

**CSA Notice of Amendments to
National Instrument 51-101 *Standards of Disclosure for
Oil and Gas Activities*
-and-
Companion Policy 51-101 *Standards of Disclosure for
Oil and Gas Activities***

November 27, 2014

Introduction

The Canadian Securities Administrators (the CSA or we), are making amendments to National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* (Rule) and Companion Policy 51-101 *Standards of Disclosure for Oil and Gas Activities* (Companion Policy) (the Amendments). The Amendments are being made in response to our observation of reporting issuer disclosure and to industry feedback. Subject to ministerial approval requirements, the Amendments will come into force on July 1, 2015. CSA Staff Notice 51-324 *Revised Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* and CSA Staff Notice 51-327 *Revised Guidance on Oil and Gas Disclosure* are also being amended in connection with the Amendments and will be published concurrently with the Amendments.

The CSA published proposed amendments to the Rule and the Companion Policy on October 17, 2013 for a 90 day comment period. Written comments received during and following this period, in conjunction with those obtained through oral communication with reporting issuers, independent qualified reserves evaluators and auditors and others were taken into consideration by the CSA in preparation of the Amendments.

You can find the text of the Amendments in the annexes to this Notice and on the websites of the CSA jurisdictions. We expect the Amendments to be adopted in each jurisdiction of Canada, following the satisfaction of applicable ministerial approval requirements.

Substance and Purpose of the Amendments

The Rule sets out both the general disclosure standards and specific annual disclosure requirements applicable to reporting issuers with oil and gas activities while the Companion Policy sets out the views of the CSA respecting the interpretation and application of the Rule. Under the Rule, the disclosure of resources other than reserves is voluntary. In recent years, the number of reporting issuers disclosing contingent and prospective resources has increased significantly. We have observed certain early stage issuers disclose resources other than reserves to convey the potential of their assets. To date, this disclosure has occurred both within and outside of the annual disclosure requirements with varying degrees of consistency and completeness.

The CSA acknowledges the importance of disclosure of resources other than reserves and expects that the Amendments will help further clarify the disclosure obligations of reporting issuers and provide guidance on their presentation.

The Amendments promote improved disclosure of resources other than reserves and associated metrics while simultaneously providing increased flexibility for oil and gas issuers that operate and report in different jurisdictions and recover product types not previously recognized by the Rule, and align the Rule with the amended Canadian Oil and Gas Evaluation Handbook (COGE Handbook). This includes the guidelines for estimation and classification of resources other than reserves (ROTR Guidelines), which became effective July 17, 2014; and the detailed guidelines for estimation and classification of bitumen resources (Bitumen Guidelines) published on April 1, 2014. While the effective date of the Amendments is July 1, 2015, reporting issuers are required to immediately follow the latest requirements of the COGE Handbook including ROTR Guidelines and Bitumen Guidelines as currently required pursuant to the Rule.

Background

Under the Rule, reporting issuers engaged in oil and gas activities are required to provide annual disclosure, appoint an independent qualified reserves evaluator or auditor, facilitate communication between the board of directors and the independent qualified reserves evaluator or auditor and prepare, evaluate or audit all public disclosure of reserves and resources other than reserves in accordance with the requirements of Part 5 of the Rule. Part 5 of the Rule mandates that reserves and resources other than reserves be prepared in accordance with the COGE Handbook and be evaluated or audited by a qualified reserves evaluator or auditor. The Rule was implemented in 2003 and amended in 2007 and 2010.

On October 17, 2013, the following amendments were proposed by the CSA:

- in certain circumstances and subject to disclosure requirements, permitting disclosure prepared under an alternative resources evaluation standard;
- inclusion and refinement of product type definitions in the Rule;
- additional requirements regarding the disclosure of contingent and prospective resources;
- introduction of a principle-based approach to the disclosure of oil and gas metrics;
- clarification of the point at which sales of product types and associated by-products should be disclosed;
- definition of and requirements related to the disclosure of abandonment and reclamation costs;
- removal of the requirement to match the presentation of reserves not directly held by the reporting issuer in the statement prepared in accordance with Form 51-101F1 to the presentation of the assets in the financial statements;

- removal of the requirement to obtain independent qualified reserves evaluator consent before disclosing results from the annual evaluation outside of the required annual filings;
- revision of the date at which the independent qualified reserves evaluator takes responsibility for information related to the reserves evaluation;
- clarification of required disclosure when an issuer has no reserves.

Summary of the Comments Received by the CSA

Thirteen letters were submitted during and shortly after the comment period. Letters were received from six large reporting issuers, three independent qualified reserves evaluators and auditors, one senior oil sands issuer, one law firm, one individual and one professional organization. Additional comments were received via oral communications with reporting issuers, independent qualified reserves evaluators and auditors and others.

The comments received were generally supportive of the proposed amendments while the proposed amendments respecting the requirements for additional disclosure of contingent and prospective resources received the most feedback. The comments were considered in detail by the CSA prior to preparation of the Amendments. Annex A of this Notice identifies the commenters and Annex B summarizes the associated comments and our responses. The comment letters are posted on the ASC's website at www.albertasecurities.com. We extend our thanks to all the commenters.

Summary of Changes

After considering the comments, we made amendments to the Rule including Form 51-101F1, Form 51-101F2, Form 51-101F3 and the Companion Policy, and added Form 51-101F5. As these changes were not material from the proposed amendments, the CSA did not republish the Amendments for an additional comment period. See Annex C for a summary of the changes made to the Amendments as originally published on October 17, 2013.

Contents of Annexes

Annex A – List of Written Commenters

Annex B – Summary of Comments and CSA Responses

Annex C – Summary of Changes from the Proposed Amendments Published for Comment on October 17, 2013

Annex D – Amending Instrument for the Rule

Annex E – Blackline of Companion Policy

Summary of the Amendments

1. *Alternative Resources Evaluation Standard*

Numerous issuers reporting in Canada also access the U.S. capital markets and are subject to the SEC's reserves disclosure regime. For example, SEC issuers who prepare financial statements in accordance with U.S. GAAP, as defined in National Instrument 52-107 *Acceptable Accounting Principles and Auditing Standards*, have a requirement under Statement 19 of the Financial Standards Accounting Board to include reserves disclosure prepared in accordance with the U.S. regime within their financial statements. Certain issuers have sought and obtained a limited form of exemptive relief that allows them to disclose reserves prepared in accordance with U.S. requirements in addition to their reserves prepared under the Rule. The relief is required owing to an interpretation of sections 5.1, 5.2 and 5.3 of the Rule that does not allow for any public disclosure of reserves other than estimates prepared in accordance with the COGE Handbook.

Amended section 5.18 of the Rule allows for disclosure from alternative regimes. The disclosure under the alternative regime must be accompanied by the disclosure required by the Rule, be made in respect of a regime which is comparable to the COGE Handbook, have a scientific basis and be based on reasonable assumptions. Those estimates must be prepared or audited by a qualified reserves evaluator or auditor.

2. *Product Type and Production Group*

The amended Rule imports and refines the product type definitions from the COGE Handbook for securities disclosure purposes. The concept of production group is removed. The inclusion of the definitions and removal of the production group concept gives greater emphasis to both the oil and gas sources and recovery processes, and moves away from grouping resources into conventional and unconventional categories.

We do not anticipate any issues regarding reconciliations of product types under Part 4 of Form 51-101F1 as a result of this change. The opening balance for December 31, 2014 should be taken from the product types listed in the Statement of Reserves Data as per Item 2.1 of Form 51-101F1. A reporting issuer should choose the closest product type if the substance produced does not exactly match one of the product types or if it matches more than one of the product types listed in NI 51-101.

3. *Contingent and Prospective Resources*

The Amendments provide clearer guidance for the disclosure of contingent resources data and prospective resources data in the annual filings, including requiring the disclosure of risked net present value of future net revenue within an appendix to the statement. In addition, the Amendments require those resources other than reserves estimates be prepared or audited by an independent qualified reserves evaluator or auditor.

4. *Oil and Gas Metrics*

The amended section 5.14 of the Rule lists principle-based requirements to describe the standard, methodology and meaning of a publicly disclosed oil and gas metric. If there is no standard, a reporting issuer must also describe the parameters used in calculating the oil and gas metric and provide a cautionary statement.

5. *Marketability of Production and Reserves*

Reporting issuers are obligated by the Rule to disclose production and resources based on the price that was or would be used at the point at which the product type is or could be sold. However, in certain scenarios it may not be appropriate, or even possible, to allocate a price at a point of sale. In respect of resources or sales of oil, gas or associated by-products, the volume may be measured at the point of sale to a third party (first point of sale), or of transfer to another division of the reporting issuer (alternate reference point) for treatment prior to sale to a third party. For gas, this may occur either before or after the removal of natural gas liquids. For bitumen or heavy oil, this is before the addition of diluent.

The amendments to the Rule clarify the concept of marketability in the reporting of oil and gas volumes. The amended sections 5.4 and 5.5 of the Rule requires a reporting issuer to report volumes and values at the first point of sale of the particular product type, unless that point is not relevant, in which case, the reporting issuer can select a point of measurement prior to the first point of sale.

6. *Abandonment and Reclamation Costs*

CSA staff have observed, and have received commentary from industry about, inconsistency in the determination of what constitutes abandonment and reclamation costs for the purpose of the annual oil and gas disclosure.

The Amendments clarify what constitutes abandonment and reclamation costs and require the disclosure of both abandonment costs and reclamation costs in the future net revenue disclosure and in the significant factors or uncertainties disclosure in the statement prepared in accordance with Form 51-101F1.

7. *Reserves Presentation*

The introduction of IFRS 11 highlighted the need for changes to the requirements in respect of the presentation of reserves data in the statement prepared in accordance with Form 51-101F1.

The Amendments point to the COGE Handbook for the purpose of determining ownership and allow for flexibility in the manner of presenting resources for which a reporting issuer does not have control.

8. *Other Amendments*

The amendments also clarify areas that have given rise to confusion, such as

- the requirement to obtain consent of the independent qualified reserves evaluator as it relates to the report prepared in accordance with Item 2 of section 2.1,
- the date on which the independent qualified reserves evaluator or auditor is responsible for changes in the reporting issuer's reserves data, and
- the disclosure required when a reporting issuer has no reserves.

