;
 - (vi) *future net revenue* before deducting *future income tax expenses*;
 - (vii) *future income tax expenses*; and
 - (viii) *future net revenue* after deducting *future income tax expenses*.
- (c) Disclose, by *production group* **and on a unit value basis for each production group (e.g., \$/Mcf or \$/bbl using net reserves)**, the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *forecast prices and costs* and calculated using a discount rate of 10 percent.

Item 2.2 Supplemental Disclosure of Reserves Data (Constant Prices and Costs)

The reporting issuer may supplement its disclosure of reserves data under Item 2.1 by also disclosing the components of Item 2.1 in respect of its proved reserves or its proved and probable reserves, using constant prices and costs as at the last day of the reporting issuer's most recent financial year.

Item 2.3 Reserves Disclosure Varies with Accounting

In determining *reserves* to be disclosed:

- (a) **Consolidated Financial Disclosure** – if the *reporting issuer* files consolidated financial statements:
 - (i) include 100 percent of *reserves* attributable to the parent company and 100 percent of the *reserves* attributable to its consolidated subsidiaries (whether or not wholly-owned); and
 - (ii) if a significant portion of *reserves* referred to in clause (i) is attributable to a consolidated subsidiary in which there is a significant minority interest, disclose

that fact and the approximate portion of such *reserves* attributable to the minority interest;

- (b) Proportionate Consolidation – if the *reporting issuer* files financial statements in which investments are proportionately consolidated, the *reporting issuer's* disclosed *reserves* must include the *reporting issuer's* proportionate share of investees' *oil* and *gas reserves*; and
- (c) Equity Accounting – if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *oil* and *gas reserves* in disclosed *reserves* of the *reporting issuer*, but disclose the *reporting issuer's* share of investees' *oil* and *gas reserves* separately.

Item 2.4 *Future Net Revenue Disclosure Varies with Accounting*

- 1. Consolidated Financial Disclosure – If the *reporting issuer* files consolidated financial statements, and if a significant portion of the *reporting issuer's* economic interest in *future net revenue* is attributable to a consolidated subsidiary in which there is a significant minority interest, disclose that fact and the approximate portion of the economic interest in *future net revenue* attributable to the minority interest.
- 2. Equity Accounting – If the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *future net revenue* in disclosed *future net revenue* of the *reporting issuer*, but disclose the *reporting issuer's* share of investees' *future net revenue* separately, by country and in the aggregate.

INSTRUCTIONS

- (1) Do not include, in ***reserves, oil or gas*** that is subject to purchase under a long-term supply, purchase or similar agreement. However, if the ***reporting issuer*** is a party to such an agreement with a government or governmental authority, and participates in the operation of the ***properties*** in which the ***oil*** or ***gas*** is situated or otherwise serves as "producer" of the ***reserves*** (in contrast to being an independent purchaser, broker, dealer or importer), disclose separately the ***reporting issuer's*** interest in the ***reserves*** that are subject to such agreements at the ***effective date*** and the ***net*** quantity of ***oil*** or ***gas*** received by the ***reporting issuer*** under the agreement during the year ended on the ***effective date***.
- (2) ***Future net revenue*** includes the portion attributable to the ***reporting issuer's*** interest under an agreement referred to in Instruction (1).
- (3) ~~In the disclosure of "abandonment~~**Constant prices and reclamation costs"**~~referred to in clause 3(b)(v) of Item 2.1 and in clause 3(b)(v) of Item 2.2 include, at minimum, well abandonment costs. The response to Item 6.4 will disclose total abandonment and reclamation costs and (in response to paragraph (d) of Item 6.4) the portion of total abandonment and reclamation costs, if any, not disclosed under clause 3(b)(v) of Item 2.1 and clause 3(b)(v) of Item 2.2.~~**costs are prices and costs used in an estimate that are:**

- (a) the reporting issuer's prices and costs as at the effective date of the estimation, held constant throughout the estimated lives of the properties to which the estimate applies;
- (b) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the reporting issuer is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in paragraph (a).

For the purpose of paragraph (a), the reporting issuer's prices will be the posted price for oil and the spot price for gas, after historical adjustments for transportation, gravity and other factors.

PART 3 PRICING ASSUMPTIONS

Item 3.1 Constant Prices Used in Supplemental Estimates

~~For~~If supplemental disclosure under Item 2.2 is made, then disclose, for each product type, disclose the benchmark reference prices for the countries or regions in which the reporting issuer operates, as at the last day of the reporting issuer's most recent financial year, reflected in the reserves data disclosed in response to Item ~~2.1~~2.2.

Item 3.2 Forecast Prices Used in Estimates

1. For each product type, disclose:
 - (a) the pricing assumptions used in estimating reserves data disclosed in response to Item ~~2.2~~2.1:
 - (i) for each of at least the following five financial years; and
 - (ii) generally, for subsequent periods; and
 - (b) the reporting issuer's weighted average historical prices for the most recent financial year.
2. The disclosure in response to section 1 ~~shall~~must include the benchmark reference pricing schedules for the countries or regions in which the reporting issuer operates, and inflation and other forecast factors used.
3. If the pricing assumptions specified in response to section 1 were provided by a qualified reserves evaluator or auditor who is independent of the reporting issuer, disclose that fact and identify the qualified reserves evaluator or auditor.

INSTRUCTIONS

- (1) *Benchmark reference prices may be obtained from sources such as public product trading exchanges or prices posted by purchasers.*
- (2) *The ~~defined term~~**term "constant prices and costs"** and **the defined term "forecast prices and costs"** include any fixed or presently determinable future prices or costs to which the **reporting issuer** is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended. In effect, such contractually committed prices override benchmark reference prices for the purpose of estimating **reserves data**. To ensure that disclosure under this Part is not misleading, the disclosure should reflect such contractually committed prices.*
- (3) *Under subsection 5.7(1) of NI 51-101, the **reporting issuer** must obtain the written consent of the **qualified reserves evaluator or auditor** to disclose his or her identity in response to section 3 of this Item.*

PART 4 ~~RECONCILIATIONS~~RECONCILIATION OF CHANGES IN RESERVES AND FUTURE NET REVENUE

Item 4.1 *Reserves Reconciliation*

1. Provide the information specified in section 2 of this Item in respect of the following *reserves* categories:
 - (a) ~~net~~gross *proved reserves* (in total);
 - (b) ~~net~~gross *probable reserves* (in total); and
 - (c) ~~net~~gross *proved plus probable reserves* (in total).
2. Disclose changes between the *reserves* estimates made as at the *effective date* and the corresponding estimates ("prior-year estimates") made as at the last day of the preceding financial year of the *reporting issuer*:
 - (a) by country;
 - (b) for each of the following:
 - (i) light and medium *crude oil* (combined);
 - (ii) *heavy oil*;
 - (iii) *associated gas* and *non-associated gas* (combined); and
 - (iv) ~~*synthetic oil and other products from non-conventional oil and gas activities*~~;₂

- (v) **bitumen;**
 - (vi) **coal bed methane;**
 - (vii) **hydrates;**
 - (vii) **shale oil; and**
 - (ix) **shale gas;**
- (c) separately identifying and explaining:
- (i) extensions;
 - ~~(ii)~~ **and** improved recovery;
 - (ii) ~~(iii)~~—technical revisions;
 - (iii) ~~(iv)~~-discoveries;
 - (iv) ~~(v)~~-acquisitions;
 - (v) ~~(vi)~~-dispositions;
 - (vi) ~~(vii)~~-economic factors; and
 - (vii) ~~(viii)~~-production.

INSTRUCTIONS

- (1) *The reconciliation required under this Item 4.1 ~~may~~must be provided in respect of reserves estimated using ~~either constant prices and costs or forecast prices and costs~~, with the price and cost case indicated in the disclosure.*
- (2) *For the purpose of this Item 4.1, it is sufficient to provide the information in respect of the products specified in paragraph 2(b), excluding **solution gas**, **natural gas liquids** and other associated by-products.*
- (3) *The **COGE Handbook** provides guidance on the preparation of the reconciliation required under this Item 4.1.*

~~Item 4.2~~ — **Future Net Revenue Reconciliation**

- ~~1.~~ — ~~Provide the information specified in section 2 of this Item in respect of estimates of future net revenue (estimated using constant prices and costs and calculated using a discount rate of 10 percent) attributable to net proved reserves (in total).~~

2. — Disclose changes between the *future net revenue* estimates referred to in section 1 made as at the *effective date* and the corresponding estimates ("prior year estimates") made as at the last day of the preceding financial year of the *reporting issuer*:

(a) — by country;

(b) — separately identifying and explaining:

(i) — sales and transfers of *oil, gas* or other *product types* produced during the period net of *production costs* and royalties;

(ii) — net change in sales and transfer prices and in *production costs* and royalties related to future *production*;

(iii) — changes in previously estimated *development costs* incurred during the period;

(iv) — changes in estimated future *development costs*;

(v) — net change resulting from (4) *Reporting issuers must not include infill drilling reserves in the category of technical revisions specified in clause 2(c)(ii). Reserves additions from infill drilling must be included in the category of extensions and improved recovery; in clause 2(c)(i) (or, alternatively, in an additional separate category under paragraph 2(c) labelled "infill drilling").*

(vi) — net change resulting from discoveries;

(vii) — changes resulting from acquisitions of *reserves*;

(viii) — changes resulting from dispositions of *reserves*;

(ix) — net change resulting from revisions in quantity estimates;

(x) — accretion of discount (10 percent of discounted *future net revenue* at the beginning of the financial year);

(xi) — net change in income taxes; and

(xii) — any other significant factors.

INSTRUCTIONS

(1) — *For the purpose of this Part 4, compute the effects of changes in prices and costs before the effects of changes in volumes, so that, in respect of constant prices and costs, volumes are reflected at prices as at the effective date.*

(2) — *Except in respect of clause 2(b)(xi) of Item 4.2, the information to be provided under this Part is pre-tax information.*

~~(3) — For the purpose of clause 2(b)(xi) of Item 4.2, a "net change in income taxes" includes both income taxes incurred during the period and changes in estimated future income tax expenses.~~

PART 5 ADDITIONAL INFORMATION RELATING TO *RESERVES DATA*

Item 5.1 *Undeveloped Reserves*

1. For *proved undeveloped reserves*:
 - (a) disclose for each *product type* the volumes of *proved undeveloped reserves* that were first attributed in each of the most recent ~~five~~three financial years and, in the aggregate, before that time; ~~or~~and
 - (b) discuss generally the basis on which the *reporting issuer* attributes *proved undeveloped reserves*, its plans (including timing) for developing the *proved undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *proved undeveloped reserves* during the following two years.
2. For *probable undeveloped reserves*:
 - (a) disclose for each *product type* the volumes of *probable undeveloped reserves* that were first attributed in each of the most recent ~~five~~three financial years and, in the aggregate, before that time; ~~or~~and
 - (b) discuss generally the basis on which the *reporting issuer* attributes *probable undeveloped reserves*, its plans (including timing) for developing the *probable undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *probable undeveloped reserves* during the following two years.

Item 5.2 Significant Factors or Uncertainties

1. Identify and discuss important economic factors or significant uncertainties that affect particular components of the *reserves data*.
2. Section 1 does not apply if the information is disclosed in the *reporting issuer's* financial statements for the financial year ended on the *effective date*.

INSTRUCTION

*Examples of information that could warrant disclosure under this Item 5.2 include unusually high expected **development costs** or **operating costs**, the need to build a major pipeline or other major facility before **production** of **reserves** can begin, or contractual obligations to **produce** and sell a significant portion of **production** at prices substantially below those which could be realized but for those contractual obligations.*

Item 5.3 Future Development Costs

1. (a) Provide the information specified in paragraph 1(b) in respect of *development costs* deducted in the estimation of *future net revenue* attributable to each of the following *reserves* categories:
 - (i) *proved reserves* (in total) estimated using ~~*constant prices and costs*~~; *forecast prices and costs*; and
 - ~~(ii) *proved reserves* (in total) estimated using *forecast prices and costs*; and~~
 - (ii) ~~(iii)~~ *proved plus probable reserves* (in total) estimated using *forecast prices and costs*.
- (b) Disclose, by country, the amount of *development costs* estimated:
 - (i) in total, calculated using no discount ~~and using a discount rate of 10 percent~~; and
 - (ii) by year for each of the first five years estimated.
2. Discuss the *reporting issuer's* expectations as to:
 - (a) the sources (including internally-generated cash flow, debt or equity financing, farm-outs or similar arrangements) and costs of funding for estimated future *development costs*; and
 - (b) the effect of those costs of funding on disclosed *reserves* or *future net revenue*.
3. If the *reporting issuer* expects that the costs of funding referred to in section 2, could make development of a *property* uneconomic for that *reporting issuer*, disclose that expectation and its plans for the *property*.