Questions

Please refer questions to any of the following:

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Annex A

LIST OF WRITTEN COMMENTERS

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

Request for Comment October 17, 2013

COMMENTS	REPRESENTATIVE	DATE
Canadian Natural Resources Limited	Lyle Stevens Arthur Faucher	February 7, 2014
Canadian Oil Sands Limited	Robert P. Dawson	January 17, 2014
Cenovus Energy Inc.	Ivor M. Ruste	January 9, 2014
Gaffney, Cline & Associates	Rawdon J. H. Seager	February 7, 2014
Geoscientists Canada	Greg Vogelsang	January 17, 2014
GLJ Petroleum Consultants Ltd.	Keith M. Braaten	January 17, 2014
Husky Energy Inc.	Janice Knoechel Fred Au-Yeung	February 5, 2014
Imperial Oil Limited	Mark D. Taylor	January 16, 2014
Joan Simmins	Joan Simmins	January 17, 2014
Norton Rose Fulbright Canada LLP	Eric Geppert	January 17, 2014
RPS Energy Canada Ltd.	Brian D. Weatherill	January 17, 2014
Suncor Energy Inc.	Jolienne Guillemaud	January 17, 2014
Talisman Energy Inc.	Robert R. Rooney	January 15, 2014

Annex B

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

Summary of Comments and CSA Responses

Item	Subject	Summarized Comment	CSA Response
Comments in response to questions in CSA Notice dated October 17, 2013			
1. Disclosure of estimates prepared under an alternative resource evaluation system (Question 1)			
<p>The proposed amendments would permit an issuer to disclose reserves prepared in accordance with, for example, the SEC regime supplementary to reserves disclosed under NI 51-101. Do you support the proposal to permit the supplementary disclosure of reserves prepared under a regime comparable to the COGE Handbook, as is set out in proposed section 5.18 of NI 51-101? Please explain your views.</p>			
Proposed section 5.18 of NI 51-101	General Comments For	<p>Five commenters support the proposal to allow supplementary disclosure of an evaluation under an alternative resources evaluation standard. Their reasons include the following:</p> <ul style="list-style-type: none"> • The number of issuers subject to reporting in multiple jurisdictions and the close economic ties between Canada and, for example, the United States make it important for disclosure under other similar standards to be permitted. 	We thank the commenters for their input.

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		<ul style="list-style-type: none"> • Providing a mechanism to disclose reserves in accordance with other standards provides greater comparability between Canadian and foreign issuers' oil and gas disclosure. • This will allow reporting issuers the ability to meet the needs of multiple stakeholders more effectively. 	
	General Comments Against	One commenter does not support the requirement to disclose additional information for an estimate prepared under an alternative resources evaluation standard. Their reason is that it is excessive to have companies duplicate effort when they have already prepared a reserve estimate in a format that is comparable to COGE Handbook.	We thank the commenter for their input, however, NI 51-101 adopts the COGE Handbook as the standard for the classification and evaluation of resources. The COGE Handbook enables greater comparability and predictability between resource estimates. To the extent an estimate of resources has not been classified and evaluated in accordance with the COGE Handbook, investors must be made aware of the differences.
	Questions Regarding Application	One commenter asked what obligation does a 40-F filer have relative to the proposed disclosure requirements for the public disclosure of a reserves estimate under an alternative	Under section 5.18 of NI 51-101 a reporting issuer may disclose a resource estimate using a standard other than that set out by COGE Handbook. If a reporting issuer is required by the local regulator to provide disclosure under another standard, for example, in order to access the capital markets of that

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		resources evaluation standard.	<p>standard, then disclosure of the estimate would be “required” for the purpose of the amendments. If a reporting issuer is not required by the local regulator to provide, for example, disclosure of reserves prepared under an alternate standard in its disclosure documents, the disclosure of the estimate would “not be required” for the purpose of the amendments.</p> <p>A reporting issuer should obtain legal advice to whether in its circumstances it is required to provide the required disclosure.</p>
	Questions Regarding Reconciliations	One commenter asked if an arithmetic reconciliation of an estimate prepared under the alternative resources evaluation standard to the estimate prepared under the COGE Handbook would be required.	An arithmetic reconciliation of the alternate disclosure and NI 51-101 disclosure is not required.
<p>2. Do you support the removal of the requirement to disclose information by production group (Question 2)</p> <p>The proposed amendments eliminate the requirement to disclose a reporting issuer’s reserves data by production group. Do you support the removal of the requirement to disclose reserves data by production group? Please explain your views.</p>			
Repealed paragraph 1.1(u) of NI 51-101, removal of requirement from paragraph 3(c) of item 2.1 of Form 51-101F1	Support production group removal	6 commenters support the proposal to remove the requirement to disclose the net present value of future net revenue by production group. Their reasons include the following: <ul style="list-style-type: none"> • Removing the concept 	We thank the commenters for their input.

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		<p>of production group and using qualifying definitions will better define the actual resource potential.</p> <ul style="list-style-type: none"> • The proposal brings consistency with other elements of reporting which are based on product type. 	
	<p>Reduction of number of product types</p>	<p>Three commenters suggested that we reduce the total number of product types and specifically allow reporting issuers to combine similar product types if reasonable. For example, when a reporting issuer produces gaseous hydrocarbons, since costs do not vary materially due to differing origins of natural gas, or multiple liquid product types from the same field.</p>	<p>We thank the commenter for the input, however, product types are included to describe both the physical product and the source in an attempt to capture the following comparability factors:</p> <ul style="list-style-type: none"> • The same physical product attracts the same price (adjusted for quality and transport costs) whatever the source, but • Different sources have significantly different cost and risk profiles, and production characteristics. <p>Having multiple “product types” provides an investor with a more comprehensive picture rather than having the general product types “oil” or “gas”. Reducing the number of product types is outside of the scope of these proposed amendments.</p> <p>The separation of conventional natural gas, coal bed methane, synthetic gas and shale gas, into different</p>

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			product types provides an investor with information on some of the differences in cost and risk profiles and production characteristics.
	Question about condensate	One commenter asked if the definition of light crude oil includes condensates.	We thank the commenter for the question. In paragraph 1.1(q.2) the definition of natural gas liquids includes condensates. Light crude oil, for the purpose of product types in NI 51-101, does not include condensates.
	Removal of unit values	One commenter suggested that unit values should be removed.	We thank the commenter for the input, however, the removal of unit values is outside of the scope of the changes contemplated by the proposed amendments.
	Comment on NGLs	One commenter suggested that NGLs are a by-product and should be combined with oil or gas.	We thank the commenter for the input. In addition to the required product type disclosure, paragraph 1.1(3)(c) of the Form 51-101F1 requires the disclosure of product types with their associated by-products, which for oil or gas, may include NGLs.
	Clarification of bitumen definition	Several commenters identified a potential overlap between the definitions of heavy crude oil and bitumen.	We thank the commenters for their input. We have amended the definition of “bitumen” to include the concept of bitumen being “solid or semi-solid” and that “it is not primarily recoverable at economic rates through a well without the implementation of enhanced recovery methods.”
	Re-inclusion of shale oil as a product type	One commenter stated that shale oil should be included as a product type.	We thank the commenter for the input. We have revised the proposed amendments to include tight oil as a product type, which includes shale oil.
<p>3. The requirement to provide low, best and high estimates of volume and net present value of future net revenue in respect of any contingent resources or prospective resources included in the annual statement of reserves data (Question 4)</p> <p>A reporting issuer that includes contingent resources and/or prospective resources is not currently required to have those estimates prepared by an independent qualified reserves evaluator. Do you support the requirement in proposed item 2 of section 2.1 of NI 51-</p>			

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<p>101 for an independent qualified reserves evaluator to evaluate or audit any contingent resources or prospective resources included in the annual statement of reserves data? Please explain your views.</p> <p>Do you support the requirement in proposed paragraph 4 of item 2.1 of Form 51-101F1 to provide low, best and high estimates of volume and net present value of future net revenue in respect of any contingent resources or prospective resources included in the annual statement of reserves data? Please explain your views.</p>			
<p>Part 7 of Form 51-101F1</p>	<p>General comments for requirement to provide low, best, high estimates</p>	<p>3 commenters support the proposed requirement to provide low, best, high estimates.</p>	<p>We thank the commenters for their input, however, we have removed the proposed requirement to disclose low and high estimates in addition to the best estimate. Nevertheless, if a reporting issuer discloses a high estimate, the low estimate must also be disclosed as required by section 5.17 of NI 51-101.</p>
	<p>General comments against requirement to provide low, best, high estimate</p>	<p>6 commenters do not support the requirement to disclose the low and high estimates in addition to the best estimate. Their reasons include the following:</p> <ul style="list-style-type: none"> • Disclosure of the medium or ‘best’ estimate of volume is sufficient. • Certain reporting issuers may consider this requirement as onerous. • Estimates may vary widely due to limited information. 	<p>We thank the commenters for their input.</p> <p>We have amended the requirement relative to the optional contingent and prospective resources disclosure in the statement prepared in accordance with Form 51-101F1 to only require disclosure of the 2C estimate for contingent resources or the best estimate for prospective resources. However, if a 3C or high estimate is disclosed, section 5.17 of NI 51-101 requires that the 1C or low estimate also be disclosed.</p>

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	IQRE requirement	Two commenters inquired whether an exemption will be available from the requirement to have an independent evaluation or audit of any contingent resources or prospective resources included in the annual statement of reserves data.	<p>We thank the commenters for the question. The CSA has granted relief from the requirement for the annual preparation of an evaluation or audit by an independent qualified reserves evaluator to reporting issuers that have been able to establish that they have:</p> <ul style="list-style-type: none"> (a) qualified reserves evaluators and auditors within the meaning of NI 51-101; (b) a well-established reserves evaluation process that is at least as rigorous as would be the case were it to rely upon independent reserves evaluators or auditors; and (c) implemented a technical quality assurance program in connection with the preparation of its internally generated reserves data. <p>CSA staff are willing to consider relief for reporting issuers that are able to make the same representations in respect of their resources other than reserves data.</p>
		Two commenters suggested that the independent qualified reserves evaluator (IQRE) requirement should only be required for “development pending” contingent resources and that making this a requirement for contingent resources and prospective resources disclosed in Form 51-101F1 seems onerous and	We thank the commenter for their input. The IQRE requirement ensures that if a reporting issuer elects to disclose contingent resources and prospective resources in an appendix to its statement prepared in accordance with Form 51-101F1, those estimates are subject to the same rigour and technical quality assurance as the reserves estimates included in the Form 51-101F1 disclosure. A reporting issuer is not required to engage an IQRE for disclosure made outside of the required annual statement.