PART 6 OTHER OIL AND GAS INFORMATION

Item 6.1 Oil and Gas Properties and Wells

1. Identify and describe generally the *reporting issuer's* important *properties*, plants, facilities and installations:
 - (a) identifying their location (province, territory or state if in Canada or the United States, and country otherwise);
 - (b) indicating whether they are located onshore or offshore;
 - (c) in respect of *properties* to which *reserves* have been attributed and which are capable of *producing* but which are not *producing*, disclosing how long they have been in that condition and discussing the general proximity of pipelines or other means of transportation; and

- (d) describing any statutory or other mandatory relinquishments, surrenders, back-ins or changes in ownership.
- 2. State, separately for *oil* wells and *gas* wells, the number of the *reporting issuer's* producing wells and non-producing wells, expressed in terms of both *gross* wells and *net* wells, by location (province, territory or state if in Canada or the United States, and country otherwise).

Item 6.2 *Properties With No Attributed Reserves*

- 1. For *unproved properties* disclose:
 - (a) the *gross* area (acres or hectares) in which the *reporting issuer* has an interest;
 - (b) the interest of the *reporting issuer* therein expressed in terms of net area (acres or hectares);
 - (c) the location, by country; and
 - (d) the existence, nature (including any bonding requirements), timing and cost (specified or estimated) of any work commitments.
- 2. Disclose, by country, the *net* area (acres or hectares) of *unproved property* for which the *reporting issuer* expects its rights to explore, develop and exploit to expire within one year.

Item 6.3 *Forward Contracts*

- 1. If the *reporting issuer* is bound by an agreement (including a transportation agreement), directly or through an aggregator, under which it may be precluded from fully realizing, or may be protected from the full effect of, future market prices for *oil* or *gas*, describe generally the agreement, discussing dates or time periods and summaries or ranges of volumes and contracted or reasonably estimated values.
- 2. Section 1 does not apply to agreements disclosed by the *reporting issuer*
 - (a) as financial instruments, in accordance with Section ~~3860~~3861 of the *CICA Handbook*; or
 - (b) as contractual obligations or commitments, in accordance with Section 3280 of the *CICA Handbook*.
- 3. If the *reporting issuer's* transportation obligations or commitments for future physical deliveries of *oil* or *gas* exceed the *reporting issuer's* expected related future *production* from its *proved reserves*, estimated using *forecast prices and costs* and disclosed under Part 2, discuss such excess, giving information about the amount of the excess, dates or time periods, volumes and reasonably estimated value.

Item 6.4 *Additional Information Concerning Abandonment and Reclamation Costs*

In respect of abandonment and reclamation costs for surface *leases*, wells, facilities and pipelines, disclose:

- (a) how the *reporting issuer* estimates such costs;
- (b) the number of *net* wells for which the *reporting issuer* expects to incur such costs;
- (c) the total amount of such costs, net of estimated salvage value, expected to be incurred, calculated without discount and using a discount rate of 10 percent;
- (d) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that was not deducted as abandonment and reclamation costs in estimating the *future net revenue* disclosed under Part 2; and
- (e) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that the *reporting issuer* expects to pay in the next three financial years, in total.

INSTRUCTION

*Item 6.4 supplements the information disclosed in response to clause 3(b)(v) of Item ~~2.4~~ and clause 3(b)(v) of Item ~~2.2.2.1~~. The response to paragraph (d) of Item 6.4 should enable a reader of this statement and of the **reporting issuer's** financial statements for the financial year ending on the **effective date** to understand both the **reporting issuer's** estimated total abandonment and reclamation costs, and what portions of that total are, and are not, reflected in the disclosed **reserves data**.*

Item 6.5 Tax Horizon

If the *reporting issuer* is not required to pay income taxes for its most recently completed financial year, discuss its estimate of when income taxes may become payable.

Item 6.6 Costs Incurred

1. Disclose each of the following, by country, for the most recent financial year (irrespective of whether such costs were capitalized or charged to expense when incurred):
 - (a) *property acquisition costs*, separately for *proved properties* and *unproved properties*;
 - (b) *exploration costs*; and
 - (c) *development costs*.
2. For the purpose of this Item 6.6, if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, disclose by country the *reporting issuer's* share of investees' (i) *property acquisition costs*, (ii) *exploration costs* and (iii) *development costs* incurred in the most recent financial year.

Item 6.7 Exploration and Development Activities

1. Disclose, by country and separately for *exploratory wells* and *development wells*:
 - (a) the number of *gross* wells and *net* wells completed in the *reporting issuer's* most recent financial year; and
 - (b) for each category of wells for which information is disclosed under paragraph (a), the number completed as *oil* wells, *gas* wells and *service wells* and the number that were dry holes.
2. Describe generally the *reporting issuer's* most important current and likely exploration and development activities, by country.

Item 6.8 Production Estimates

1. Disclose, by country, for each *product type*, the volume of *production* estimated for the first year reflected in the estimates of ~~future net revenue~~ **gross proved reserves and gross probable reserves** disclosed under ~~Items 2.1 and 2.2~~ **Item 2.1**.
2. If one *field* accounts for 20 percent or more of the estimated *production* disclosed under section 1, identify that *field* and disclose the volume of *production* estimated for the *field* for that year.

Item 6.9 Production History

1. To the extent not previously disclosed in financial statements filed by the *reporting issuer*, disclose, for each quarter of its most recent financial year, by country for each *product type*:
 - (a) the *reporting issuer's* share of average daily *production* volume, before deduction of royalties; and
 - (b) as an average per unit of volume (for example, \$/bbl or \$/Mcf):
 - (i) the prices received;
 - (ii) royalties paid;
 - (iii) *production costs*; and
 - (iv) the resulting netback.
2. For each important *field*, and in total, disclose the *reporting issuer's* *production* volumes for the most recent financial year, for each *product type*.

INSTRUCTION

*In providing information for each **product type** for the purpose of Item 6.9, it is not necessary to allocate among multiple **product types** attributable to a single well, **reservoir** or other **reserves** entity. It is sufficient to provide the information in respect of the principal **product type** attributable to the well, **reservoir** or other **reserves** entity. **Resulting netbacks may be disclosed on the basis of units of equivalency between oil and gas (e.g. BOE) but if so that must be made clear and disclosure must comply with section 5.14 of NI 51-101.***

FORM 51-101F2
REPORT ON RESERVES DATA
BY
INDEPENDENT QUALIFIED RESERVES
EVALUATOR OR AUDITOR

This is the form referred to in item 2 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

1. Terms to which a meaning is ascribed in *NI 51-101* have the same meaning in this form.¹
2. The report on *reserves data* referred to in item 2 of section 2.1 of *NI 51-101*, to be executed by one or more *qualified reserves evaluators or auditors independent* of the *reporting issuer*, ~~shall~~**must** in all material respects be as follows:

Report on Reserves Data

To the board of directors of [name of reporting issuer] (the "Company"):

1. We have [audited] [evaluated] [and reviewed] the Company's reserves data as at [last day of the reporting issuer's most recently completed financial year]. The reserves data ~~consist of the following:~~ **are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.**
 - (a) ~~(i) — proved and proved plus probable oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using forecast prices and costs; and~~
 - (ii) ~~the related estimated future net revenue; and~~
 - (b) ~~(i) — proved oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using constant prices and costs; and~~
 - (ii) ~~the related estimated future net revenue.~~
2. The reserves data are the responsibility of the Company's management. Our responsibility is to express an opinion on the reserves data based on our [audit] [evaluation] [and review].

We carried out our [audit] [evaluation] [and review] in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook (the "COGE Handbook") prepared

¹ For the convenience of readers, ~~Appendix 1 to Companion Policy 51-101CP~~ **CSA Staff Notice 51-324 Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities** sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101*, *Form 51-101F1*, *Form 51-101F3* or ~~the~~ Companion Policy **51-101CP**.

jointly by the Society of Petroleum Evaluation Engineers (Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society).

3. Those standards require that we plan and perform an [audit] [evaluation] [and review] to obtain reasonable assurance as to whether the reserves data are free of material misstatement. An [audit] [evaluation] [and review] also includes assessing whether the reserves data are in accordance with principles and definitions presented in the COGE Handbook.
4. The following table sets forth the estimated future net revenue (before deduction of income taxes) attributed to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent, included in the reserves data of the Company [audited] [evaluated] [and reviewed] by us for the year ended xxx xx, 20xx, and identifies the respective portions thereof that we have [audited] [evaluated] [and reviewed] and reported on to the Company's [management/board of directors]:

Independent Qualified Reserves Evaluator or Auditor	Description and Preparation Date of [Audit/ Evaluation/ Review] Report	Location of Reserves (Country or Foreign Geographic Area)	Net Present Value of Future Net Revenue (before income taxes, 10% discount rate)			
			Audited	Evaluated	Reviewed	Total
Evaluator A	xxx xx, 20xx	xxxx	\$xxx	\$xxx	\$xxx	\$xxx
Evaluator B	xxx xx, 20xx	xxxx	xxx	xxx	xxx	xxx
Totals			\$xxx	\$xxx	\$xxx	\$xxx ²

5. In our opinion, the reserves data respectively [audited] [evaluated] by us have, in all material respects, been determined and are in accordance with the COGE Handbook. We express no opinion on the reserves data that we reviewed but did not audit or evaluate.
6. We have no responsibility to update our reports referred to in paragraph 4 for events and circumstances occurring after their respective preparation dates.
7. Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. **However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.**

² This amount should be the amount disclosed by the *reporting issuer* in its statement of *reserves data* filed under item 1 of section 2.1 of *NI 51-101*, as its *future net revenue* (before deducting *future income tax expenses*) attributable to *proved plus probable reserves*, estimated using *forecast prices and costs* and calculated using a discount rate of 10 percent (required by section 2 of Item ~~2.22.1~~ of *Form 51-101F1*).

Executed as to our report referred to above:

Evaluator A, City, Province or State / Country, Execution Date

[signed]

Evaluator B, City, Province or State / Country, Execution Date

[signed]

FORM 51-101F3
REPORT OF
MANAGEMENT AND DIRECTORS
ON OIL AND GAS DISCLOSURE

This is the form referred to in item 3 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

1. Terms to which a meaning is ascribed in *NI 51-101* have the same meaning in this form.¹
2. The report referred to in item 3 of section 2.1 of *NI 51-101* ~~shall~~**must** in all material respects be as follows:

**Report of Management and Directors
on Reserves Data and Other Information**

Management of [name of reporting issuer] (the "Company") are responsible for the preparation and disclosure of information with respect to the Company's oil and gas activities in accordance with securities regulatory requirements. This information includes reserves data, ~~which consist of the following:~~ **which are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.**

- (a) — (i) — ~~proved and proved plus probable oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using forecast prices and costs; and~~
- (ii) — ~~the related estimated future net revenue; and~~
- (b) — (i) — ~~proved oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using constant prices and costs; and~~
- (ii) — ~~the related estimated future net revenue.~~

[An] independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [has / have] [audited] [evaluated] [and reviewed] the Company's reserves data. The report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [is presented below / will be filed with securities regulatory authorities concurrently with this report].

The [Reserves Committee of the] board of directors of the Company has

¹ For the convenience of readers, ~~Appendix 1 to Companion Policy 51-101CP~~ **CSA Staff Notice 51-324 Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities** sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101*, *Form 51-101F1*, *Form 51-101F2* or ~~the Companion Policy~~ **51-101CP**.

- (a) reviewed the Company's procedures for providing information to the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]];
- (b) met with the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] to determine whether any restrictions affected the ability of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] to report without reservation [and, ~~because~~**in the event** of ~~the~~ proposal to change the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]], to inquire whether there had been disputes between the previous independent [qualified reserves evaluator[s] or qualified reserves auditor[s] and management]; and
- (c) reviewed the reserves data with management and the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]].

The [Reserves Committee of the] board of directors has reviewed the Company's procedures for assembling and reporting other information associated with oil and gas activities and has reviewed that information with management. The board of directors has [, on the recommendation of the Reserves Committee,] approved

- (a) the content and filing with securities regulatory authorities of ~~the~~**Form 51-101F1 containing** reserves data and other oil and gas information;
- (b) the filing of **Form 51-101F2 which is** the report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] on the reserves data; and
- (c) the content and filing of this report.

Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. **However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.**

[signature, name and title of chief executive officer]

[signature, name and title of a senior officer other than the chief executive officer]

[signature, name of a director]

[signature, name of a director]

[Date]

COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

TABLE OF CONTENTS

PART 1	APPLICATION AND TERMINOLOGY
1.1	Definitions
1.2	<i>COGE Handbook</i>
1.3	<i>Applies to Reporting Issuers Only</i>
1.4	<i>Materiality Standard</i>
PART 2	ANNUAL FILING REQUIREMENTS
2.1	Annual Filings on <i>SEDAR</i>
2.2	Inapplicable or Immaterial Information
2.3	Use of Forms
2.4	<i>Annual Information Form</i>
2.5	<i>Reporting Issuer Has No Reserves</i>
2.6	<i>Reservation in Report of Independent Qualified Reserves Evaluator or Auditor</i>
2.7	<i>Disclosure in Form 51-101F1</i>
2.8	<i>Form 51-101F2</i>
PART 3	RESPONSIBILITIES OF <i>REPORTING ISSUERS</i> AND DIRECTORS
3.1	<i>Reserves Committee</i>
3.2	Responsibility for Disclosure
PART 4	MEASUREMENT
4.1	Consistency in Dates
PART 5	REQUIREMENTS APPLICABLE TO ALL DISCLOSURE
5.1	Application of Part 5
5.2	Disclosure of <i>Reserves</i> and Other Information
5.3	<i>Reserves and Resources</i> Classification
5.4	Written Consents
5.5	Disclosure of <i>Resources</i>
5.6	<i>Analogous Information</i>
5.7	Consistent Use of Units of Measurement
5.8	<i>BOEs and McfGEs</i>
5.9	Finding and <i>Development costs</i>
5.10	Prospectus Disclosure
PART 6	MATERIAL CHANGE DISCLOSURE
6.1	Changes from Filed Information

APPENDIX 1 – SAMPLE *RESERVES DATA* DISCLOSURE

COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

This Companion Policy sets out the views of the Canadian Securities Administrators (CSA) as to the interpretation and application of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* (NI 51-101) and related forms.

NI 51-101¹ supplements other continuous disclosure requirements of *securities legislation* that apply to *reporting issuers* in all business sectors.

The requirements under NI 51-101 for the filing with *securities regulatory authorities* of information relating to *oil and gas activities* are designed in part to assist the public and analysts in making investment decisions and recommendations.

The CSA encourage registrants² and other persons and companies that wish to make use of information concerning *oil and gas activities* of a *reporting issuer*, including *reserves data*, to review the information filed on SEDAR under NI 51-101 by the *reporting issuer* and, if they are summarizing or referring to this information, to use the applicable terminology consistent with NI 51-101 and the *COGE Handbook*.

PART 1 APPLICATION AND TERMINOLOGY

1.1 Definitions

- (1) **General** - Several terms relating to *oil and gas activities* are defined in section 1.1 of NI 51-101. If a term is not defined in NI 51-101, NI 14-101 or the securities statute in the *jurisdiction*, it will have the meaning or interpretation given to it in the *COGE Handbook* if it is defined or interpreted there, pursuant to section 1.2 of NI 51-101.

For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* (the NI 51-101 Glossary) sets out the meaning of terms, including those defined in NI 51-101 and several terms which are derived from the *COGE Handbook*.

- (2) **Forecast Prices and Costs** - The term *forecast prices and costs* is defined in paragraph 1.1(j) of NI 51-101 and discussed in the *COGE Handbook*. Except to the extent that the *reporting issuer* is legally bound by fixed or presently

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms that are printed in italics in NI 51-101, Form 51-101F1, Form 51-101F2 or Form 51-101F3, or in this Companion Policy (other than terms italicized in titles of documents that are printed entirely in italics).

² "Registrant" has the meaning ascribed to the term under *securities legislation* in the *jurisdiction*.

determinable future prices or costs³, *forecast prices and costs* are future prices and costs "generally accepted as being a reasonable outlook of the future".

The CSA do not consider that future prices or costs would satisfy this requirement if they fall outside the range of forecasts of comparable prices or costs used, as at the same date, for the same future period, by major *independent qualified reserves evaluators or auditors* or by other reputable sources appropriate to the evaluation.

- (3) ***Independent*** - The term *independent* is defined in paragraph 1.1(o) of NI 51-101. Applying this definition, the following are examples of circumstances in which the CSA would consider that a *qualified reserves evaluator or auditor* (or other expert) is not *independent*. We consider a *qualified reserves evaluator or auditor* is not *independent* when the *qualified reserves evaluator or auditor*:
- (a) is an employee, insider, or director of the *reporting issuer*;
 - (b) is an employee, insider, or director of a related party of the *reporting issuer*;
 - (c) is a partner of any person or company in paragraph (a) or (b);
 - (d) holds or expects to hold securities, either directly or indirectly, of the *reporting issuer* or a related party of the *reporting issuer*;
 - (e) holds or expects to hold securities, either directly or indirectly, in another *reporting issuer* that has a direct or indirect interest in the property that is the subject of the technical report or an adjacent property;
 - (f) has or expects to have, directly or indirectly, an ownership, royalty, or other interest in the property that is the subject of the technical report or an adjacent property; or
 - (g) has received the majority of their income, either directly or indirectly, in the three years preceding the date of the technical report from the *reporting issuer* or a related party of the *reporting issuer*.

For the purpose of paragraph (d) above, "related party of the *reporting issuer*" means an affiliate, associate, subsidiary, or control person of the *reporting issuer* as those terms are defined under securities legislation.

There may be instances in which it would be reasonable to consider that the independence of a *qualified reserves evaluator or auditor* would not be compromised even though the *qualified reserves evaluator or auditor* holds an interest in the *reporting issuer's* securities. The *reporting issuer* needs to determine whether a reasonable person would consider such interest would

³ Refer to the discussion of financial instruments in subsection 2.7(5) below.

interfere with the *qualified reserves evaluator's or auditor's* judgement regarding the preparation of the technical report.

There may be circumstances in which the *securities regulatory authorities* question the objectivity of the *qualified reserves evaluator or auditor*. In order to ensure the requirement for independence of the *qualified reserves evaluator or auditor* has been preserved, the *reporting issuer* may be asked to provide further information, additional disclosure or the opinion of another *qualified reserves evaluator or auditor* to address concerns about possible bias or partiality on the part of the *qualified reserves evaluator or auditor*.

- (4) ***Product Types Arising From Oil Sands and Other Non-Conventional Activities*** - The definition of *product type* in paragraph 1.1(v) includes products arising from non-conventional *oil and gas activities*. NI 51-101 therefore applies not only to conventional *oil and gas activities*, but also to non-conventional activities such as the extraction of *bitumen* from *oil sands* with a view to the *production* of *synthetic oil*, the *in situ production* of *bitumen*, the extraction of methane from coal beds and the extraction of shale gas, shale oil and hydrates.

Although NI 51-101 and Form 51-101F1 make few specific references to non-conventional *oil and gas activities*, the requirements of NI 51-101 for the preparation and disclosure of *reserves data* and for the disclosure of *resources* apply to *oil and gas reserves* and *resources* relating to *oil sands*, shale, coal or other non-conventional sources of hydrocarbons. The CSA encourage *reporting issuers* that are engaged in non-conventional *oil and gas activities* to supplement the disclosure prescribed in NI 51-101 and Form 51-101F1 with information specific to those activities that can assist investors and others in understanding the business and results of the *reporting issuer*.

- (5) ***Professional Organization***

(a) ***Recognized Professional Organizations***

For the purposes of the *Instrument*, a *qualified reserves evaluator or auditor* must also be a member in good standing with a self-regulatory *professional organization* of engineers, geologists, geoscientists or other professionals.

The definition of "*professional organization*" (in paragraph 1.1(w) of NI 51-101 and in the NI 51-101 Glossary) has four elements, three of which deal with the basis on which the organization accepts members and its powers and requirements for continuing membership. The fourth element requires either authority or recognition given to the organization by a statute in Canada, or acceptance of the organization by the *securities regulatory authority* or *regulator*.

As at August 1, 2007, each of the following organizations in Canada is a *professional organization*:

- Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)
- Association of Professional Engineers and Geoscientists of the Province of British Columbia (APEGBC)
- Association of Professional Engineers and Geoscientists of Saskatchewan (APEGGS)
- Association of Professional Engineers and Geoscientists of Manitoba (APEGM)
- Association of Professional Geoscientists of Ontario (APGO)
- Professional Engineers of Ontario (PEO)
- Ordre des ingénieurs du Québec (OIQ)
- Ordre des Géologues du Québec (OGQ)
- Association of Professional Engineers of Prince Edward Island (APEPEI)
- Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB)
- Association of Professional Engineers of Nova Scotia (APENS)
- Association of Professional Engineers and Geoscientists of Newfoundland (APEGN)
- Association of Professional Engineers of Yukon (APEY)
- Association of Professional Engineers, Geologists & Geophysicists of the Northwest Territories (NAPEGG) (representing the Northwest Territories and Nunavut Territory)

(b) **Other *Professional Organizations***

The CSA are willing to consider whether particular foreign professional bodies should be accepted as "*professional organizations*" for the purposes of NI 51-101. A *reporting issuer*, foreign professional body or other interested person can apply to have a self-regulatory organization that satisfies the first three elements of the definition of "*professional organization*" accepted for the purposes of NI 51-101.

In considering any such application for acceptance, the *securities regulatory authority* or *regulator* is likely to take into account the degree to which a foreign professional body's authority or recognition, admission criteria, standards and disciplinary powers and practices are similar to, or differ from, those of organizations listed above.

The list of foreign *professional organizations* is updated periodically in CSA Staff Notice 51-309 *Acceptance of Certain Foreign Professional Boards as a "Professional Organization"*. As at August 1, 2007, each of the following foreign organizations has been recognized as a *professional organization* for the purposes of NI 51-101:

- California Board for Professional Engineers and Land Surveyors,

- State of Colorado Board of Registration for Professional Engineers and Professional Land Surveyors
- Louisiana State Board of Registration for Professional Engineers and Land Surveyors,
- Oklahoma State Board of Registration for Professional Engineers and Land Surveyors
- Texas Board of Professional Engineers
- American Association of Petroleum Geologists (AAPG) but only in respect of Certified Petroleum Geologists who are members of the AAPG's Division of Professional Affairs
- American Institute of Professional Geologists (AIPG), in respect of the AIPG's Certified Professional Geologists
- Energy Institute but only for those members of the Energy Institute who are Members and Fellows

(c) **No Professional Organization**

A *reporting issuer* or other person may apply for an exemption under Part 8 of *NI 51-101* to enable a *reporting issuer* to appoint, in satisfaction of its obligation under section 3.2 of *NI 51-101*, an individual who is not a member of a *professional organization*, but who has other satisfactory qualifications and experience. Such an application might refer to a particular individual or generally to members and employees of a particular foreign *reserves evaluation* firm. In considering any such application, the *securities regulatory authority* or *regulator* is likely to take into account the individual's professional education and experience or, in the case of an application relating to a firm, to the education and experience of the firm's members and employees, evidence concerning the opinion of a *qualified reserves evaluator or auditor* as to the quality of past work of the individual or firm, and any prior relief granted or denied in respect of the same individual or firm.

(d) **Renewal Applications Unnecessary**

A successful applicant would likely have to make an application contemplated in this subsection 1.1(5) only once, and not renew it annually.

- (6) ***Qualified Reserves Evaluator or Auditor*** - The definitions of *qualified reserves evaluator* and *qualified reserves auditor* are set out in paragraphs 1.1(y) and 1.1(x) of *NI 51-101*, respectively, and again in the *NI 51-101* Glossary.

The defined terms "*qualified reserves evaluator*" and "*qualified reserves auditor*" have a number of elements. A *qualified reserves evaluator* or *qualified reserves auditor* must

- possess professional qualifications and experience appropriate for the tasks contemplated in the *Instrument*, and

- be a member in good standing of a *professional organization*.

Reporting issuers should satisfy themselves that any person they appoint to perform the tasks of a *qualified reserves evaluator or auditor* for the purpose of the *Instrument* satisfies each of the elements of the appropriate definition.

In addition to having the relevant professional qualifications, a *qualified reserves evaluator or auditor* must also have sufficient practical experience relevant to the *reserves data* to be reported on. In assessing the adequacy of practical experience, reference should be made to section 3 of volume 1 of the *COGE Handbook* - "Qualifications of Evaluators and Auditors, Enforcement and Discipline".

1.2 COGE Handbook

Pursuant to section 1.2 of *NI 51-101*, definitions and interpretations in the *COGE Handbook* apply for the purposes of *NI 51-101* if they are not defined in *NI 51-101*, *NI 14-101* or the securities statute in the *jurisdiction* (except to the extent of any conflict or inconsistency with *NI 51-101*, *NI 14-101* or the securities statute).

Section 1.1 of *NI 51-101* and the *NI 51-101* Glossary set out definitions and interpretations, many of which are derived from the *COGE Handbook*. *Reserves* and *resources* definitions and categories developed by the Petroleum Society of the Canadian Institute of Mining, Metallurgy & Petroleum (CIM) are incorporated in the *COGE Handbook* and also set out, in part, in the *NI 51-101* Glossary. Readers are cautioned to consult a current edition of the *COGE Handbook* for updated *resource* categories and definitions.

Subparagraph 5.2(a)(iii) of *NI 51-101* requires that all estimates of *reserves* or *future net revenue* have been prepared or audited in accordance with the *COGE Handbook*. Under sections 5.2, 5.3 and 5.9 of *NI 51-101*, all types of public *oil* and *gas* disclosure, including disclosure of *reserves* and *resources* must be consistent with the *COGE Handbook*.

1.3 Applies to Reporting Issuers Only

NI 51-101 applies to *reporting issuers* engaged in *oil and gas activities*. The definition of *oil and gas activities* is broad. For example, a *reporting issuer* with no *reserves*, but a few *prospects*, *unproved properties* or *resources*, could still be engaged in *oil and gas activities* because such activities include exploration and development of *unproved properties*.

NI 51-101 will also apply to an issuer that is not yet a *reporting issuer* if it files a prospectus or other disclosure document that incorporates prospectus requirements. Pursuant to the long-form prospectus requirements, the issuer must disclose the information contained in *Form 51-101F1*, as well as the reports set out in *Form 51-101F2* and *Form 51-101F3*.