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		<p>may not be necessary if competent staff are completing the assessments.</p>	<p>In addition, the internal qualified evaluator of the reporting issuer can evaluate the resources and volumes and values audited by an IQRE.</p>
		<p>One commenter stated that an IQRE may not have enough information at early stages if license terms are not fully defined.</p>	<p>We thank the commenter for the input. If a reporting issuer discloses contingent or prospective resources in an appendix to its statement prepared in accordance with Form 51-101F1, section 3.2 and 3.3 of NI 51-101 impose an obligation on the reporting issuer to provide “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”, which includes the requirement to be prepared in accordance with the COGE Handbook.</p>
		<p>One commenter suggested that an IQRE should only be required to evaluate or audit 75% of resources other than reserves and no need for review on the remaining 25%.</p>	<p>We thank the commenter for the input, however, disclosure of contingent and prospective resources in the statement prepared in accordance with Form 51-101F1 is voluntary. If a reporting issuer includes disclosure of contingent resources or prospective resources at its own discretion, it may provide those estimates in respect of one or several of its properties. This flexibility requires that all contingent resources and prospective resources optionally included in an appendix to the Form 51-101F1 be prepared by an IQRE or IQRA.</p>
	<p>Estimates of prospective and contingent resources</p>	<p>Several commenters suggested that prospective resource estimates need to be risked, and that specific guidance should be included as to how</p>	<p>We thank the commenters for their input. Where an estimate of volume or value of prospective resources is disclosed, paragraph 5.9(1)(d) of NI 51-101 requires a reporting issuer to disclose, in writing, the “risks and the level of uncertainty associated with</p>

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		<p>risk should be incorporated into estimates.</p>	<p>recovery of the resources.”</p> <p>We have included specific directions in the Form 51-101F1 to clarify that for the purpose of optional annual disclosure, when contingent resources or prospective resources are disclosed, a numeric quantification of the risks is required and the risked estimates must be provided.</p> <p>We have updated the requirement in Form 51-101F1 to clarify that if contingent resources and prospective resources are optionally disclosed in an appendix to the statement prepared in accordance with Form 51-101F1, a quantification of, and explanation of the method for arriving at, the chance of discovery and chance of development are required. NI 51-101 is primarily focused on disclosure of reserves data. The techniques and evaluation and audit practices required to carry out a reserves or resources other than reserves evaluation are collectively governed by the COGE Handbook, the obligations imposed by professional organizations, as defined by NI 51-101, and best industry practices on the subject.</p>
	<p>Disclosure of NPV for contingent and prospective resources</p>	<p>Several commenters recommended that for contingent resources, they may disclose NPV for development pending and on-hold in some cases. For development not viable, sub-economic or unrecoverable, commenters suggested disclosing volumes</p>	<p>We thank the commenters for their input. We have revised the presentation and clarified the requirements related to the optional disclosure of contingent resources and prospective resources in response to the valid concerns raised in respect of the disclosure of the net present value of future net revenue of contingent resources and prospective resources in the statement prepared in accordance with Form 51-101F1.</p>

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		<p>only. For prospective resources, commenters suggested disclosing NPV or analog minimum economic field size.</p> <p>Additionally commenters suggested that economic and sub-economic resources should be disclosed separately and prospective resources should be risked for chance of discovery or perhaps show both unrisked and risked in Form 51-101F2.</p>	<p>Optional presentation of contingent resources and prospective resources as a part of the required annual filing may now only be made as an appendix to the Form 51-101F1. The disclosure must be classified according to the most specific sub-classes set out in the COGE Handbook, which have been refined in chapter 2 of volume 2. To highlight the difference between reserves and resources other than reserves, additional cautionary language for the estimates of value is now required. In addition, rather than net present value, the disclosure of risked net present value of future net revenue will instead be required for contingent resources in the development pending project maturity sub-class (see section 10.2 of volume 1 and section 5.8.1 of volume 2 of the COGE Handbook).</p> <p>The ability to disclose contingent resources and prospective resources is increasingly important for reporting issuers at early stages with a need to express the potential of the interests they hold in their oil and gas assets. We have seen an increase in the disclosure of contingent resource volumes and values in the required annual disclosure of reporting issuers. We continue to be of the view that the disclosure of contingent resources and prospective resources without providing information as to its economic viability can be misleading. We are of the view that providing the risked net present value of future net revenue for contingent resources in the development pending project maturity sub-class and prospective</p>

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			<p>resources volumes optionally disclosed in the annual statement will assist an investor “in reaching an opinion on the merit and likelihood of the company proceeding with the required investment.” (see section 5.8.1 of the COGE Handbook volume 2).</p> <p>Balancing the benefit to certain reporting issuers in having the ability to provide disclosure of volumes of contingent and prospective resources and values of contingent resources in the development pending project maturity sub-class against an investor’s need to appreciate the value of a particular property or group of properties to the reporting issuer, requires something more than the prohibition of the disclosure of contingent resources and prospective resources and something less than the ability to allocate value to those properties without a framework to properly account for how the reporting issuer arrived at that value. By replacing the requirement for net present value of future net revenue with a risked net present value of future net revenue in the development pending project maturity sub-class of contingent resources, investors should have enough information to determine whether the volumes allocated to a particular project are realizable while allowing the reporting issuer to speak to potential.</p> <p>Other than for contingent resources in the development pending project maturity sub-class, we are no longer requiring the disclosure of the value of contingent and prospective resource values when a volume is optionally disclosed as a part of the Form</p>

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			<p>51-101F1 disclosure. This is in response to a concern over the uncertainty associated with these estimates and the potential for misunderstanding by a reader of the document.</p> <p>A reporting issuer may disclose estimates of volume and value of contingent resources other than those in the development pending project maturity sub-class and of prospective resources as a part of its annual disclosure, however, the reporting issuer should consider whether the level of uncertainty associated with the particular estimate is of such a degree to make that estimate misleading if used in the context of the Form 51-101F1.</p>
		<p>Several commenters suggested that poorly defined development and marketing plans may lead to misleading disclosures. The commenters noted that values for contingent and prospective resources are dependent on significant factors such as recovery technology, market access and development plans, costs and schedule, which have the potential for significant variations in the assumptions around those factors among various parties assigning a value to a resource.</p>	<p>We thank the commenters for their input. We have revised item 5.9(2)(d)(iii.1)(A) of NI 51-101 to clarify that the estimated total capital requirements to achieve production and a general timeline of the project, including the estimated date of first production must be disclosed along with the contingent or prospective resources estimate. An investor will be able to assess the particular estimate against the information disclosed by the reporting issuer about the project.</p> <p>In addition to the disclosures required by section 5.9 of NI 51-101, refinement to the classification framework in the COGE Handbook will allow for more specific contingent resource and prospective resource sub-classes which reflect the stage of development. Information regarding recovery</p>

Item	Subject	Summarized Comment	CSA Response
		<p>Additionally, commenters noted that the requirement to provide detailed descriptions of development projects associated with disclosed contingent and prospective resources will be unduly onerous for reporting issuers with contingent resources and prospective resources located in multiple accumulations, each requiring its own development plan, even though the descriptions may provide limited useful information.</p> <p>Several commenters stated that significant uncertainties are involved with long term contingent resource and prospective resource estimates and the requirement for NPV of prospective and contingent resources should be removed.</p>	<p>technology, market access, development plans, costs and schedule would be required to be disclosed if a reporting issuer optionally discloses contingent or prospective resources.</p> <p>An estimate of contingent resources or prospective resources is made as of an effective date. Disclosure about the project at the effective date, allows an investor to assess the validity of the estimates and the likelihood that the reporting issuer would actually develop the contingent or prospective resources. The omission of this information could mislead an investor about the potential represented in contingent or prospective resources estimates.</p> <p>Other than for contingent resources in the development pending project maturity sub-class, we are no longer requiring the disclosure of the value of contingent and prospective resource values when a volume is optionally disclosed as a part of the Form 51-101F1 disclosure. This is in response to a concern over the uncertainty associated with these estimates and the potential for misunderstanding by a reader of the document.</p> <p>A reporting issuer may disclose estimates of volume and value of contingent resources other than those in the development pending project maturity sub-class and of prospective resources as a part of its annual disclosure, however, the reporting issuer should consider whether the level of uncertainty associated with the particular estimate is of a sufficient degree</p>

Item	Subject	Summarized Comment	CSA Response
			<p>to make that estimate misleading if used in the context of the Form 51-101F1.</p> <p>If a reporting issuer is unable to comply with section 5.9 of NI 51-101 or the disclosure requirements of the Form 51-101F1 because there is not enough detail or certainty around the project, then the reporting issuer should consider whether it would be misleading to include the contingent or prospective resource estimates in annual disclosure.</p>
		<p>One commenter suggested that contingent resources should be disclosed separately in Appendix 1.</p>	<p>We thank the commenter for the input. We have revised the presentation of the Form 51-101F1 to require the presentation of the optional disclosure of contingent resources and prospective resources in an appendix to the Form 51-101F1 or the annual information form.</p>
		<p>Some commenters stated that the new provisions require issuers to ascribe economic value to resources (that are not themselves required to be economic), which could result in misleading or confusing disclosures caused by issuers ascribing vastly different economic values to contingencies depending on their circumstances.</p>	<p>We thank the commenters for their input. We have changed the requirement for net present value of future net revenue to a requirement to disclose the risked net present value of future net revenue of contingent resources in the development pending project maturity sub-class. If a reporting issuer optionally discloses a volume of contingent resources in the development pending project maturity sub-class that has a negative risked net present value of future net revenue in its statement prepared in accordance with Form 51-101F1, it would be important for an investor to understand the extent to which the contingent resources are negative as it suggests the likelihood of the development of contingent resources.</p>

Item	Subject	Summarized Comment	CSA Response
			<p>A reporting issuer may disclose estimates of volume and value of contingent resources other than those in the development pending project maturity sub-class and of prospective resources as a part of its annual disclosure, however, that disclosure will be subject to the prohibition against misleading statements. An estimate may be misleading for the purpose of the required annual disclosure if the estimate is highly uncertain.</p>
		<p>One commenter suggested that the requirement to disclose NPV of FNR may cause certain reporting issuers to consider it enough reason to re-consider the merits of listing as a public company in Canada.</p>	<p>We thank the commenter for the input. The disclosure of contingent and prospective resources is optional. If a reporting issuer seeks to establish its potential to its investors on the basis of its contingent resources and prospective resources and elects to disclose that potential in the statement prepared in accordance with the Form 51-101F1, those estimates should be subject to the same rigour as reserves data and provide sufficient information to an investor to allow an investor to fully assess the potential being represented in the reporting issuer’s contingent and prospective resources.</p>
	<p>Guidelines for disclosing contingent and prospective resources</p>	<p>One commenter suggested that COGE Handbook volume 2, chapter 2 may not provide sufficient guidelines to ensure consistent disclosure of all resources.</p>	<p>We thank the commenter for the input. Chapter 2 of volume 2 of the COGE Handbook requires that “evaluators must rely on their professional expertise and experience, be accountable for their interpretations and professional judgments and provide clear and complete documentation for their work.” Under the current version of NI 51-101 reporting issuers can disclose both or either of contingent and prospective resources volumes and values with minimal guidance. The new guidelines enhance the classification framework and provide</p>

Item	Subject	Summarized Comment	CSA Response
		<p>One commenter stated that the reporting issuer should disclose the relative quality of the development plan and associated cost estimates.</p>	<p>additional guidance to evaluators in classifying and categorizing contingent and prospective resources.</p> <p>We thank the commenter for the input. The refinements to the classification framework in the COGE Handbook provide an indication as to the stage of development of the particular estimate. In addition, under item 5.9(2)(d)(iii.1)(D) of NI 51-101, reporting issuers will be required to disclose whether the project is based on a conceptual or pre-development study. Prior to including an estimate of contingent or prospective resources in the statement prepared in accordance with Form 51-101F1, a reporting issuer is required to provide all information reasonably necessary to enable the qualified reserves evaluator or auditor to provide a report that will satisfy the applicable requirements of NI 51-101.</p>
<p>4. The requirements to disclose the standard, methodology and meaning of the disclosed metric (Question 5)</p> <p>When a reporting issuer discloses an oil and gas metric, the proposed amendments would require the reporting issuer to disclose the standard, methodology and meaning of the disclosed metric, and if there was no identifiable standard, the parameters used in calculating the oil and gas metric and a cautionary statement. Do you support the proposed amendment to section 5.14 of NI 51-101 to impose the above described disclosure-based approach to oil and gas metrics such as BOEs, finding and development costs, netbacks, etc.? Please explain your views.</p>			
<p>Section 5.14 of NI 51-101</p>	<p>General comments for disclosure-based approach to oil and gas metrics</p>	<p>6 commenters support the proposed requirements to disclose the standard, methodology and meaning of the disclosed metric.</p>	<p>We thank the commenters for their input.</p>
	<p>Equivalency</p>	<p>One commenter agreed with the proposal, however</p>	<p>We thank the commenter for the input. We have provided guidance in the Companion Policy to 51-</p>

Item	Subject	Summarized Comment	CSA Response
		<p>recommended retaining 6 Mcf = 1 BOE for reporting equivalency.</p>	<p>101 which describes a method of providing disclosure on BOEs. The COGE Handbook states:</p> <p style="padding-left: 40px;">Reserves quoted in BOE calculated using a conversion of 6:1 <i>Mcf/BOE</i> generally overstate the reserves of a company, but it is currently the most commonly used method in the industry.</p> <p style="padding-left: 40px;">The best approach to considering investment alternatives is not to use BOE conversions at all.</p>
5. Marketability of Production & Reserves			
<p>Section 5.4 and 5.5 of NI 51-101</p>	<p>Point of sale</p>	<p>One commenter stated that the new provisions should not be interpreted to prevent the booking of NGLs subject to Aux Sable agreements as reserves.</p> <p>Another commenter stated that there are challenges with determining the proper future net revenue that would be attributed to the wet gas stream at the delivery point into a system, and that the future net revenue determined at the delivery point into the system</p>	<p>We thank the commenter for the input. The proposed amendment to section 5.4 of NI 51-101 maintains the concept that the value assigned to reserves should be determined at the point at which the particular product type is to be or was sold. The alternate reference point allows reporting issuers to have a point, prior to the first point of sale, at which it would be appropriate to allocate value. This does not, however, permit the allocation of value after the first point of sale.</p> <p>To clarify that product types must be recovered before the first point of sale or alternate reference point, we have re-inserted section 5.5 of NI 51-101.</p> <p>The responsibility for ensuring public disclosure of</p>

Item	Subject	Summarized Comment	CSA Response
		may be misleading and not be aligned with the issuer’s financial disclosure.	future net revenue is not misleading falls on the reporting issuer and its independent qualified reserves evaluator (for more detail, see section 2 of CSA Notice 51-327).
6. Abandonment and Reclamation Costs			
Sections 1.1(n.3) and (z.01) of NI 51-101, and item 5.2 of Form 51-101F1	Distinction between abandonment and reclamation costs	One commenter suggested we not separate abandonment and reclamation costs, but allow issuers to continue to disclose on a combined basis and footnote as such, particularly where a reporting issuer’s estimate of either abandonment costs or reclamation costs is less than a certain percentage (eg. 20%) of the whole.	We thank the commenter for the input. We have revised the definition of abandonment and reclamation costs and have revised the sample table included in the Companion Policy to clarify that the abandonment and reclamation costs may be disclosed together.
	Abandonment and reclamation costs - offshore and scope	<p>One commenter stated that the reclamation costs definition does not contemplate offshore costs.</p> <p>Additionally, a commenter suggested that a definition for “in the vicinity of the well” and “land” is required.</p> <p>A commenter suggested that the definition of reclamation costs should be amended to better define its scope, and in particular, whether it is meant</p>	We thank the commenters for the input. We have revised the definition of abandonment and reclamation costs to clarify that the reporting obligation applies to a “property that has been disturbed by oil and gas activities”, which by definition are activities prior to the first point of sale.

Item	Subject	Summarized Comment	CSA Response
	Evaluation by IQRE	<p>to extend to costs beyond well-related reclamation costs.</p> <p>One commenter suggested we not repeal item 6.4 of Form 51-101F1 because reserves evaluations only include well abandonment costs. Other abandonment and reclamation costs should be disclosed separately. The commenter suggested that the repeal of 6.4 means that abandonment and reclamation costs associated with properties and wells with no assigned resources, all pipelines, and facilities not located on the well site will not be included in the reporting issuer's disclosure. The commenter noted that IQREs are not qualified to address total field abandonment and reclamation costs. The commenter asked if IQREs would be allowed to rely on estimates provided by the reporting issuer.</p>	<p>We thank the commenter for the input. We will repeal item 6.4 of Form 51-101F1. Since its implementation in 2003, reporting issuers have been required for the purpose of annual disclosure under NI 51-101 to calculate the net present value of future net revenue using both abandonment and reclamation costs. Disclosure of a reporting issuer's obligations relative to the abandonment of pipelines and facilities not included at the field level would be available in the financial statements of the reporting issuer.</p> <p>Section 4.5 of the COGE Handbook volume 1 requires an evaluator to take certain measures to reduce the likelihood that data not prepared by the independent qualified reserves evaluator is erroneous or unrepresentative. The COGE Handbook states that "one or more cross checks or other tests can confirm the reasonableness and completeness of client provided information". A cross check that may be of assistance in respect of reclamation costs could be to request the "cooperation and assistance from the company's independent financial auditor." The reporting issuer is obliged on a regular basis to revise its estimates regarding asset retirement obligations, making the financial auditor a potential resource to the evaluator. Another cross check may be for the evaluator to compare information provided by the reporting issuer with guides provided by regulators in the jurisdiction in which the reclamation costs will accrue. For example, in Alberta and Saskatchewan,</p>

Item	Subject	Summarized Comment	CSA Response
			regulators have estimated abandonment and reclamation costs for different regions in the province.
	Disclosure in audited financial statements	One commenter suggested that the current disclosure of abandonment and reclamation costs in audited financial statements is adequate and that further evaluation of these costs would be redundant.	We thank the commenter for the input. The asset retirement obligations included in financial statements only include existing wells and facilities; they do not include retirement obligations for “planned wells”, see 7.6.4 of the COGE Handbook volume 1. Abandonment costs are also used to test the economics of the undeveloped properties.
	Abandonment and reclamation costs at the asset level	Two commenters wanted clarification on whether abandonment and reclamation costs need to be applied at the asset level (including contingent and prospective resource projects).	Our view is that abandonment and reclamation costs are only included at the company level, which is compatible with accounting requirements.
	Location of abandonment and reclamation costs disclosure	One commenter requested clarification on where abandonment and reclamation costs with depleted and / or non-productive assets would be included.	If reserves are not assigned to the depleted or non-productive assets, generally speaking, the abandonment and reclamation costs would no longer be included in the required annual oil and gas disclosure, but would presumably continue as an asset retirement obligation in the reporting issuer’s financial statements.
	Clarification of abandonment and reclamation costs	One commenter requested clarification on whether abandonment and reclamation costs should include future leases, wells and facilities or should they be restricted to existing abandonment and reclamation liabilities.	Abandonment and reclamation costs should include both existing and future leases, wells and facilities. Abandonment and reclamation costs for the purpose of NI 51-101 are based on the regulations of the jurisdictions within which a reporting issuer carries out oil and gas activities.

Item	Subject	Summarized Comment	CSA Response
7. Other Amendments			
Other Amendments	Removal of consent	One commenter agreed with removal of section 5.7 consent.	We thank the commenter for the input.
	Effective date of evaluation by evaluator	One commenter agreed with the change to Form 51-101F2 for evaluators to take responsibility only in respect of events up to the effective date of the evaluation.	We thank the commenter for the input.
	Canadian Professional Organization	One commenter noted that the Association of Professional Geoscientists of Nova Scotia is not listed as a Canadian Professional Organization.	We thank the commenter for the input. The Association of Professional Geoscientists of Nova Scotia has now been included in the Companion Policy.
	Definition of conventional natural gas in section 1.1(f.2) of NI 51-101	One commenter suggested revising the definition of conventional natural gas since it does not fit tight gas such as Montney.	<p>We thank the commenter for the input, we have revised the definition of conventional natural gas to align with the definition of conventional resources in chapter 2 of COGE Handbook volume 2 as follows:</p> <p style="text-align: center;">Conventional natural gas means natural gas that has been generated elsewhere and has migrated as a result of hydrodynamic forces and is trapped in discrete accumulations by seals that may be formed by localized structural, depositional or erosional geological features.</p>
	Relative density in section 1.1(n.5) of NI 51-101	One commenter suggested the addition of the word “relative” before “density” since API gravity is not a measure of density.	We thank the commenter for the input. We have revised the definitions to refer to “relative density”.