1.4 Materiality Standard

Section 1.4 of *NI 51-101* states that *NI 51-101* applies only in respect of information that is material.

NI 51-101 does not require disclosure or filing of information that is not material. If information is not required to be disclosed because it is not material, it is unnecessary to disclose that fact.

Materiality for the purposes of *NI 51-101* is a matter of judgement to be made in light of the circumstances, taking into account both qualitative and quantitative factors, assessed in respect of the *reporting issuer* as a whole.

This concept of *materiality* is consistent with the concept of *materiality* applied in connection with financial reporting pursuant to the *CICA Handbook*.

The reference in subsection 1.4(2) of *NI 51-101* to a "reasonable investor" denotes an objective test: would a notional investor, broadly representative of investors generally and guided by reason, be likely to be influenced, in making an investment decision to buy, sell or hold a security of a *reporting issuer*, by an item of information or an aggregate of items of information? If so, then that item of information, or aggregate of items, is "material" in respect of that *reporting issuer*. An item that is immaterial alone may be material in the context of other information, or may be necessary to give context to other information. For example, a large number of small interests in *oil* and *gas properties* may be material in aggregate to a *reporting issuer*. Alternatively, a small interest in an *oil* and *gas property* may be material to a *reporting issuer*, depending on the size of the *reporting issuer* and its particular circumstances.

PART 2 ANNUAL FILING REQUIREMENTS

2.1 Annual Filings on SEDAR

The information required under section 2.1 of *NI 51-101* must be filed electronically on *SEDAR*. Consult National Instrument 13-101 System for Electronic Document Analysis and Retrieval (*SEDAR*) and the current *CSA "SEDAR Filer Manual"* for information about filing documents electronically. The information required to be filed under item 1 of section 2.1 of *NI 51-101* is usually derived from a much longer and more detailed *oil* and *gas* report prepared by a *qualified reserves evaluator*. These long and detailed reports cannot be filed electronically on *SEDAR*. The filing of an oil and gas report, or a summary of an oil and gas report, does not satisfy the requirements of the annual filing under *NI 51-101*.

2.2 Inapplicable or Immaterial Information

Section 2.1 of *NI 51-101* does not require the filing of any information, even if specified in *NI 51-101* or in a form referred to in *NI 51-101*, if that information is inapplicable or

not material in respect of the *reporting issuer*. See section 1.4 of this Companion Policy for a discussion of *materiality*.

If an item of prescribed information is not disclosed because it is inapplicable or immaterial, it is unnecessary to state that fact or to make reference to the disclosure requirement.

2.3 Use of Forms

Section 2.1 of *NI 51-101* requires the annual filing of information set out in *Form 51-101F1* and reports in accordance with *Form 51-101F2* and *Form 51-101F3*. Appendix 1 to this Companion Policy provides an example of how certain of the *reserves data* might be presented. While the format presented in Appendix 1 in respect of *reserves data* is not mandatory, we encourage issuers to use this format.

The information specified in all three forms, or any two of the forms, can be combined in a single document. A *reporting issuer* may wish to include statements indicating the relationship between documents or parts of one document. For example, the *reporting issuer* may wish to accompany the report of the *independent qualified reserves evaluator or auditor* (*Form 51-101F2*) with a reference to the *reporting issuer's* disclosure of the *reserves data* (*Form 51-101F1*), and vice versa.

The report of management and directors in *Form 51-101F3* may be combined with management's report on financial statements, if any, in respect of the same financial year.

2.4 Annual Information Form

Section 2.3 of *NI 51-101* permits *reporting issuers* to satisfy the requirements of section 2.1 of *NI 51-101* by presenting the information required under section 2.1 in an *annual information form*.

- (1) **Meaning of "Annual Information Form"** - *Annual information form* has the same meaning as "AIF" in National Instrument 51-102 Continuous Disclosure Obligations. Therefore, as set out in that definition, an *annual information form* can be a completed *Form 51-102F2 Annual Information Form* or, in the case of an *SEC* issuer (as defined in *NI 51-102*), a completed *Form 51-102F2* or an annual report or transition report under the *1934 Act* on *Form 10-K*, *Form 10-KSB* or *Form 20-F*.
- (2) **Option to Set Out Information in Annual Information Form** - *Form 51-102F2 Annual Information Form* requires the information required by section 2.1 of *NI 51-101* to be included in the *annual information form*. That information may be included either by setting out the text of the information in the *annual information form* or by incorporating it, by reference from separately filed documents. The option offered by section 2.3 of *NI 51-101* enables a *reporting issuer* to satisfy its obligations under section 2.1 of *NI 51-101*, as well as its obligations in respect of *annual information form* disclosure, by setting out the information required under

section 2.1 only once, in the *annual information form*. If the *annual information form* is on Form 10-K, this can be accomplished by including the information in a supplement (often referred to as a "wrapper") to the Form 10-K.

A *reporting issuer* that elects to set out in full in its *annual information form* the information required by section 2.1 of *NI 51-101* need not also file that information again for the purpose of section 2.1 in one or more separate documents. A *reporting issuer* that elects to follow this approach should file its *annual information form* in accordance with usual requirements of *securities legislation*, and at the same time file on *SEDAR*, in the category for *NI 51-101 oil and gas* disclosure, a notification that the information required under section 2.1 of *NI 51-101* is included in the *reporting issuer's* filed *annual information form*. More specifically, the notification should be filed under *SEDAR* Filing Type: "Oil and Gas Annual Disclosure (NI 51-101)" and Filing Subtype/Document Type: "Oil and Gas Annual Disclosure Filing (Forms 51-101F1, F2 & F3)". Alternatively, the notification could be a copy of the news release mandated by section 2.2 of *NI 51-101*. If this is the case, the news release should be filed under *SEDAR* Filing Type: "Oil and Gas Annual Disclosure (NI 51-101)" and Filing Subtype/Document Type: "News Release (section 2.2 of NI 51-101)".

This notification will assist other *SEDAR* users in finding that information. It is not necessary to make a duplicate filing of the *annual information form* itself under the *SEDAR NI 51-101 oil and gas* disclosure category.

2.5 **Reporting Issuer That Has No Reserves**

The requirement to make annual *NI 51-101* filings is not limited to only those issuers that have *reserves* and related *future net revenue*. A *reporting issuer* with no *reserves* but with *prospects*, unproved *properties* or *resources* may be engaged in *oil and gas activities* (see section 1.3 above) and therefore subject to *NI 51-101*. That means the issuer must still make annual *NI 51-101* filings and ensure that it complies with other *NI 51-101* requirements. The following is guidance on the preparation of *Form 51-101F1*, *Form 51-101F2*, *Form 51-101F3* and other *oil and gas* disclosure if the *reporting issuer* has no *reserves*.

- (1) **Form 51-101F1** - Section 1.4 of *NI 51-101* states that the *Instrument* applies only in respect of information that is material in respect of a *reporting issuer*. If indeed the *reporting issuer* has no *reserves*, we would consider that fact alone material. The *reporting issuer's* disclosure, under Part 2 of *Form 51-101F1*, should make clear that it has no *reserves* and hence no related *future net revenue*.

Supporting information regarding *reserves data* required under Part 2 (e.g., price estimates) that are not material to the issuer may be omitted. However, if the issuer had disclosed *reserves* and related *future net revenue* in the previous year, and has no *reserves* as at the end of its current financial year, the *reporting issuer*

is still required to present a reconciliation to the prior-year's estimates of *reserves*, as required by Part 4 of *Form 51-101F1*.

The *reporting issuer* is also required to disclose information required under Part 6 of *Form 51-101F1*. Those requirements apply irrespective of the quantum of *reserves*, if any. This would include information about *properties* (items 6.1 and 6.2), costs (item 6.6), and exploration and development activities (item 6.7). The disclosure should make clear that the issuer had no *production*, as that fact would be material.

- (2) ***Form 51-101F2 - NI 51-101*** requires *reporting issuers* to retain an *independent qualified reserves evaluator or auditor* to evaluate or audit the company's *reserves data* and report to the board of directors. If the *reporting issuer* had no *reserves* during the year and hence did not retain an evaluator or auditor, then it would not need to retain one just to file a (nil) report of the *independent evaluators* on the *reserves data* in the form of *Form 51-101F2* and the *reporting issuer* would therefore not be required to file a *Form 51-101F2*. If, however, the issuer did retain an evaluator or auditor to evaluate *reserves*, and the evaluator or auditor concluded that they could not be so categorized, or reclassified those *reserves* to *resources*, the issuer would have to file a report of the *qualified reserves evaluator* because the evaluator has, in fact, evaluated the *reserves* and expressed an opinion.
- (3) ***Form 51-101F3 -*** Irrespective of whether the *reporting issuer* has *reserves*, the requirement to file a report of management and directors in the form of *Form 51-101F3* applies.
- (4) ***Other NI 51-101 Requirements - NI 51-101*** does not require *reporting issuers* to disclose *anticipated results* from their *resources*. However, if a *reporting issuer* chooses to disclose that type of information, section 5.9 of *NI 51-101* applies to that disclosure.

2.6 Reservation in Report of Independent Qualified Reserves Evaluator or Auditor

A report of an *independent qualified reserves evaluator or auditor* on *reserves data* will not satisfy the requirements of item 2 of section 2.1 of *NI 51-101* if the report contains a *reservation*, the cause of which can be removed by the *reporting issuer* (subsection 2.4(2) of *NI 51-101*).

The CSA do not generally consider time and cost considerations to be causes of a *reservation* that cannot be removed by the *reporting issuer*.

A report containing a *reservation* may be acceptable if the *reservation* is caused by a limitation in the scope of the *evaluation* or audit resulting from an event that clearly limits the availability of necessary records and which is beyond the control of the *reporting issuer*. This could be the case if, for example, necessary records have been inadvertently destroyed and cannot be recreated or if necessary records are in a country at war and access is not practicable.

One potential source of *reservations*, which the CSA consider can and should be addressed in a different way, could be reliance by a *qualified reserves evaluator or auditor* on information derived or obtained from a *reporting issuer's independent financial auditors* or reflecting their report. The CSA recommend that *qualified reserves evaluators or auditors* follow the procedures and guidance set out in both sections 4 and 12 of volume 1 of the *COGE Handbook* in respect of dealings with *independent financial auditors*. In so doing, the CSA expect that the quality of *reserves data* can be enhanced and a potential source of *reservations* can be eliminated.

2.7 Disclosure in Form 51-101F1

- (1) **Royalty Interest in Reserves** - *Net reserves* (or "company *net reserves*") of a *reporting issuer* include its royalty interest in *reserves*.

If a *reporting issuer* cannot obtain the information it requires to enable it to include a royalty interest in *reserves* in its disclosure of *net reserves*, it should, proximate to its disclosure of *net reserves*, disclose that fact and its corresponding royalty interest share of *oil and gas production* for the year ended on the *effective date*.

Form 51-101F1 requires that certain *reserves data* be provided on both a "gross" and "net" basis, the latter being adjusted for both royalty entitlements and royalty obligations. However, if a royalty is granted by a trust's subsidiary to the trust, this would not affect the computation of "*net reserves*". The typical *oil and gas* income trust structure involves the grant of a royalty by an operating subsidiary of the trust to the trust itself, the royalty being the source of the distributions to trust investors. In this case, the royalty is wholly within the combined or consolidated trust entity (the trust and its operating subsidiary). This is not the type of external entitlement or obligation for which adjustment is made in determining, for example, "*net reserves*". Viewing the trust and its consolidated entities together, the relevant *reserves* and other *oil and gas* information is that of the operating subsidiary without deduction of the internal royalty to the trust.

- (2) **Government Restriction on Disclosure** - If, because of a restriction imposed by a government or governmental authority having jurisdiction over a *property*, a *reporting issuer* excludes *reserves* information from its *reserves data* disclosed under *NI 51-101*, the disclosure should include a statement that identifies the *property* or country for which the information is excluded and explains the exclusion.

- (3) **Computation of Future Net Revenue**

(a) **Tax**

Form 51-101F1 requires *future net revenue* to be estimated and disclosed both before and after deduction of income taxes. However, a *reporting issuer* may not be subject to income taxes because of its royalty or income trust structure. In this instance, the issuer should use the tax rate that most appropriately reflects the

income tax it reasonably expects to pay on the *future net revenue*. If the issuer is not subject to income tax because of its royalty trust structure, then the most appropriate income tax rate would be zero. In this case, the issuer could present the estimates of *future net revenue* in only one column and explain, in a note to the table, why the estimates of before-tax and after-tax *future net revenue* are the same.

Also, tax pools should be taken into account when computing *future net revenue* after income taxes. The definition of "future income tax expense" is set out in the NI 51-101 Glossary. Essentially, *future income tax expenses* represent estimated cash income taxes payable on the *reporting issuer's* future pre-tax cash flows. These cash income taxes payable should be computed by applying the appropriate year-end statutory tax rates, taking into account future tax rates already legislated, to future pre-tax *net* cash flows reduced by appropriate deductions of estimated unclaimed costs and losses carried forward for tax purposes and relating to *oil and gas activities* (i.e., tax pools). Such tax pools may include Canadian *oil and gas property* expense (COGPE), Canadian development expense (CDE), Canadian exploration expense (CEE), undepreciated capital cost (UCC) and unused prior year's tax losses. (Issuers should be aware of limitations on the use of certain tax pools resulting from acquisitions of *properties* in situations where provisions of the Income Tax Act concerning successor corporations apply.)