Item	Subject	Summarized Comment	CSA Response
	Clarification of conceptual study in section 5.9(2)(d)(iii.1)(C) of NI 51-101	One commenter suggested the wording of 5.9(a)(iii.1)(C) is awkward. The commenter suggested adding “based on” before “a conceptual”. The commenter stated that the difference between a conceptual and pre-development study is not clear.	We thank the commenter for the input. Describing the project level of detail provides an indication of the reliability of an evaluation at various stages of maturity. A conceptual study is the initial stage in the development of a project scenario, with limited detail and typically based on limited information. A pre-development study is an intermediate step in the development of a project evaluation scenario, where the level of economic analysis is sufficient to assess development options and overall project viability, but is insufficient for making a final investment decision. These concepts are described in greater detail in chapter 2 of the COGE Handbook volume 2.
	Preparation date in item 1.1.3 of Form 51-101F1	One commenter questioned whether references to preparation date are still necessary.	We thank the commenter for the input. The preparation date is necessary because, as is described in Instruction (3) to item 1.1 of Form 51-101F1, 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 that financial year.
	Reserves volume disclosure in section 5.1 of Form 51-101F1	One commenter noted the disclosure of first attributed reserves volume is not meaningful to investors.	We thank the commenter for the input. The removal of first attributed is outside of the scope of the changes currently being contemplated by the proposed amendments.
	Proved undeveloped reserves in section 5.1.1 of Form 51-101F1	One commenter suggested replacing “not planning to develop” with “deferring the development” creates a sentence that does not make sense.	We thank the commenter for the input. We have revised item 5.1.1 of Form 51-101F1 as follows: discuss generally the basis on which the <i>reporting issuer</i> attributes <i>proved undeveloped reserves</i> , its plans (including timing) for developing the <i>proved undeveloped reserves</i> and, if applicable, its

Item	Subject	Summarized Comment	CSA Response
			<p>reasons for deferring the development of particular <i>proved undeveloped reserves</i> beyond two years.</p>
	<p>Commerciality under Part 7 of Form 51-101F1</p>	<p>One commenter suggested that the summation of an economic project with a sub-economic project would be misleading.</p>	<p>We thank the commenter for the input. We agree that sub-classes should not be summed but should be reported separately due to variations in chance of commerciality. We have revised the proposed disclosure with Part 7 of Form 51-101F1 and the appendix to the Companion Policy.</p>
	<p>Definition of field</p>	<p>One commenter noted the term “field” is not defined.</p>	<p>We thank the commenter for the input. Clarification on our interpretation of the term “field” is provided in section 5.8 of the companion policy to NI 51-101.</p>
	<p>First attributed PUD and PbUD in the aggregate</p>	<p>One commenter supported the requirement to remove the aggregate first attributed PUD and PbUD.</p>	<p>We thank the commenter for the input and this revision is incorporated into the amendments to <i>NI 51-101</i></p>
	<p>Risked net present value of future net revenue</p>	<p>One commenter stated it is not clear whether other elements of future net revenue for contingent and prospective resources must be reported.</p>	<p>We thank the commenter for the input. Disclosure of the risked net present value of future net revenue of contingent resources and prospective resources does not require a similar breakdown as required for reserves under item 3(b) of 2.1 of Form 51-101F1.</p>

Annex C

Summary of Changes from the Proposed Amendments Published for Comment on October 17, 2013

The information below summarizes the differences between the proposed Amendments published by the CSA for the comment period on October 17, 2013 and the Amendments published in conjunction with this Notice.

NI 51-101 *Standards of Disclosure for Oil and Gas Activities*

- We have combined the definitions of abandonment costs and reclamation costs
- We have refined the definition of bitumen to create a clearer boundary between it and heavy crude oil
- We have included the concept of risking the estimates in the definitions of contingent resources data and prospective resources data
- We have included tight oil as a product type in response to public comments – tight oil includes “shale oil”, which is a product type under the current version of NI 51-101
- We have re-inserted section 5.5 of NI 51-101 in order to respond to uncertainty over the point at which natural gas liquids can be included in reserves
- We have refined 5.9(2)(d)(iii.1) to allow reporting issuers to provide disclosure on key information related to projects without requiring an unnecessary level of detail

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

- In response to commentary from industry and revisions to the *COGE Handbook*, we will require that all resources other than reserves disclosure a reporting issuer optionally disclosed as a part of the statement and reports required under the Annual Disclosure Requirements be:
 - included in an appendix to a statement of the reserves data and other information filed under item 1 of section 2.1 of NI 51-101
 - risked for chance of discovery and chance of development, as applicable, for both volumes and values
- We will no longer require the disclosure of values for classes and categories of resources other than reserves other than contingent resources in the development pending project maturity sub-class, when these resources are optionally disclosed. Staff is of the view that the additional disclosure requirements and refinement to the classification framework and additional evaluation guidance in the *COGE Handbook* will provide a reader of the disclosure with needed information about the likelihood of actual recovery of the volumes disclosed

- We have required additional disclosure around the risk and uncertainty of the estimate when values are disclosed for contingent resources and prospective resources for any project maturity sub-classes other than development pending when those values are disclosed within the statement or reports required by the Annual Disclosure Requirements

Form 51-101F2 Report on *[Reserves Data]*, *[Contingent Resources Data]* and *[Prospective Resources Data]* by Independent Qualified Reserves Evaluator or Auditor

- We revised the form to incorporate and parallel the changes made to NI 51-101 *Standards of Disclosure for Oil and Gas Activities* and the changes to Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*

Form 51-101F3 Report of Management and Directors on Oil and Gas Disclosure

- We revised the form to incorporate and parallel the changes made to NI 51-101 *Standards of Disclosure for Oil and Gas Activities* and the changes to Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*

Companion Policy 51-101 Standards of Disclosure for Oil and Gas Activities

- We have updated the list of Canadian Professional Organizations and Other Professional Organizations in section 1.1(5)
- We have provided guidance on when disclosure is required for the purpose of disclosure under an alternative resources evaluation standard
- We added section 2.7(4.1) to provide guidance on preparing and disclosing estimates of contingent resources and prospective resources
- We added guidance in section 2.7(7) on the need to disclose incidents that led to a significant decrease in the volume of production, in particular as it relates to theft and sabotage
- We added guidance on the disclosure of natural gas liquids reserves in section 5.4
- We emphasized that risked future net revenue is not an indication of fair market value in section 5.5
- We provided guidance on interpreting the term field in section 5.8
- We updated the sample disclosure in Appendix 1 to parallel the changes to NI 51-101 and Form 51-101F1

Annex D

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. *Section 1.1 is amended by*

(a) deleting the paragraph numbering scheme;

(b) adding the following definitions:

"abandonment and reclamation costs" means all costs associated with the process of restoring a *reporting issuer's property* that has been disturbed by *oil and gas activities* to a standard imposed by applicable government or regulatory authorities;

"alternate reference point" means a location at which quantities and values of a *product type* are measured before the *first point of sale*;

"bitumen" means a naturally occurring solid or semi-solid *hydrocarbon*

- (a) consisting mainly of heavier *hydrocarbons*, with a viscosity greater than 10,000 millipascal-seconds (mPa·s) or 10,000 centipoise (cP) measured at the *hydrocarbon's* original temperature in the *reservoir* and at atmospheric pressure on a gas-free basis, and
- (b) that is not primarily recoverable at economic rates through a well without the implementation of enhanced recovery methods;

"by-product" means a substance that is recovered as a consequence of *producing a product type*;

"coal bed methane" means *natural gas* that

- (a) primarily consists of methane, and
- (b) is contained in a coal deposit;

(c) replacing the definition of "COGE Handbook" with the following:

"COGE Handbook" means the "Canadian Oil and Gas Evaluation Handbook" maintained by the Society of Petroleum Evaluation Engineers (Calgary Chapter), as amended from time to time;

(d) adding the following definitions:

“*contingent resources data*” means

- (a) an estimate of the volume of *contingent resources*, and
- (b) the *risked* net present value of *future net revenue of contingent resources*;

"*conventional natural gas*" means *natural gas* that has been generated elsewhere and has migrated as a result of hydrodynamic forces and is trapped in discrete *accumulations* by seals that may be formed by localized structural, depositional or erosional geological features;

"*first point of sale*" means the first point after initial *production* at which there is a transfer of ownership of a *product type*;

"*Form 51-101F5*" means Form 51-101F5 *Notice of Ceasing to Engage in Oil and Gas Activities*;

“*future net revenue*” means a forecast of revenue, estimated using *forecast prices and costs* or *constant prices and costs*, arising from the anticipated development and production of *resources*, net of the associated royalties, *operating costs*, *development costs*, and *abandonment and reclamation costs*;

"*gas hydrate*" means a naturally occurring crystalline substance composed of water and *gas* in an ice-lattice structure;

"*heavy crude oil*" means *crude oil* with a relative density greater than 10 degrees API gravity and less than or equal to 22.3 degrees API gravity;

"*hydrocarbon*" means a compound consisting of hydrogen and carbon, which, when naturally occurring, may also contain other elements such as sulphur;

"*light crude oil*" means *crude oil* with a relative density greater than 31.1 degrees API gravity;

"*medium crude oil*" means *crude oil* with a relative density greater than 22.3 degrees API gravity and less than or equal to 31.1 degrees API gravity;

"*natural gas*" means a naturally occurring mixture of *hydrocarbon* gases and other gases;

"*natural gas liquids*" means those *hydrocarbon* components that can be recovered from *natural gas* as a liquid including, but not limited to, ethane, propane, butanes, pentanes plus, and condensates;

(e) replacing the definition of “oil and gas activities” with the following:

“oil and gas activities” includes the following:

- (a) searching for a *product type* in its natural location;
- (b) acquiring *property* rights or a *property* for the purpose of exploring for or removing *product types* from their natural locations;
- (c) any activity necessary to remove *product types* from their natural locations, including construction, drilling, mining and production, and the acquisition, construction, installation and maintenance of *field* gathering and storage systems including treating, *field* processing and *field* storage;
- (d) producing or manufacturing of *synthetic crude oil* or *synthetic gas*;

but does not include any of the following:

- (e) any activity that occurs after the *first point of sale*;
- (f) any activity relating to the extraction of a substance other than a *product type* and their *by-products*;
- (g) extracting *hydrocarbons* as a consequence of the extraction of geothermal steam;

(f) adding the following definition:

“oil and gas metric” means a numerical measure of a *reporting issuer’s oil and gas activities*;

(g) repealing of the definition of “production group”;

(h) replacing the definition of “product type” with the following:

"product type" means any of the following:

- (a) *bitumen*;
- (b) *coal bed methane*;
- (c) *conventional natural gas*;
- (d) *gas hydrates*;
- (e) *heavy crude oil*;
- (f) *light crude oil* and *medium crude oil* combined;

- (g) *natural gas liquids*;
 - (h) *shale gas*;
 - (i) *synthetic crude oil*;
 - (j) *synthetic gas*;
 - (k) *tight oil*;
- (i) **in the definition of “professional organization” replacing “Canadian jurisdiction” with “jurisdiction of Canada”;**
- (j) **adding the following definition:**
- “prospective resources data” means
- (a) an estimate of the volume of *prospective resources*, and
 - (b) the *risked* net present value of *future net revenue* of *prospective resources*;
- (k) **in the definition of “reserves data” replacing “; and” with “;”;**
- (l) **adding the following definition:**
- "*risked*" means adjusted for the probability of loss or failure in accordance with the *COGE Handbook*;
- "*shale gas*" means *natural gas*
- (a) contained in dense organic-rich rocks, including low-permeability shales, siltstones and carbonates, in which the *natural gas* is primarily adsorbed on the kerogen or clay minerals, and
 - (b) that usually requires the use of hydraulic fracturing to achieve economic production rates;
- (m) **in the definition of “supporting filing” by replacing “.” with “;”;**
- (n) **adding the following definitions:**
- "*synthetic crude oil*" means a mixture of liquid *hydrocarbons* derived by upgrading *bitumen*, *kerogen* or other substances such as coal, or derived from *gas* to liquid conversion and may contain sulphur or other compounds;
- "*synthetic gas*" means a gaseous fluid
- (a) generated as a result of the application of an in-situ transformation

process to coal or other *hydrocarbon*-bearing rock; and

- (b) comprised of not less than 10% by volume of methane;

"*tight oil*" means *crude oil*

- (a) contained in dense organic-rich rocks, including low-permeability shales, siltstones and carbonates, in which the *crude oil* is primarily contained in microscopic pore spaces that are poorly connected to one another, and
- (b) that typically requires the use of hydraulic fracturing to achieve economic production rates.