(b) Other Fiscal Regimes

Other fiscal regimes, such as those involving *production* sharing contracts, should be adequately explained with appropriate allocations made to various classes of proved *reserves* and to *probable reserves*.

- (4) **Supplemental Disclosure of *Future Net Revenue* Using *Constant prices and costs*** - Form 51-101 F1 gives *reporting issuers* the option of disclosing *future net revenue* using *constant prices and costs* in addition to disclosing *future net revenue* using *forecast prices and costs*. *Constant prices and costs* are based on the *reporting issuer's* prices and costs as at the *reporting issuer's* financial year-end. In general, these prices and costs are assumed not to change, but rather to remain constant, throughout the life of a *property*, except to the extent of certain fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product (including those for an extension period of a contract that is likely to be extended).
- (5) **Financial Instruments** - The definition of "*forecast prices and costs*" in paragraph 1.1(j) of NI 51-101 and the term "*constant prices and costs*" as defined in the NI 51-101 Glossary refer to fixed or presently determinable future prices to which a *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product. The phrase "contractual or other obligation to supply a physical product" excludes arrangements under which the *reporting issuer* can satisfy its obligations in cash and would therefore exclude an arrangement that

would be a "financial instrument" as defined in Section 3855 of the *CICA Handbook*. The *CICA Handbook* discusses when a *reporting issuer's* obligation would be considered a financial instrument and sets out the requirements for presentation and disclosure of these financial instruments (including so-called financial hedges) in the *reporting issuer's* financial statements.

(6) **Reserves Reconciliation**

- (a) If the *reporting issuer* reports *reserves*, but had no *reserves* at the start of the reconciliation period, a reconciliation of *reserves* must be carried out if any *reserves* added during the previous year are material. Such a reconciliation will have an opening balance of zero.
- (b) The reserves reconciliation is prepared on a *gross reserves*, not *net reserves*, basis. For some *reporting issuers* with significant royalty interests, such as royalty trusts, the *net reserves* may exceed the *gross reserves*. In order to provide adequate disclosure given the distinctive nature of its business, the *reporting issuer* may also disclose its *reserves* reconciliation on a *net reserves* basis. The issuer is not precluded from providing this additional information with its disclosure prescribed in *Form 51-101F1* provided that the *net reserves* basis for the reconciliation is clearly identified in the additional disclosure to avoid confusion.
- (c) Clause 2(c)(ii) of item 4.1 of *Form 51-101F1* requires reconciliations of *reserves* to separately identify and explain technical revisions. Technical revisions show changes in existing *reserves* estimates, in respect of carried-forward *properties*, over the period of the reconciliation (i.e., between estimates as at the *effective date* and the prior year's estimate) and are the result of new technical information, not the result of capital expenditure. With respect to making technical revisions, the following should be noted:
 - Infill Drilling: It would not be acceptable to include infill drilling results as a technical revision. *Reserves* additions derived from infill drilling during the year are not attributable to revisions to the previous year's *reserves* estimates. Infill drilling *reserves* must either be included in the "extensions and improved recovery" category or in an additional stand-alone category in the reserves reconciliation labelled "infill drilling".
 - Acquisitions: If an acquisition is made during the year, (i.e., in the period between the *effective date* and the prior year's estimate), the *reserves* estimate to be used in the reconciliation is the estimate of *reserves* at the *effective date*, not at the acquisition date, plus any *production* since the acquisition date. This *production* must be included as *production* in the reconciliation. If there has been a change in the *reserves* estimate between the

acquisition date and the *effective date* other than that due to *production*, the issuer may wish to explain this as part of the reconciliation in a footnote to the reconciliation table.

- (7) **Significant Factors or Uncertainties** - Item 5.2 of *Form 51-101F1* requires an issuer to identify and discuss important economic factors or significant uncertainties that affect particular components of the *reserves data*. Like a “subsequent event” note in a financial statement, the issuer should discuss this type of information even if it pertains to a period subsequent to the *effective date*.

For example, if events subsequent to the *effective date* have resulted in significant changes in expected future prices, such that the forecast prices reflected in the *reserves data* differ materially from those that would be considered to be a reasonable outlook on the future around the date of the company’s “statement of *reserves data* and other information”, then the issuer’s statement might include, pursuant to item 5.2, a discussion of that change and its effect on the disclosed *future net revenue* estimates. It may be misleading to omit this information.

- (8) **Additional Information** - As discussed in section 2.3 above and in the instructions to *Form 51-101F1*, *NI 51-101* offers flexibility in the use of the prescribed forms and the presentation of required information.

The disclosure specified in *Form 51-101F1* is the minimum disclosure required, subject to the *materiality* standard. *Reporting issuers* are free to provide additional disclosure that is not inconsistent with *NI 51-101*.

To the extent that additional, or more detailed, disclosure can be expected to assist readers in understanding and assessing the mandatory disclosure, it is encouraged. Indeed, to the extent that additional disclosure of *material* facts is necessary in order to make mandated disclosure not misleading, a failure to provide that additional disclosure would amount to a misrepresentation.

- (9) **Sample Reserves Data Disclosure** - Appendix 1 to this Companion Policy sets out an example of how certain of the *reserves data* might be presented in a manner which the CSA consider to be consistent with *NI 51-101* and *Form 51-101F1*. The CSA encourages *reporting issuers* to use the format presented in Appendix 1.

The sample presentation in Appendix 1 also illustrates how certain additional information not mandated under *Form 51-101F1* might be incorporated in an annual filing.

2.8 *Form 51-101F2*

- (1) **Negative Assurance by Qualified Reserves Evaluator or Auditor** - A *qualified reserves evaluator or auditor* conducting a review may wish to express only negative assurance -- for example, in a statement such as “Nothing has come to my attention which would indicate that the *reserves data* have not been prepared

in accordance with principles and definitions presented in the Canadian Oil and Gas Evaluation Handbook”. This can be contrasted with a positive statement such as an opinion that “The *reserves data* have, in all material respects, been determined and presented in accordance with the Canadian Oil and Gas *Evaluation Handbook* and are, therefore, free of material misstatement”.

The CSA are of the view that statements of negative assurance can be misinterpreted as providing a higher degree of assurance than is intended or warranted.

The CSA believe that a statement of negative assurance would constitute so *material* a departure from the report prescribed in *Form 51-101F2* as to fail to satisfy the requirements of item 2 of section 2.1 of *NI 51-101*.

In the rare case, if any, in which there are compelling reasons for making such disclosure (e.g., a prohibition on disclosure to external parties), the CSA believe that, to avoid providing information that could be misleading, the *reporting issuer* should include in such disclosure useful explanatory and cautionary statements. Such statements should explain the limited nature of the work undertaken by the *qualified reserves evaluator or auditor* and the limited scope of the assurance expressed, noting that it does not amount to a positive opinion.

- (2) **Variations in Estimates** - *Form 51-101F2* (and *Form 51-101F3*) contains a statement that variations between *reserves data* and actual results may be material but that any variations should be consistent with the fact that *reserves* are categorized according to the probability of their recovery.

Reserves estimates are made at a point in time, being the *effective date*. A reconciliation of a *reserves* estimate to actual results is likely to show variations and the variations may be material. This variation may arise from factors such as exploration discoveries, acquisitions, divestments and economic factors that were not considered in the initial *reserves* estimate. Variations that occur with respect to *properties* that were included in both the *reserves* estimate and the actual results may be due to technical or economic factors. Any variations arising due to technical factors should be consistent with the fact that *reserves* are categorized according to the probability of their recovery. For example, the requirement that reported *proved reserves* “must have at least a 90 percent probability that the quantities actually recovered will equal or exceed the estimated *proved reserves*” (section 5 of volume 1 of the *COGE Handbook*) implies that as more technical data becomes available, a positive, or upward, revision is significantly more likely than a negative, or downward, revision. Similarly, it should be equally likely that revisions to an estimate of *proved plus probable reserves* will be positive or negative.

Reporting issuers must assess the magnitude of such variation according to their own circumstances. A *reporting issuer* with a limited number of *properties* is more likely to be affected by a change in one of these *properties* than a *reporting*

issuer with a greater number of *properties*. Consequently, *reporting issuers* with few *properties* are more likely to show larger variations, both positive and negative, than those with many *properties*.

Variations may result from factors that cannot be reasonably anticipated, such as the fall in the price of *bitumen* at the end of 2004 that resulted in significant negative revisions in *proved reserves*, or the unanticipated activities of a foreign government. If such variations occur, the reasons will usually be obvious. However, the assignment of a *proved reserve*, for instance, should reflect a degree of confidence in all of the relevant factors, at the *effective date*, such that the likelihood of a negative revision is low, especially for a *reporting issuer* with many *properties*. Examples of some of the factors that could have been reasonably anticipated, that have led to negative revisions of *proved* or of *proved plus probable reserves* are:

- Over-optimistic activity plans, for instance, booking reserves for *proved* or *probable undeveloped reserves* that have no reasonable likelihood of being drilled.
- *Reserves* estimates that are based on a forecast of *production* that is inconsistent with historic performance, without solid technical justification.
- Assignment of drainage areas that are larger than can be reasonably expected.
- The use of inappropriate analogs.

- (3) ***Effective date of Evaluation*** - A *qualified reserves evaluator or auditor* cannot prepare an *evaluation* using information that relates to events that occurred after the *effective date*, being the financial year-end. Information that relates to events that occurred after the year-end should not be incorporated into the forecasts. For example, information about drilling results from wells drilled in January or February, or changes in *production* that occurred after year-end date of December 31, should not be used. Even though this more recent information is available, the evaluator or auditor should not go back and change the forecast information. The forecast is to be based on the evaluator's or auditor's perception of the future as of December 31, the *effective date* of the report.

Similarly, the evaluator or auditor should not use price forecasts for a date subsequent to the year-end date of, in this example, December 31. The evaluator or auditor should use the prices that he or she forecasted on or around December 31. The evaluator or auditor should also use the December forecasts for exchange rates and inflation. Revisions to price, exchange rate or inflation rate forecasts

after December 31 would have resulted from events that occurred after December 31.

PART 3 RESPONSIBILITIES OF *REPORTING ISSUERS* AND DIRECTORS

3.1 *Reserves Committee*

Section 3.4 of *NI 51-101* enumerates certain responsibilities of the board of directors of a *reporting issuer* in connection with the preparation of *oil* and *gas* disclosure.

The CSA believe that certain of these responsibilities can in many cases more appropriately be fulfilled by a smaller group of directors who bring particular experience or abilities and an *independent* perspective to the task.

Subsection 3.5(1) of *NI 51-101* permits a board of directors to delegate responsibilities (other than the responsibility to approve the content or filing of certain documents) to a committee of directors, a majority of whose members are *independent* of management. Although subsection 3.5(1) is not mandatory, the CSA encourage *reporting issuers* and their directors to adopt this approach.

3.2 Responsibility for Disclosure

NI 51-101 requires the involvement of an *independent qualified reserves evaluator or auditor* in preparing or reporting on certain *oil* and *gas* information disclosed by a *reporting issuer*, and in section 3.2 mandates the appointment of an *independent qualified reserves evaluator or auditor* to report on *reserves data*.

The CSA do not intend or believe that the involvement of an *independent qualified reserves evaluator or auditor* relieves the *reporting issuer* of responsibility for information disclosed by it for the purposes of *NI 51-101*.

PART 4 MEASUREMENT

4.1 Consistency in Dates

Section 4.2 of *NI 51-101* requires consistency in the timing of recording the effects of events or transactions for the purposes of both annual financial statements and annual *reserves data* disclosure.

To ensure that the effects of events or transactions are recorded, disclosed or otherwise reflected consistently (in respect of timing) in all public disclosure, a *reporting issuer* will wish to ensure that both its financial auditors and its *qualified reserves evaluators or auditors*, as well as its directors, are kept apprised of relevant events and transactions, and to facilitate communication between its financial auditors and its *qualified reserves evaluators or auditors*.

Sections 4 and 12 of volume 1 of the *COGE Handbook* set out procedures and guidance for the conduct of *reserves evaluations* and *reserves audits*, respectively. Section 12 deals with the relationship between a *reserves auditor* and the client's financial auditor. Section 4, in connection with *reserves evaluations*, deals somewhat differently with the relationship between the *qualified reserves evaluator or auditor* and the client's financial auditor. The CSA recommend that *qualified reserves evaluators or auditors* carry out the procedures discussed in both sections 4 and 12 of volume 1 of the *COGE Handbook*, whether conducting a *reserves evaluation* or a *reserves audit*.

PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

5.1 Application of Part 5

Part 5 of *NI 51-101* imposes requirements and restrictions that apply to all "disclosure" (or, in some cases, all written disclosure) of a type described in section 5.1 of *NI 51-101*. Section 5.1 refers to disclosure that is either

- filed by a *reporting issuer* with the *securities regulatory authority*, or
- if not filed, otherwise made to the public or made in circumstances in which, at the time of making the disclosure, the *reporting issuer* expects, or ought reasonably to expect, the disclosure to become available to the public.

As such, Part 5 applies to a broad range of disclosure including

- the annual filings required under Part 2 of *NI 51-101*,
- other continuous disclosure filings, including material change reports (which themselves may also be subject to Part 6 of *NI 51-101*),
- public disclosure documents, whether or not filed, including news releases,
- public disclosure made in connection with a distribution of securities, including a prospectus, and
- except in respect of provisions of Part 5 that apply only to written disclosure, public speeches and presentations made by representatives of the *reporting issuer* on behalf of the *reporting issuer*.

For these purposes, the CSA consider written disclosure to include any writing, map, plot or other printed representation whether produced, stored or disseminated on paper or electronically. For example, if material distributed at a company presentation refers to *BOEs*, the material should include, near the reference to *BOEs*, the cautionary statement required by paragraph 5.14(d) of *NI 51-101*.

To ensure compliance with the requirements of Part 5, the CSA encourage *reporting issuers* to involve a *qualified reserves evaluator or auditor*, or other person who is familiar with *NI 51-101* and the *COGE Handbook*, in the preparation, review or approval of all such *oil* and *gas* disclosure.

5.2 Disclosure of *Reserves* and Other Information

- (1) **General** - A *reporting issuer* must comply with the requirements of section 5.2 in its disclosure, to the public, of *reserves* estimates and other information of a type specified in *Form 51-101F1*. This would include, for example, disclosure of such information in a news release.
- (2) **Reserves** - *NI 51-101* does not prescribe any particular methods of estimation but it does require that a *reserve* estimate be prepared in accordance with the *COGE Handbook*. For example, section 5 of volume 1 of the *COGE Handbook* specifies that, in respect of an issuer's reported proved *reserves*, there is to be at least a 90 percent probability that the total remaining quantities of *oil* and *gas* to be recovered will equal or exceed the estimated total proved *reserves*.

Additional guidance on particular topics is provided below.

- (3) **Possible Reserves** - A *possible reserves* estimate - either alone or as part of a sum - is often a relatively large number that, by definition, has a low probability of actually being produced. For this reason, the cautionary language prescribed in subparagraph 5.2(a)(v) of *NI 51-101* must accompany the written disclosure of a *possible reserves* estimate.
- (4) **Probabilistic and Deterministic Evaluation Methods** - Section 5 of volume 1 of the *COGE Handbook* states that "In principle, there should be no difference between estimates prepared using probabilistic or deterministic methods".

When deterministic methods are used, in the absence of a "mathematically derived quantitative measure of probability", the classification of *reserves* is based on professional judgment as to the quantitative measure of certainty attained.

When probabilistic methods are used in conjunction with good engineering and geological practice, they will provide more statistical information than the conventional deterministic method. The following are a few critical criteria that an evaluator must satisfy when applying probabilistic methods:

- The evaluator must still estimate the *reserves* applying the definitions and using the guidelines set out in the *COGE Handbook*.
- Entity level probabilistic *reserves* estimates should be aggregated arithmetically to provide reported level *reserves*.

- If the evaluator also prepares aggregate *reserves* estimates using probabilistic methods, the evaluator should explain in the *evaluation* report the method used. In particular, the evaluator should specify what confidence levels were used at the entity, *property*, and reported (i.e., total) levels for each of proved, proved + *probable* and proved + *probable* + *possible* (if reported) *reserves*.
 - If the *reporting issuer* discloses the aggregate *reserves* that the evaluator prepared using probabilistic methods, the issuer should provide a brief explanation, near its disclosure, about the *reserves* definitions used for estimating the *reserves*, about the method that the evaluator used, and the underlying confidence levels that the evaluator applied.
- (5) **Availability of Funding** - In assigning *reserves* to an undeveloped *property*, the *reporting issuer* is not required to have the funding available to develop the *reserves*, since they may be developed by means other than the expenditure of the *reporting issuer's* funds (for example by a farm-out or sale). *Reserves* must be estimated assuming that development of the *properties* will occur without regard to the likely availability of funding required for that *property*. The *reporting issuer's* evaluator is not required to consider whether the *reporting issuer* will have the capital necessary to develop the *reserves*. (See section 7 of *COGE Handbook* and subparagraph 5.2(a)(iv) of *NI 51-101*.)
- However, item 5.3 of *Form 51-101F1* requires a *reporting issuer* to discuss its expectations as to the sources and costs of funding for estimated future *development costs*. If the issuer expects that the costs of funding would make development of a *property* unlikely, then even if *reserves* were assigned, it must also discuss that expectation and its plans for the *property*.
- (6) **Proved or Probable Undeveloped Reserves** - Proved or probable *undeveloped reserves* must be reported in the year in which they are recognized. If the *reporting issuer* does not disclose the proved or probable *undeveloped reserves* just because it has not yet spent the capital to develop these *reserves*, it may be omitting *material* information, thereby causing the *reserves* disclosure to be misleading. If the proved or probable *undeveloped reserves* are not disclosed to the public, then those who have a special relationship with the issuer and know about the existence of these *reserves* would not be permitted to purchase or sell the securities of the issuer until that information has been disclosed. If the issuer has a prospectus, the prospectus might not contain full true and plain disclosure of all *material* facts if it does not contain information about these proved or probable *undeveloped reserves*.
- (7) **Mechanical Updates** - So-called “mechanical updates” of *reserves* reports are sometimes created, often by rerunning previous *evaluations* with a new price deck. This is problematic since there may have been material changes other than price that may lead to the report being misleading. If a *reporting issuer* discloses the results of the mechanical update it should ensure that all relevant material changes are also disclosed to ensure that the information is not misleading.

5.3 **Reserves and Resources Classification**

Section 5.3 of *NI 51-101* requires that any disclosure of *reserves* or *resources* must be made using the categories and terminology as set out in the *COGE Handbook*. The definitions of the various *reserves* and *resources* categories, derived from the *COGE Handbook*, are provided in the *NI 51-101* Glossary. In addition, section 5.3 of *NI 51-101* requires that disclosure of *reserves* or *resources* must relate to the most specific category of *reserves* or *resources* in which the *reserves* or *resources* can be classified. For instance, there are several subcategories of *discovered resources* (which are equivalent to *discovered petroleum initially-in-place* in the current edition of the *COGE Handbook*) including *reserves*, *contingent resources* and *discovered unrecoverable resources* (which are equivalent to *discovered unrecoverable petroleum initially-in-place* in the current edition of the *COGE Handbook*). *Reporting issuers* must classify *discovered resources* into one of the subcategories of *discovered resources*. In exceptional circumstances, a *reporting issuer* may be unable to classify the *resources* in a subcategory of *discovered resources*, in which case it must provide a comprehensive explanation as to why the *resources* cannot be classified in a *subcategory*.

In addition, *reserves* can be estimated using three subcategories, namely *proved*, *probable* or *possible reserves*, according to the probability that such quantities of *reserves* will actually be produced. As described in the *COGE Handbook* *proved*, *probable* and *possible reserves* represent conservative, realistic and optimistic estimates of *reserves*, respectively. Therefore any disclosure of *reserves* must be broken down into one of the three subcategories of *reserves*, namely *proved*, *probable* or *possible reserves*. For further guidance on disclosure of *reserves* and *resources* please see sections 5.2 and 5.5 of this Companion Policy.

5.4 **Written Consents**

Section 5.7 of *NI 51-101* restricts a *reporting issuer's* use of a report of a *qualified reserves evaluator or auditor* without written consent. The consent requirement does not apply to the direct use of the report for the purposes of *NI 51-101* (filing *Form 51-101F1*; making direct or indirect reference to the conclusions of that report in the filed *Form 51-101F1* and *Form 51-101F3*; and identifying the report in the news release referred to in section 2.2). The *qualified reserves evaluator or auditor* retained to report to a *reporting issuer* for the purposes of *NI 51-101* is expected to anticipate these uses of the report. However, further use of the report (for example, in a securities offering document or in other news releases) would require written consent.

5.5 **Disclosure of Resources**

- (1) **Disclosure of Resources Generally** -The disclosure of *resources*, excluding *proved* and *probable reserves*, is not mandatory under *NI 51-101*, except that a *reporting issuer* must make disclosure concerning its unproved *properties* and *resource* activities in its annual filings as described in Part 6 of *Form 51-101F1*. Additional disclosure beyond this is voluntary and must comply with section 5.9 of *NI 51-101* if *anticipated results* from the *resources* are voluntarily disclosed.

For prospectuses, the general securities disclosure obligation of “full, true and plain” disclosure of all *material* facts would require the disclosure of *reserves* or *resources* that are *material* to the issuer, even if the disclosure is not mandated by *NI 51-101*. Any such disclosure should be based on supportable analysis.

Disclosure of *resources* may involve the use of statistical measures that may be unfamiliar to a user. It is the responsibility of the evaluator and the *reporting issuer* to be familiar with these measures and for the *reporting issuer* to be able to explain them to investors. Information on statistical measures may be found in the *COGE Handbook* (section 9 of volume 1 and section 4 of volume 2) and in the extensive technical literature⁴ on the subject.

- (2) **Disclosure of *Anticipated Results* under Subsection 5.9(1) of *NI 51-101*** - If a *reporting issuer* voluntarily discloses *anticipated results* from *resources* that are not classified as *reserves*, it must disclose certain basic information concerning the *resources*, which is set out in subsection 5.9(1) of *NI 51-101*. Additional disclosure requirements arise if the *anticipated results* disclosed by the issuer include an estimate of a *resource* quantity or associated value, as set out below in subsection 5.5(3).

If a *reporting issuer* discloses *anticipated results* relating to numerous aggregated *properties*, *prospects* or *resources*, the issuer may, depending on the circumstances, satisfy the requirements of subsection 5.9(1) by providing summarized information in respect of each prescribed requirement. The *reporting issuer* must ensure that its disclosure is reasonable, meaningful and at a level appropriate to its size. For a *reporting issuer* with only few *properties*, it may be appropriate to make the disclosure for each *property*. Such disclosure may be unreasonably onerous for a *reporting issuer* with many *properties*, and it may be more appropriate to summarize the information by major areas or for major projects. However, if a *reporting issuer* discloses an aggregate *resource* estimate (or associated value) referred to in subsection 5.9(2) of *NI 51-101*, the issuer must ensure that any aggregation of *properties* occurs within the most specific category of *resource* classification as required by paragraph 5.9(2)(b). A *reporting issuer* cannot aggregate *properties* across different categories of *resources* if a *resource* estimate referenced in subsection 5.9(2) is disclosed.

In respect of the requirement to disclose the risk and level of uncertainty associated with the *anticipated result* under paragraph 5.9(1)(d) of *NI 51-101*, risk

⁴ For example, Determination of Oil and Gas Reserves, Monograph No. 1, Chapter 22, Petroleum Society of CIM, Second Edition 2004. (ISBN 0-9697990-2-0)) Newendorp, P., & Schuyler, J., 2000, Decision Analysis for Petroleum Exploration, Planning Press, Aurora, Colorado (ISBN 0-9664401-1-0). Rose, P. R., Risk Analysis and Management of Petroleum Exploration Ventures, AAPG Methods in Exploration Series No. 12, AAPG (ISBN 0-89181-062-1)

and uncertainty are related concepts. Section 9 of volume 1 of the *COGE Handbook* provides the following definition of risk:

“Risk refers to a likelihood of loss and ... It is less appropriate to *reserves* evaluation because economic viability is a prerequisite for defining *reserves*.”

The concept of risk may have some limited relevance in disclosure related to *reserves*, for instance, for incremental *reserves* that depend on the installation of a compressor, the likelihood that the compressor will be installed. Risk is often relevant to the disclosure of *resource* categories other than *reserves*, in particular the likelihood that an exploration well will, or will not, be successful.

Section 9 of volume 1 of the *COGE Handbook* provides the following definition of uncertainty:

“Uncertainty is used to describe the range of possible outcomes of a *reserves* estimate.”

However, the concept of uncertainty is generally applicable to any estimate, including not only *reserves*, but also to all other categories of *resource*.

In satisfying the requirement of paragraph 5.9(1)(d) of *NI 51-101*, a *reporting issuer* should ensure that their disclosure includes the risks and uncertainties that are appropriate and meaningful for their activities. This may be expressed quantitatively as probabilities or qualitatively by appropriate description. If the *reporting issuer* chooses to express the risks and level of uncertainty qualitatively, the disclosure must be meaningful and not in the nature of a general disclaimer.

If the *reporting issuer* discloses the estimated value of an *unproved property* other than a value attributable to an estimated *resource* quantity, then the issuer must disclose the basis of the calculation of the value, in accordance with paragraph 5.9(1)(e). This type of value is typically based on petroleum land management practices that consider activities and land prices in nearby areas. If done *independently*, it would be done by a valuator with petroleum land management expertise who would generally be a member of a *professional organization* such as the Canadian Association of Petroleum Landmen. This is distinguishable from the determination of a value attributable to an estimated *resource* quantity, as contemplated in subsection 5.9(2). This latter type of value estimate must be prepared by a *qualified reserves evaluator or auditor*.

The calculation of an estimated value described in paragraph 5.9(1)(e) may be based on one or more of the following factors:

- the acquisition cost of the *unproved property* to the *reporting issuer*, provided there have been no material changes in the *unproved property*, the

surrounding *properties*, or the general *oil* and *gas* economic climate since acquisition;

- recent sales by others of interests in the same *unproved property*;
- terms and conditions, expressed in monetary terms, of recent farm-in agreements related to the *unproved property*;
- terms and conditions, expressed in monetary terms, of recent work commitments related to the *unproved property*;
- recent sales of similar *properties* in the same general area;
- recent exploration and discovery activity in the general area;
- the remaining term of the *unproved property*; or
- burdens (such as overriding royalties) that impact on the value of the *property*.

The *reporting issuer* must disclose the basis of the calculation of the value of the *unproved property*, which may include one or more of the above-noted factors.

The *reporting issuer* must also disclose whether the value was prepared by an *independent* party. In circumstances in which paragraph 5.9(1)(e) applies and where the value is prepared by an *independent* party, in order to ensure that the *reporting issuer* is not making public disclosure of misleading information, the CSA expect the *reporting issuer* to provide all relevant information to the valuator to enable the valuator to prepare the estimate.

(3) **Disclosure of an Estimate of Quantity or Associated Value of a *Resource* under Subsection 5.9(2) of NI 51-101**

(a) **Overview of Subsection 5.9(2) of NI 51-101**

Pursuant to subsection 5.9(2) of NI 51-101, if a *reporting issuer* discloses an estimate of a *resource* quantity or an associated value, the estimate must have been prepared by a *qualified reserves evaluator or auditor*. If a *reporting issuer* obtains or carries out an evaluation of *resources* and wishes to file or disseminate a report in a format comparable to that prescribed in *Form 51-101F2*, it may do so. However, the title of such a form must not contain the term “*Form 51-101 F2*” as this form is specific to the evaluation of *reserves data*. *Reporting issuers* must modify the report on *resources* to reflect that *reserves data* is not being reported. A heading such as “Report on *Resource* Estimate by *Independent Qualified Reserves Evaluator or Auditor*” may be appropriate. Although such an evaluation is required to be carried out by a *qualified reserves evaluator or auditor*, there is no requirement that it be *independent*. If an *independent* party does not prepare the report, *reporting issuers* should consider amending the title or content of the report to make it clear that the report has not been prepared by an

independent party and the *resource* estimate is not an independent *resource* estimate.

The *COGE Handbook* recommends the use of probabilistic *evaluation* methods for making *resource* estimates, and although it does not provide detailed guidance there is a considerable amount of technical literature on the subject.

In addition, pursuant to section 5.3 and paragraph 5.9(2)(b) of *NI 51-101*, the *reporting issuer* must ensure that the estimated *resource* relates to the most specific category of *resources* in which the *resource* can be classified. As discussed above in subsection 5.5(2) of this Companion Policy, if a *reporting issuer* wishes to disclose an aggregate *resource* estimate which involves the aggregation of numerous *properties*, *prospects* or *resources*, it must ensure that the disclosure does not result in a contravention of the requirement in paragraph 5.9(2)(b) of *NI 51-101*.

Subsection 5.9(2) requires the *reporting issuer* to disclose certain information in addition to that prescribed in subsection 5.9(1) of *NI 51-101* to assist recipients of the disclosure in understanding the nature of risks associated with the estimate. This information includes a definition of the *resource* category used for the estimate, disclosure of factors relevant to the estimate and cautionary language.

(b) Definitions of Resource Categories

For the purpose of complying with the requirement of defining the *resource* category, the *reporting issuer* must ensure that disclosure of the definition is consistent with the *resource* categories and terminology set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*. Section 5 of volume 1 of the *COGE Handbook* and the *NI 51-101* Glossary identify and define the various *resource* categories.

A *reporting issuer* may wish to report *reserves* or *resources* of oil or gas as “in-place volumes”. By definition, *reserves* of any type, *contingent resources* and *prospective resources* are estimates of volumes that are recoverable or potentially recoverable and, as such, cannot be described as being “in-place”. Terms such as “potential *reserves*”, “undiscovered *reserves*”, “*reserves* in place”, “in-place *reserves*” or similar terms must not be used because they are incorrect and misleading. The disclosure of *reserves* or *resources* must be consistent with the *reserves* and *resources* terminology and categories set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*.

(c) Application of Subsection 5.9(2) of NI 51-101

If the *reporting issuer* discloses an estimate of a *resource* quantity or associated value, the *reporting issuer* must additionally disclose the following:

- (i) a definition of the *resource* category used for the estimate;

- (ii) the *effective date* of the estimate;
- (iii) significant positive and negative factors relevant to the estimate;
- (iv) the contingencies which prevent the classification of a contingent *resource* as a *reserve*; and
- (v) cautionary language as prescribed by subparagraph 5.9(2)(c)(v) of *NI 51-101*.

The *resource* estimate may be disclosed as a single quantity such as a median or mean, representing the best estimate. Frequently, however, the estimate consists of three values that reflect a range of reasonable likelihoods (the low value reflecting a conservative estimate, the middle value being the best estimate, and the high value being an optimistic estimate).

Guidance concerning defining the *resource* category is provided above in section 5.3 and paragraph 5.5(3)(b) of this Companion Policy.

Reporting issuers are required to disclose significant positive and negative factors relevant to the estimate pursuant to subparagraph 5.9(2)(c)(iii). For example, if there is no infrastructure in the region to transport the resource, this may constitute a significant negative factor relevant to the estimate. Other examples would include a significant lease expiry or any legal, capital, political, technological, business or other factor that is highly relevant to the estimate. To the extent that the *reporting issuer* discloses an estimate for numerous properties that are aggregated, it may disclose significant positive and negative factors relevant to the aggregate estimate, unless discussion of a particular material *resource* or *property* is warranted in order to provide adequate disclosure to investors.

The cautionary language in subparagraph 5.9(2)(c)(v) includes a prescribed disclosure that there is no certainty that it will be commercially viable to produce any portion of the resources. The concept of commercial viability would incorporate the meaning of the word “commercial” provided in the *NI 51-101* Glossary.

The general disclosure requirements of paragraph 5.9(2)(c) of *NI 51-101* may be illustrated by an example. If a *reporting issuer* discloses, for example, an estimate of a volume of its *bitumen* which is a *contingent resource* to the issuer, the disclosure would include information of the following nature:

The *reporting issuer* holds a [●] interest in [provide description and location of interest]. As of [●] date, it estimates that, in respect of this interest, it has [●] bbls of *bitumen*, which would be classified as a *contingent resource*. A *contingent resource* is defined as [cite current definition in the *COGE Handbook*]. There is no certainty that it will be commercially viable to produce any portion of the *resource*. The contingencies which currently prevent the classification of the *resource* as a *reserve* are [state specific capital costs required to render *production*

economic, applicable regulatory considerations, pricing, specific supply costs, technological considerations, and/or other relevant factors]. A significant factor relevant to the estimate is [e.g.] an existing legal dispute concerning title to the interest.

To the extent that this information is provided in a previously filed document, and it relates to the same interest in *resources*, the issuer can omit disclosure of significant positive and negative factors relevant to the estimate and the contingencies which prevent the classification of the *resource* as a *reserve*. However, the issuer must make reference in the current disclosure to the title and date of the previously filed document.

5.6 Analogous Information

A *reporting issuer* may wish to base an estimate on, or include comparative *analogous information* for their area of interest, such as *reserves*, *resources*, and *production*, from *fields* or wells, in nearby or geologically similar areas. Particular care must be taken in using and presenting this type of information. Using only the best wells or *fields* in an area, or ignoring dry holes, for instance, may be particularly misleading. It is important to present a factual and balanced view of the information being provided.

The *reporting issuer* must comply with the disclosure requirements of section 5.10 of *NI 51-101*, when it discloses *analogous information*, as that term is broadly defined in *NI 51-101*, for an area which includes an area of the *reporting issuer's* area of interest. Pursuant to subsection 5.10(2) of *NI 51-101*, if the issuer discloses an estimate of its own *reserves* or *resources* based on an extrapolation from the *analogous information*, or if the *analogous information* itself is an estimate of its own *reserves* or *resources*, the issuer must ensure the estimate is prepared in accordance with the *COGE Handbook* and disclosed in accordance with *NI 51-101* generally. For example, in respect of a *reserves* estimate, the estimate must be classified and prepared in accordance with the *COGE Handbook* by a *qualified reserves evaluator or auditor* and must otherwise comply with the requirements of section 5.2 of *NI 51-101*.

5.7 Consistent Use of Units of Measurement

Reporting issuers should be consistent in their use of units of measurement within and between disclosure documents, to facilitate understanding and comparison of the disclosure. For example, *reporting issuers* should not, without compelling reason, switch between imperial units of measure (such as barrels) and Système International (SI) units of measurement (such as tonnes) within or between disclosure documents. Issuers should refer to Appendices B and C of volume 1 of the *COGE Handbook* for the proper reporting of units of measurement.

In all cases, in accordance with subparagraph 5.2(a)(iii) and section 5.3 of *NI 51-101*, *reporting issuers* should apply the relevant terminology and unit prefixes set out in the *COGE Handbook*.

5.8 BOEs and McfGEs

Section 5.14 of *NI 51-101* sets out requirements that apply if a *reporting issuer* chooses to make disclosure using units of equivalency such as *BOEs* or *McfGEs*. The requirements include prescribed methods of calculation and cautionary disclosure as to the possible limitations of those calculations. Section 13 of the *COGE Handbook*, under the heading "Barrels of Oil Equivalent", provides additional guidance.

5.9 Finding and Development costs

Section 5.15 of *NI 51-101* sets out requirements that apply if a *reporting issuer* chooses to make disclosure of finding and *development costs*.

Because the prescribed methods of calculation under section 5.15 involve the use of *BOEs*, section 5.14 of *NI 51-101* necessarily applies to disclosure of finding and *development costs* under section 5.15. As such, the finding and development cost calculations must apply a conversion ratio as specified in section 5.14 and the cautionary disclosure prescribed in section 5.14 will also be required.

BOEs are based on imperial units of measurement. If the *reporting issuer* uses other units of measurements (such as SI or "metric" measures), any corresponding departure from the requirements of section 5.15 should reflect the use of units other than *BOEs*.

5.10 Prospectus Disclosure

In addition to the general disclosure requirements in *NI 51-101* which apply to prospectuses, the following commentary provides additional guidance on topics of frequent enquiry.

- (1) **Significant Acquisitions** - To the extent that an issuer engaged in *oil and gas activities* discloses a significant acquisition in its prospectus, it must disclose sufficient information for a reader to determine how the acquisition affected the *reserves data* and other information previously disclosed in the issuer's *Form 51-101F1*. This requirement stems from Part 6 of *NI 51-101* with respect to material changes. This is in addition to specific prospectus requirements for financial information satisfying significant acquisitions.
- (2) **Disclosure of Resources** - The disclosure of *resources*, excluding proved and *probable reserves*, is generally not mandatory under *NI 51-101*, except for certain disclosure concerning the issuer's unproved *properties* and *resource* activities as described in Part 6 of *Form 51-101F1*, which information would be incorporated into the prospectus. Additional disclosure beyond this is voluntary and must comply with sections 5.9 and 5.10 of *NI 51-101*, as applicable. However, the general securities disclosure obligation of "full, true, and plain" disclosure of all *material* facts in a prospectus would require the disclosure of *resources* that are *material* to the issuer, even if the disclosure is not mandated by *NI 51-101*. Any such disclosure should be based on supportable analysis.

- (3) **Proved or Probable *Undeveloped reserves*** - Further to the guidance provided in subsection 5.2(4) of this Companion Policy, proved or probable *undeveloped reserves* must be reported in the year in which they are recognized. If the *reporting issuer* does not disclose the proved or probable *undeveloped reserves* just because it has not yet spent the capital to develop these *reserves*, it may be omitting *material* information, thereby causing the *reserves* disclosure to be misleading. If the issuer has a prospectus, the prospectus might not contain full, true and plain disclosure of all *material* facts if it does not contain information about these proved *undeveloped reserves*.
- (4) ***Reserves Reconciliation in an Initial Public Offering*** - In an initial public offering, if the issuer does not have a *reserves* report as at its prior year-end, or if this report does not provide the information required to carry out a *reserves* reconciliation pursuant to item 4.1 of *Form 51-101F1*, the CSA may consider granting relief from the requirement to provide the *reserves* reconciliation. A condition of the relief may include a description in the prospectus of relevant changes in any of the categories of the *reserves* reconciliation.
- (5) **Relief to Provide More Recent *Form 51-101F1* Information in a Prospectus** - If an issuer is filing a preliminary prospectus and wishes to disclose *reserves data* and other *oil* and *gas* information as at a more recent date than its applicable year-end date, the CSA may consider relieving the issuer of the requirement to disclose the *reserves data* and other information as at year-end.