3. Paragraph (b) of item 2 of section 2.1 is replaced with the following:

- (b) executed by one or more *qualified reserves evaluators or auditors* each of whom is *independent* of the *reporting issuer* and who must have,
 - (i) in the aggregate,
 - (A) *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
 - (B) *reviewed* the balance of that *future net revenue*, and
 - (ii) *evaluated or audited* the *contingent resources data or prospective resources data* reported in the statement filed or to be filed under item 1..

4. Paragraph (B) of item 3(e)(ii) of section 2.1 is replaced with the following:

- (B) if the *reporting issuer* has only three directors, two of whom are the persons referred to in subparagraph (i), all of the directors of the *reporting issuer*..

5. Subsection 2.4(1) is amended by

- (a) *deleting* “on reserves data”,
- (b) *inserting* “on reserves data, contingent resources data or prospective resources data” *after* “without reservation”, *and*
- (c) *inserting* “, contingent resources data, or prospective resources data” *after* “on the reserves data”.

6. Section 3.2 is replaced with the following:

3.2 Reporting Issuer to Appoint Independent Qualified Reserves Evaluator or Independent Qualified Reserves Auditor

- (1) A reporting issuer must appoint one or more *qualified reserves evaluators*, or *qualified reserves auditors*, each of whom is *independent* of the *reporting issuer*, and must direct each appointed evaluator or auditor to report to the board of directors of the *reporting issuer* on the *reserves data* disclosed in the statement prepared for the purpose of item 1 of section 2.1.
- (2) If a *reporting issuer* discloses *contingent resources data* or *prospective resources data* in a statement prepared for the purpose of item 1 of section 2.1, the *reporting issuer* must appoint one or more *qualified reserves evaluators* or *qualified reserves auditors* and must direct each appointed evaluator or auditor to report to the board of directors of the *reporting issuer* on all *contingent resources data* and *prospective resources data* included in the statement..

7. Section 3.4 is amended by adding “, contingent resources data or prospective resources data” after each instance of “reserves data”.

8. Section 5.2 is amended by renumbering it as subsection 5.2(1) and by adding the following subsection:

- (2) Disclosure referred to under subsection (1) must indicate whether the estimates of *reserves* or *future net revenue* were prepared by an *independent qualified reserves evaluator or qualified reserves auditor*..

9. Section 5.3 is amended by replacing “categories” with “category”.

10. Section 5.4 is replaced with the following:

5.4 Oil and Gas Resources and Sales

- (1) Disclosure of *resources* or of sales of *product types* or associated *by-products* must be made with respect to the *first point of sale*.
- (2) Despite subsection (1), a *reporting issuer* may disclose *resources* or sales of *product types* or associated *by-products* with respect to an *alternate reference point* if, to a reasonable person, the *resources*, *product types* or associated *by-products* would be marketable at the *alternate reference point*.

- (3) If a *reporting issuer* discloses *resources* or sales of *product types* or associated *by-products* with respect to an *alternate reference point*, the *reporting issuer* must
- (a) state that the disclosure is made with respect to an *alternate reference point*,
 - (b) disclose the location of the *alternate reference point*, and
 - (c) explain why disclosure is not being made with respect to the *first point of sale*..

11. Section 5.5 is replaced with the following:

5.5 Recovery of Product Types or By-Products - Disclosure of *product types* or *by-products*, including *natural gas liquids* and sulphur must be made in respect only of volumes that have been or are to be recovered prior to the *first point of sale*, or an *alternate reference point*, as applicable..

12. Section 5.7 is repealed.

13. Section 5.9 is amended by

(a) in paragraph (2)(d), adding the following:

“(iii.1) a description of the applicable project or projects including the following:

- (A) the estimated total cost required to achieve *commercial production*;
- (B) the general timeline of the project, including the estimated date of first *commercial production*;
- (C) the recovery technology;
- (D) whether the project is based on a *conceptual or pre-development study*;

(b) in clause (2)(d)(v)(A) replacing “no certainty” with “uncertainty”,

(c) in subsection (3), replacing “(2)(c)(iii)” with “(2)(d)(iii), (iii.1)”, and

(d) adding the following:

- (4) Any disclosure made under subsection (1) or (2) must indicate whether the *anticipated results* from *resources* which are not currently classified as

reserves or the estimate of a quantity of *resources* other than *reserves* were prepared by an *independent qualified reserves evaluator or auditor*.

14. Sections 5.11, 5.12 and 5.13 are repealed.

15. Section 5.14 is replaced with the following:

5.14 Disclosure Using *Oil and Gas Metrics*

- (1) If a *reporting issuer* discloses an *oil and gas metric*, other than an estimate of the volume or value of *resources* prepared in accordance with section 5.2, 5.9 or 5.18 or a comparative or equivalency measure under Part 2, 3, 4, 5, 6 or 7 of *Form 51-101F1*, the *reporting issuer* must include disclosure that
 - (a) identifies the standard and source of the *oil and gas metric*, if any,
 - (b) provides a brief description of the method used to determine the *oil and gas metric*,
 - (c) provides an explanation of the meaning of the *oil and gas metric*, and
 - (d) cautions readers as to the reliability of the *oil and gas metric*.
- (2) If there is no identifiable standard for an *oil and gas metric*, the *reporting issuer* must also include disclosure that
 - (a) provides a brief description of the parameters used in the calculation of the *oil and gas metric*, and
 - (b) states that the *oil and gas metric* does not have any standardized meaning and should not be used to make comparisons..

16. Section 5.15 is repealed.

17. Paragraph 5.16(3)(b) is amended by replacing “5.9(2)(c)(v)(A)” with “5.9(2)(d)(v)(A)” and by replacing “5.9(2)(c)(v)(B)” with “5.9(2)(d)(v)(B)”.

18. Part 5 is amended by adding the following:

5.18 Supplementary Disclosure of *Resources* Using Evaluation Standards other than the *COGE Handbook*

- (1) A *reporting issuer* may supplement disclosure provided in accordance with section 5.2, 5.3 or 5.9 with an estimate of the volume or the value of *resources* prepared in accordance with an alternative *resources* evaluation standard that

- (a) has a comprehensive framework for the evaluation of *resources*,
 - (b) defines *resources* using terminology and categories in a manner that is consistent with the terminology and categories of the *COGE Handbook*,
 - (c) has a scientific basis, and
 - (d) requires that estimates of volume and value of *resources* be based on reasonable assumptions.
- (2) If disclosure is made under subsection (1) and that disclosure is required under the laws of or by a *foreign jurisdiction*, the *reporting issuer* must, proximate to the disclosure,
- (a) disclose the *effective date* of the estimate,
 - (b) describe any significant differences, and the reasons those differences exist, between the estimate prepared in accordance with the alternative *resources* evaluation standard and the estimate prepared in accordance with the *COGE Handbook*, and
 - (c) include a reference to the location on the *SEDAR* website of the estimate prepared
 - (i) in accordance with section 5.2, 5.3 or 5.9, as applicable, and
 - (ii) at the same effective date as the alternative disclosure.
- (3) If disclosure is made under subsection (1) and the disclosure is not required by a foreign jurisdiction, the *reporting issuer* must, proximate to the disclosure,
- (a) disclose the *effective date* of the estimate,
 - (b) provide a description of the alternative *resources* evaluation standard,
 - (c) describe any significant differences, and the reasons those differences exist, between the estimate prepared in accordance with the alternative *resources* evaluation standard and the estimate prepared in accordance with the *COGE Handbook*, and
 - (d) disclose the estimate prepared
 - (i) in accordance with section 5.2, 5.3 or 5.9, as applicable, and
 - (ii) at the same *effective date* as the disclosure provided under subsection (1).

- (4) An estimate under subsection (1) must have been prepared or *audited* by a *qualified reserves evaluator or auditor*..

19. Part 6 is amended by

- (a) **adding “AND CEASING TO ENGAGE IN OIL AND GAS ACTIVITIES”** after “MATERIAL CHANGE DISCLOSURE” in the heading,
- (b) **replacing “Part” with “section” in section 6.1, and**
- (c) **adding the following:**

6.2 Ceasing to Engage in Oil and Gas Activities - A reporting issuer must file with the *securities regulatory authority* a notice prepared in accordance with *Form 51-101F5* not later than 10 days after ceasing to be engaged, directly or indirectly, in *oil and gas activities*..

20. Section 8.1 is amended by adding the following:

- (3) Except in Ontario, an exemption referred to in subsection (1) is granted under the statute referred to in Appendix B of National Instrument 14-101 *Definitions*, opposite the name of the local jurisdiction..

21. General Instruction (2) of Form 51-101F1 is amended by replacing “its financial year then ended” with “the financial year then ended”.

22. General Instruction (5) of Form 51-101F1 is amended by adding “, and that contingent resource data and prospective resource data only appears in an appendix to Form 51-101F1” after “not omitted”.

23. Instruction (4) of Item 1.1 of Form 51-101F1 is amended by inserting “statement” after “should ensure its financial”.

24. Subsection 3(c) of Item 2.1 of Form 51-101F1 is replaced with the following:

- (c) Disclose, by *product type*, in each case with associated *by-products*, and on a unit value basis for each *product type*, in each case with associated *by-products* (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..

25. Item 2.1 of Form 51-101F1 is amended by inserting the following at the end of the item:

INSTRUCTIONS

- (1) *Disclose all of the **reserves** in respect of which the **reporting issuer** has a direct or indirect ownership, working or royalty interest. These concepts are explained in sections 5.5.4(a) “Ownership Considerations” and 7.5 “Interests” of volume 1 of the **COGE Handbook**, section 5.2 “Ownership Considerations” of volume 2 of the **COGE Handbook** and, with respect to an entitlement to share **production** under a **production** sharing agreement, section 4.0 “Fiscal Regimes” of the chapter entitled “Reserves Recognition For International Properties” of volume 3 of the **COGE Handbook**.*
- (2) *Do not include, in the **reserves data** a **product type** 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 **product type** 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 the **product type** received by the **reporting issuer** under the agreement during the year ended on the **effective date**.*
- (3) ***Future net revenue** includes the portion attributable to the **reporting issuer's** interest under an agreement referred to in Instruction (2).*
- (4) *If the **reporting issuer's** disclosure of **reserves** would, to a reasonable person, be misleading, if stated without an explanation of the **reporting issuer's** ownership of or control over those **reserves**, explain the nature of the **reporting issuer's** ownership of or control over **reserves** disclosed in the statement filed or to be filed under item 1 of section 2.1 of **NI 51-101**.*

26. Items 2.3 and 2.4 of Form 51-101F1 are repealed.

27. Item 3.2 of Form 51-101F1 is amended by repealing Instruction (3).

28. Subsections 2(b) and (c) of Item 4.1 of Form 51-101F1 are replaced with the following:

- (b) for each of the following:
 - (i) bitumen;

- (ii) *coal bed methane*;
 - (iii) *conventional natural gas*;
 - (iv) *gas hydrates*;
 - (v) *heavy crude oil*;
 - (vi) *light crude oil and medium crude oil combined*;
 - (vii) *natural gas liquids*;
 - (viii) *shale gas*;
 - (ix) *synthetic crude oil*;
 - (x) *synthetic gas*;
 - (xi) *tight oil*;
- (c) separately identifying and explaining each of the following:
- (i) extensions and improved recovery;
 - (ii) technical revisions;
 - (iii) discoveries;
 - (iv) acquisitions;
 - (v) dispositions;
 - (vi) economic factors;
 - (vii) *production..*

29. Item 5.1 of Form 51-101F1 is amended by

- (a) **deleting** “and, in the aggregate, before that time” **wherever it occurs**,
- (b) **replacing** “not planning to develop particular” **with** “deferring the development of particular” **wherever it occurs**,
- (c) **replacing** “during the following two years” **with** “beyond two years” **wherever it occurs, and**

(d) adding the following instructions:

INSTRUCTIONS

- (1) *The phrase “first attributed” refers to the initial allocation of an undeveloped volume of oil or gas reserves by a reporting issuer. Only previously unassigned undeveloped volumes of oil or gas reserves may be included in the first attributed volumes for the applicable financial year. For example, if in 2011 a reporting issuer allocated by way of acquisition, discovery, extension and improved recovery 300 MMcf of proved undeveloped conventional natural gas reserves, that would be the first attributed volume for 2011.*
- (2) *The discussion of a reporting issuer’s plans for developing undeveloped reserves, or the reporting issuer’s reasons for deferring the development of undeveloped reserves, must enable a reasonable investor to assess the efforts made by the reporting issuer to convert undeveloped reserves to developed reserves..*

30. Item 5.2 of Form 51-101F1 is replaced with the following:

Item 5.2 Significant Factors or Uncertainties Affecting Reserves Data

Identify and discuss significant economic factors or significant uncertainties that affect particular components of the reserves data.

INSTRUCTIONS

- (1) *A reporting issuer must, under this Item, include a discussion of any significant abandonment and reclamation costs, unusually high expected development costs or operating costs, 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.*
- (2) *If the information required by this Item is presented in the reporting issuer's financial statements and notes thereto for the most recent financial year ended, the reporting issuer satisfies this Item by directing the reader to that presentation..*

31. Item 6.2.1 of Form 51-101F1 is replaced with the following:

Item 6.2.1 Significant Factors or Uncertainties Relevant to *Properties with No Attributed Reserves*

Identify and discuss significant economic factors or significant uncertainties that have affected or are reasonably expected to affect the anticipated development or production activities on *properties* with no attributed *reserves*.

INSTRUCTIONS

- (1) *A reporting issuer must, under this Item, include a discussion of any significant **abandonment and reclamation costs**, unusually high expected **development costs** or **operating costs**, 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.*
- (2) *If the information required by this Item is presented in the **reporting issuer's** financial statements and notes thereto for the most recent financial year ended, the **reporting issuer** satisfies this Item by directing the reader to that presentation..*

32. Item 6.4 of Form 51-101F1 is repealed.

33. Item 6.6 of Form 51-101F1 is replaced with the following:

Item 6.6 Costs Incurred

Disclose by country for the most recent financial year ended each of the following:

- (a) *property acquisition costs, separately for *proved properties* and *unproved properties*;*
- (b) *exploration costs;*
- (c) *development costs.*

INSTRUCTION

*If the costs specified in paragraphs (a), (b) and (c) are presented in the **reporting issuer's** financial statements and the notes to those statements for the most recent financial year ended, the **reporting issuer** satisfies this Item by directing the reader to that presentation..*

34. *Item 6.9 of Form 51-101F1 is amended by replacing “To the extent not previously disclosed in financial statements by the reporting issuer, disclose” with “Disclose.”*
35. *Form 51-101F1 is amended by adding the following:*

**PART 7 OPTIONAL DISCLOSURE OF CONTINGENT RESOURCES DATA
AND PROSPECTIVE RESOURCES DATA**

INSTRUCTIONS

- (1) *A reporting issuer may disclose **contingent resources data** or **prospective resources data** in a statement of the **reserves data** and other information filed under item 1 of section 2.1 of NI 51-101, however, that data must only be disclosed as an appendix to that statement.*
- (2) *The following cautionary statement must be included in bold font and appear proximate to the **risked** net present value of **future net revenue** associated with **contingent resources** or **prospective resources**:*

An estimate of risked net present value of future net revenue of [contingent resources][and][prospective resources] is preliminary in nature and is provided to assist the reader in reaching an opinion on the merit and likelihood of the company proceeding with the required investment. It includes [contingent resources][and][prospective resources] that are considered too uncertain with respect to the [chance of development][and][chance of discovery] to be classified as reserves. There is uncertainty that the risked net present value of future net revenue will be realized.

- (3) *A reporting issuer may not rely on subsection 5.9(3) of NI 51-101 for disclosure required to be included in this Part.*
- (4) *If a reporting issuer’s disclosure of **contingent resources** or **prospective resources** would, to a reasonable person, be misleading if not accompanied by an explanation of the reporting issuer’s ownership of or control over those **resources**, explain the nature of the reporting issuer’s ownership of or control over all **contingent resources** and **prospective resources** disclosed in the statement filed or to be filed under item 1 of section 2.1 of NI 51-101.*
- (5) *A reporting issuer’s disclosure respecting the value of **prospective resources** or **contingent resources** that are not in the **development pending project maturity sub-class** must be **risked** and must include an explanation of the factors considered respecting the **chance of commerciality**, which includes both **chance of discovery** and **chance of development** in the case of **prospective resources** and **chance of development** in the case of **contingent resources**.*

GUIDANCE

- (1) A **reporting issuer** is subject to sections 5.9 and 5.17 of NI 51-101 when providing disclosure of **contingent resources data** or **prospective resources data** in this **Form**.
- (2) A **reporting issuer** providing disclosure of **contingent resources data** or **prospective resources data** in this **Form** must have an evaluation process for **contingent resources** or **prospective resources** that
 - (a) is at least as rigorous as would be the case for **reserves data**, and
 - (b) is recognized as well-established in the oil and gas industry.
- (3) An evaluation process described in subsection (2) is not needed if a reasonable **qualified evaluator or auditor** would conclude that it is not necessary in the circumstances.
- (4) All public disclosure by **reporting issuers** is subject to the general prohibition against misleading statements. The disclosure of development on-hold, development unclarified or development not viable **contingent resources**, or **prospective resources**, in the statement of **reserves data** and other oil and gas information might be misleading where there is a significant degree of uncertainty and risk associated with those estimates.

Item 7.1 Contingent Resources Data

1. If a **reporting issuer** discloses **contingent resources** in the statement filed under item 1 of section 2.1 of NI 51-101, the **reporting issuer** must disclose all of the following:
 - (a) the **risked 2C contingent resources volumes**, gross and net, for each **product type**, and classified in each applicable **project maturity sub-class**;
 - (b) if **contingent resources** in the **development pending project maturity sub-class** are disclosed, the **risked net present value of future net revenue** of the **2C contingent resources** in the **development pending project maturity sub-class**, calculated using **forecast prices and costs** for each **product type**, before deducting **future income taxes** and using discount rates of 0 percent, 5 percent, 10 percent, 15 percent and 20 percent.

2. Disclose the numeric value of the chance of development risk and describe the method of all of the following:
 - (a) quantifying the *chance of development* risk;
 - (b) estimating the *contingent resources* adjusted for *chance of development* risk and the associated *risked* net present value of *future net revenue*.

Item 7.2 Prospective Resources Data

1. If a *reporting issuer* discloses *prospective resources* in the statement filed under item 1 of section 2.1 of *NI 51-101*, disclose the best estimate *prospective resources, gross and net*, for each *product type*.
2. Disclose the numeric value of the *chance of discovery* and *chance of development* and describe the method of all of the following:
 - (a) quantifying the *chance of discovery* and *chance of development*;
 - (b) estimating the *prospective resources* adjusted for *chance of discovery* and *chance of development*.

Item 7.3 Forecast Prices Used in Estimates

1. For each *product type*, disclose the pricing assumptions used in estimating *contingent resources data* and *prospective resources data* disclosed in response to Item 7.1 for each of the five years following the most recently completed financial year.
2. The disclosure in response to section 1 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. The pricing assumptions included in section 1 must be the same as the pricing assumptions disclosed in response to Part 3 of this *Form 51-101F1*.

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 "**forecast prices and costs**" includes 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. Such*

*contractually committed prices must be used, instead of benchmark reference prices for the purpose of estimating **contingent resources data** and **prospective resources data**, unless a reasonable investor would find the use those contractually committed prices misleading.*

Item 7.4 Supplemental Contingent Resources Data

The reporting issuer may supplement its disclosure of *contingent resources data* under Item 7.1 by also disclosing estimates of *contingent resources* together with estimates of associated *risked* net present value of *future net revenue*, determined using *constant prices and costs* rather than *forecast prices and costs* for each applicable *product type*.