An issuer may determine that its obligation to provide full, true and plain disclosure obliges it to include in its prospectus *reserves data* and other *oil* and *gas* information as at a date more recent than specified in the prospectus requirements. The prospectus requirements state that the information must be as at the issuer's most recent financial year-end in respect of which the prospectus includes financial statements. The prospectus requirements, while certainly not presenting an obstacle to such more current disclosure, would nonetheless require that the corresponding information also be provided as at that financial year-end.

We would consider granting relief on a case-by-case basis to permit an issuer in these circumstances to include in its prospectus the *oil* and *gas* information prepared with an *effective date* more recent than the financial year-end date, without also including the corresponding information effective as at the year-end date. A consideration for granting this relief may include disclosure of *Form 51-101F1* information with an *effective date* that coincides with the date of interim financial statements. The issuer should request such relief in the covering letter accompanying its preliminary prospectus. The grant of the relief would be evidenced by the prospectus receipt.

PART 6 MATERIAL CHANGE DISCLOSURE

6.1 Changes from Filed Information

Part 6 of *NI 51-101* requires the inclusion of specified information in disclosure of certain material changes.

The information to be filed each year under Part 2 of *NI 51-101* is prepared as at, or for a period ended on, the *reporting issuer's* most recent financial year-end. That date is the *effective date* referred to in subsection 6.1(1) of *NI 51-101*. When a material change occurs after that date, the filed information may no longer, as a result of the material change, convey meaningful information, or the original information may have become misleading in the absence of updated information.

Part 6 of *NI 51-101* requires that the disclosure of the material change include a discussion of the *reporting issuer's* reasonable expectation of how the material change has affected the issuer's *reserves data* and other information contained in its filed disclosure. This would not necessarily require that an *evaluation* be carried out. However, the *reporting issuer* should ensure it complies with the general disclosure requirements set out in Part 5, as applicable. For example, if the material change report discloses an updated *reserves* estimate, this should be prepared in accordance with the *COGE Handbook* and by a *qualified reserves evaluator or auditor*.

This material change disclosure can reduce the likelihood of investors being misled, and maintain the usefulness of the original filed *oil* and *gas* information when the two are read together.

APPENDIX 1
to
COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

SAMPLE RESERVES DATA DISCLOSURE

Format of Disclosure

NI 51-101 and *Form 51-101F1* do not mandate the format of the disclosure of *reserves data* and related information by *reporting issuers*. However, the CSA encourages *reporting issuers* to use the format presented in this Appendix.

Whatever format and level of detail a *reporting issuer* chooses to use in satisfying the requirements of *NI 51-101*, the objective should be to enable reasonable investors to understand and assess the information, and compare it to corresponding information presented by the *reporting issuer* for other reporting periods or to similar information presented by other *reporting issuers*, in order to be in a position to make informed investment decisions concerning securities of the *reporting issuer*.

A logical and legible layout of information, use of descriptive headings, and consistency in terminology and presentation from document to document and from period to period, are all likely to further that objective.

Reporting issuers and their advisers are reminded of the *materiality* standard under section 1.4 of *NI 51-101*, and of the instructions in *Form 51-101F1*.

See also sections 1.4, 2.2 and 2.3 and subsections 2.7(8) and 2.7(9) of Companion Policy 51-101CP.

Sample Tables

The following sample tables provide an example of how certain of the *reserves data* might be presented in a manner consistent with *NI 51-101*.

These sample tables do not reflect all of the information required by *Form 51-101F1*, and they have been simplified to reflect *reserves* in one country only. For the purpose of illustration, the sample tables also incorporate information not mandated by *NI 51-101* but which *reporting issuers* might wish to include in their disclosure; shading indicates this non-mandatory information.

SUMMARY OF OIL AND GAS RESERVES
as of December 31, 2006

CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	RESERVES ⁽¹⁾							
	LIGHT AND MEDIUM OIL		HEAVY OIL		NATURAL GAS ⁽²⁾		NATURAL GAS LIQUIDS	
	Gross (Mbbbl)	Net (Mbbbl)	Gross (Mbbbl)	Net (Mbbbl)	Gross (MMcf)	Net (MMcf)	Gross (Mbbbl)	Net (Mbbbl)
PROVED								
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) Other product types must be added if material.

(2) Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined), (ii) solution gas and (iii) coal bed methane.

 OPTIONAL
SUPPLEMENTAL

SUMMARY OF NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, 2006
CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	NET PRESENT VALUES OF FUTURE NET REVENUE										
	BEFORE INCOME TAXES DISCOUNTED AT (%/year)					AFTER INCOME TAXES DISCOUNTED AT (%/year)					UNIT VALUE BEFORE INCOME TAX DISCOUNTED AT 10%/year
	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	(\$/Mcf) (\$/bbl)
PROVED											
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxx

OPTIONAL
SUPPLEMENTAL

Reference: Item 2.2 of *Form 51-101F1*

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, 2006**

CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOPMENT COSTS (M\$)	ABANDONMENT AND RECLAMATION COSTS (M\$)	FUTURE NET REVENUE BEFORE INCOME TAXES (M\$)	INCOME TAXES (M\$)	FUTURE NET REVENUE AFTER INCOME TAXES (M\$)
Proved Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Proved Plus Probable Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

OPTIONAL
SUPPLEMENTAL

Reference: Item 2.2 of *Form 51-101F1*

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2006**

CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	PRODUCTION GROUP	FUTURE NET REVENUE BEFORE INCOME TAXES (discounted at 10%/year) (M\$)
Proved Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx
	Non-Conventional Oil and Gas Activities	xxx
Proved Plus Probable Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx
	Non-Conventional Oil and Gas Activities	xxx

 OPTIONAL SUPPLEMENTAL

Reference: Item 2.2 of Form 51-101 F1

SUMMARY OF OIL AND GAS RESERVES
as of December 31, 2006
FORECAST PRICES AND COSTS

RESERVES CATEGORY	RESERVES ⁽¹⁾							
	LIGHT AND MEDIUM OIL		HEAVY OIL		NATURAL GAS ⁽²⁾		NATURAL GAS LIQUIDS	
	Gross (Mbbbl)	Net (Mbbbl)	Gross (Mbbbl)	Net (Mbbbl)	Gross (MMcf)	Net (MMcf)	Gross (Mbbbl)	Net (Mbbbl)
PROVED								
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) Other product types must be added if material.

(2) Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined), (ii) solution gas and (iii) coal bed methane.

SUMMARY OF NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, 2006
FORECAST PRICES AND COSTS

RESERVES CATEGORY	NET PRESENT VALUES OF FUTURE NET REVENUE										
	BEFORE INCOME TAXES DISCOUNTED AT (%/year)					AFTER INCOME TAXES DISCOUNTED AT (%/year)					UNIT VALUE BEFORE INCOME TAX DISCOUNTED AT 10%/year
	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	(\$/Mcf) (\$/bbl)
PROVED											
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxx

- (1) A reporting issuer may wish to satisfy its requirement to disclose these unit values by inserting this disclosure for each category of proved reserves and for probable reserves, by production group, in the chart for item 2.1(3)(c) of *Form 51-101F1* (see sample chart below entitled Future Net Revenue by Production Group).
- (2) The unit values are based on net reserve volumes.

Reference: Item 2.1(1) and (2) of *Form 51-101F1*

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, 2006
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOPMENT COSTS (M\$)	ABANDONMENT AND RECLAMATION COSTS (M\$)	FUTURE NET REVENUE BEFORE INCOME TAXES (M\$)	INCOME TAXES (M\$)	FUTURE NET REVENUE AFTER INCOME TAXES (M\$)
Proved Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Proved Plus Probable Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

Reference: Item 2.1(3)(b) of *Form 51-101F1*

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2006
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	PRODUCTION GROUP	FUTURE NET REVENUE BEFORE INCOME TAXES (discounted at 10%/year) (M\$)	UNIT VALUE (\$/Mcf) (\$/bbl)
Proved Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx	xxx
	Heavy Oil (including solution gas and other by-products)	xxx	xxx
	Natural Gas (including by-products but excluding solution gas and by-products from oil wells)	xxx	xxx
	Non-Conventional Oil and Gas Activities	xxx	xxx
	Total	xxx	
Proved Plus Probable Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx	xxx
	Heavy Oil (including solution gas and other by-products)	xxx	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx	xxx
	Non-Conventional Oil and Gas Activities	xxx	xxx
	Total	xxx	

Reference: Item 2.1(3)(c) of *Form 51-101F1*

**SUMMARY OF PRICING ASSUMPTIONS
as of December 31, 2006**

CONSTANT PRICES AND COSTS⁽¹⁾

Year	OIL ⁽²⁾				NATURAL GAS ⁽²⁾ AECO Gas Price (\$Cdn/MMBtu)	NATURAL GAS LIQUIDS FOB Field Gate (\$Cdn/bbl)	EXCHANGE RATE ⁽³⁾ (\$US/\$Cdn)
	WTI Cushing Oklahoma (\$US/bbl)	Edmonton Par Price 40 ⁰ API (\$Cdn/bbl)	Hardisty Heavy 12 ⁰ API (\$Cdn/bbl)	Cromer Medium 29.3 ⁰ API (\$Cdn/bbl)			
Historical (Year End)							
2003	xx	xx	xx	xx	xx	xx	xx
2004	xx	xx	xx	xx	xx	xx	xx
2005	xx	xx	xx	xx	xx	xx	xx
2006 (Year End)	xx	xx	xx	xx	xx	xx	xx

 OPTIONAL
SUPPLEMENTAL

- (1) This disclosure is triggered by optional supplemental disclosure of item 2.2 of *Form 51-101F1*.
(2) This summary table identifies benchmark reference pricing schedules that might apply to a reporting issuer.
(3) The exchange rate used to generate the benchmark reference prices in this table.

Reference: Item 3.1 of Form 51-101 F1

SUMMARY OF PRICING AND INFLATION RATE ASSUMPTIONS
as of December 31, 2006
FORECAST PRICES AND COSTS

Year	OIL ⁽¹⁾				NATURAL GAS ⁽¹⁾ AECO Gas Price (\$Cdn/MMBtu)	NATURAL GAS LIQUIDS FOB Field Gate (\$Cdn/bbl)	INFLATION RATES ⁽²⁾ %/Year	EXCHANGE RATE ⁽³⁾ \$US/\$Cdn
	WTI Cushing Oklahoma \$US/bbl	Edmonton Par Price 40 ⁰ API \$Cdn/bbl	Hardisty Heavy 12 ⁰ API \$Cdn/bbl	Cromer Medium 29.3 ⁰ API \$Cdn/bbl				
Historical ⁽⁴⁾								
2003	xx	xx	xx	xx	xx	xx	xx	xx
2004	xx	xx	xx	xx	xx	xx	xx	xx
2005	xx	xx	xx	xx	xx	xx	xx	xx
2006	xx	xx	xx	xx	xx	xx	xx	xx
Forecast								
2007	xx	xx	xx	xx	xx	xx	xx	xx
2008	xx	xx	xx	xx	xx	xx	xx	xx
2009	xx	xx	xx	xx	xx	xx	xx	xx
2010	xx	xx	xx	xx	xx	xx	xx	xx
2011	xx	xx	xx	xx	xx	xx	xx	xx
Thereafter	xx	xx	xx	xx	xx	xx	xx	xx

(1) This summary table identifies benchmark reference pricing schedules that might apply to a reporting issuer.

(2) Inflation rates for forecasting prices and costs.

(3) Exchange rates used to generate the benchmark reference prices in this table

(4) Item 3.2 (1)(b) of *Form 51-101F1* also requires disclosure of the *reporting issuer's* weighted average historical prices for the most recent financial year (2006, in this example).

 OPTIONAL
SUPPLEMENTAL

Reference: Item 3.2 of Form 51-101 F1

**RECONCILIATION OF
COMPANY GROSS RESERVES
BY PRODUCT TYPE⁽¹⁾**

FORECAST PRICES AND COSTS

FACTORS	LIGHT AND MEDIUM OIL			HEAVY OIL			ASSOCIATED AND NON-ASSOCIATED GAS		
	Gross Proved (Mbbl)	Gross Probable (Mbbl)	Gross Proved Plus Probable (Mbbl)	Gross Proved (Mbbl)	Gross Probable (Mbbl)	Gross Proved Plus Probable (Mbbl)	Gross Proved (MMcf)	Gross Probable (MMcf)	Gross Proved Plus Probable (MMcf)
December 31, 2005	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Extensions & Improved Recovery	xx	xx	xx	xx	xx	xx	xx	xx	xx
Technical Revisions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Discoveries	xx	xx	xx	xx	xx	xx	xx	xx	xx
Acquisitions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Dispositions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Economic Factors	xx	xx	xx	xx	xx	xx	xx	xx	xx
Production	xx	xx	xx	xx	xx	xx	xx	xx	xx
December 31, 2006	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) The reserves reconciliation must include other product types, including synthetic oil, bitumen, coal bed methane, hydrates, shale oil and shale gas, if material for the reporting issuer.

Reference: Item 4.1 of *Form 51-101F1*