36. Form 51-101F2 is replaced with the following:

FORM 51-101F2
REPORT ON [RESERVES DATA][,][CONTINGENT RESOURCES DATA][AND]
[PROSPECTIVE RESOURCES 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.
2. The report on *reserves data*, *contingent resources data* or *prospective resources data*, if applicable, 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, must in all *material* respects be in the following form:

Report on [Reserves Data][,][Contingent Resources Data][and][Prospective Resources Data] by Independent Qualified Reserves Evaluator or Auditor

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

1. We have [audited][,][and][evaluated][or reviewed] the Company's [reserves data][,][contingent resources data][and][prospective resources data] as at [last day of the reporting issuer's most recently completed financial year]. ***[If the Company has reserves, include the following sentence:*** The reserves data 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. ***[If the Company has disclosed contingent resources data or prospective resources data, include the following sentence:*** The [contingent resources data] [and] [prospective resources data] are

risked estimates of volume of [contingent resources][and][prospective resources] and related risked net present value of future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.]

2. The [reserves data][,][contingent resources data][and][prospective resources data] are the responsibility of the Company's management. Our responsibility is to express an opinion on the [reserves data][,][contingent resources data][and][prospective resources data] based on our [audit][,][and][evaluation][and review].

(d) We carried out our [audit][,][and][evaluation][and review] in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook as amended from time to time (the "COGE Handbook") maintained by the Society of Petroleum Evaluation Engineers (Calgary Chapter).

3. Those standards require that we plan and perform an [audit][,][and][evaluation][and review] to obtain reasonable assurance as to whether the [reserves data][,][contingent resources data][and][prospective resources data] are free of material misstatement. An [audit][,][and][evaluation][and review] also includes assessing whether the [reserves data] [,][contingent resources data][and][prospective resources data] are in accordance with principles and definitions presented in the COGE Handbook.
4. ***[If the Company has reserves, include this paragraph:]*** The following table shows the net present value of 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][,][and][evaluated][and reviewed] for the year ended [last day of the reporting issuer's most recently completed financial year], and identifies the respective portions thereof that we have [audited][,][and][evaluated] [and reviewed] and reported on to the Company's [management/board of directors]:

Independent Qualified Reserves Evaluator or Auditor	Effective 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 ¹

1. This amount must 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*) attributed 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 2.1 of *Form 51-101F1*).

- 5 ***[If the Company has disclosed contingent resources data or prospective resources data, include this paragraph and the tables:]*** The following tables set forth the risked volume and risked net present value of future net revenue of [contingent resources][and][prospective resources] (before deduction of income taxes) attributed to [contingent resources][and][prospective resources], estimated using forecast prices and costs and calculated using a discount rate of 10%, included in the Company's statement prepared in accordance with Form 51-101F1 and identifies the respective portions of the [contingent resources data][and][prospective resources data] that we have [audited][and][evaluated] and reported on to the Company's [management/board of directors]:

Classification	Independent Qualified Reserves Evaluator or Auditor	Effective Date of [Audit/ Evaluation] Report	Location of Resources Other than Reserves (Country or Foreign Geographic Area)	Risky Volume	Risky Net Present Value of Future Net Revenue (before income taxes, 10% discount rate)		
					Audited	Evaluated	Total
Development Pending Contingent Resources (2C)	Evaluator	xxx xx, 20xx	xxxx	xxx	\$xxx	\$xxx	\$xxx

Classification	Independent Qualified Reserves Evaluator or Auditor	Effective Date of [Audit/ Evaluation] Report	Location of Resources Other than Reserves (Country or Foreign Geographic Area)	Risky Volume	Risky Net Present Value of Future Net Revenue (before income taxes, 10% discount rate)		
					Audited	Evaluated	Total
Prospective Resources	Evaluator	xxx xx, 20xx	xxxx	xxx			
Contingent Resources	Evaluator	xxx xx, 20xx	xxxx	xxx			
[project maturity sub-classes other than Development Pending]							

5. In our opinion, the [reserves data][,][contingent resources data][and][prospective resources data] respectively [audited][and][evaluated] by us have, in all material respects, been determined and are in accordance with the COGE Handbook, consistently applied. We express no opinion on the [reserves data][,][contingent resources data][and] [prospective resources data] that we reviewed but did not audit or evaluate.
6. We have no responsibility to update our reports referred to in paragraph[s] [4][and][4.1] for events and circumstances occurring after the effective date of our reports.

7. Because the [reserves data][,][contingent resources data][and][prospective resources data] are based on judgements regarding future events, actual results will vary and the variations may be material.

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]

37. Form 51-101F3 is replaced with the following:

**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.
2. The report referred to in item 3 of section 2.1 of *NI 51-101* must in all *material* respects be in the following form:

**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 [and includes, if disclosed in the statement required by item 1 of section 2.1 of *NI 51-101*, other information such as contingent resources data or prospective resources data].

[Alternative A: Reserves Data to Report or Contingent Resources Data or Prospective Resources Data to Report]

[An] independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [has/have] [audited][,][and][evaluated][and reviewed] the Company's [reserves data][,][contingent resources data][and][prospective resources 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

- (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, in the event of a 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][,][contingent resources data][and][prospective resources 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 Form 51-101F1 containing [reserves data][,][contingent resources data][and][prospective resources 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, contingent resources data, or prospective resources data; and
- (c) the content and filing of this report.

Because the [reserves data][,][contingent resources data][and][prospective resources data] are based on judgements regarding future events, actual results will vary and the variations may be material.

[Alternative B: No Reserves to Report and No Resources Other than Reserves to Report]

The [Reserves Committee of the] board of directors of the Company has reviewed the oil and gas activities of the Company and has determined that the Company had no reserves as of [last day of the reporting issuer's most recently completed financial year].

An independent qualified reserves evaluator or qualified reserves auditor has not been retained to evaluate the Company's reserves data. No report of an independent qualified reserves evaluator or qualified reserves auditor will be filed with securities regulatory authorities with respect to the financial year ended on [last day of the reporting issuer's most recently completed financial year].

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 Form 51-101F1 containing information detailing the Company's oil and gas activities; and
- (b) the content and filing of this report.

[signature, name and title of chief executive officer]

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

[signature, name of a director]

[signature, name of a director]

[Date]

38. *The Instrument is amended by adding the following:*

FORM 51-101F5
NOTICE OF
CEASING TO ENGAGE IN OIL AND GAS ACTIVITIES

This is the form referred to in section 6.2 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.
2. The notice referred to in section 6.2 of NI 51-101 must in all *material* respects be in the following form:

Notice of
Ceasing to Engage in Oil and Gas Activities

Management and the board of directors of [name of reporting issuer] (the "Company") have determined that as of [date] the Company is no longer engaged, directly or indirectly, in oil and gas activities.

[signature, name and title of chief executive officer]

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

[signature, name of a director]

[signature, name of a director]

[Date]

39. *All footnotes and references to footnotes are repealed.*

40. This *Instrument* comes into force on July 1, 2015.

Annex E

Blackline to Companion Policy 51-101 *Standards of Disclosure for Oil and Gas Activities*

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

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COMPANION POLICY 51-101~~CP~~
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~~ capital market participants 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 ~~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*) as amended, restated or replaced from time to time, sets out the meaning of terms, including those defined in NI 51-101 and several terms which are derived from the *COGE Handbook*.

The terms set out in the *NI 51-101 Glossary* are printed in italics in NI 51-101, Form 51-101F1, Form 51-101F2, Form 51-101F3, Form 51-101F4, Form 51-101F5 or in this Companion Policy for the convenience of readers.

~~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*.

- (2) **Forecast Prices and Costs** - The term *forecast prices and costs* is defined in [paragraph section 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 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 section 1.1\(e\)](#) 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 paragraphs \(b\) and \(d\)](#) 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

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

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 that such interest would 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 other than reserves apply to oil and gas reserves and resources other than reserves relating to oil sands, shale, coal or other non-conventional sources of hydrocarbons.~~ **Additional Disclosure**—The CSA encourage *reporting issuers* that are engaged in ~~non-conventional~~ oil and gas activities that may require additional explanation 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*.

A reporting issuer should choose the closest *product type* if the substance produced does not exactly match one of the *product types* listed in NI 51-101. For example, *shale gas projects* may not strictly adhere to the formal lithological-based definition of “shale”. The produced gas can come from intervals that contain clay, carbonates, siltstone and minor amounts of very fine-grained sandstone laminations. Despite coming from intervals that may not meet the technical definition of “shale”, gas to which fracturing techniques have been applied, when intermingled with gas that comes from “shale”, may be reported as being *shale gas*.

A reporting issuer must ensure that its disclosure is not misleading and will have to consider whether additional explanation is required to provide the necessary context.

(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~~regulated *professional organization* of engineers, geologists, geoscientists or other *oil and gas* professionals.

The definition of "*professional organization*" (in ~~paragraph~~section 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*.

(a.1) Canadian Professional Organizations

As at ~~October 12, 2010~~,December 4, 2014, each of the following organizations in Canada is a *professional organization* for the purposes of *NI 51-101*:

- Association of Professional Engineers,~~Geologists~~ and ~~Geophysicists~~Geoscientists of Alberta (~~APEGGA~~APEGA)
- 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 the Province of Manitoba (APEGM)
- Association of Professional Geoscientists of Ontario (APGO)
- Professional Engineers ~~of~~ Ontario (PEO)
- Ordre des ingénieurs du Québec (OIQ)
- Ordre des ~~Géologues~~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 Geoscientists of Nova Scotia (APGNS)
- Association of Professional Engineers and Geoscientists of Newfoundland ~~(APEGN and Labrador (APEGNL))~~
- Association of Professional Engineers of Yukon (APEY)
- Northwest Territories and Nunavut Association of Professional Engineers; ~~Geologists & Geophysicists of the Northwest Territories (NAPEGG) (representing the Northwest Territories and Nunavut Territory)~~ and Geoscientists (NAPEG)

(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 October 12, 2010, As at December 4, 2014,~~ 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, and Geologists

~~State of Colorado~~ State Board of Registration Licensure for Architects, Professional Engineers and Professional Land Surveyors

Louisiana ~~State Board of Registration for Professional Engineers~~ Engineering and Land ~~Surveyors~~, Surveying Board (LAPELS)

Oklahoma State Board of ~~Registration~~ Licensure 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 (CPG)

Energy Institute (EI) but only for those members of the Energy Institute who are Members and Fellows

Society of Petroleum Evaluation Engineers (SPEE), but only in respect of Members, Honorary Life Members and Life Members

(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~~[section 1.1\(y\)](#) and ~~1.1(x)~~ of *NI 51-101, respectively, 101* 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 are incorporated in the *COGE Handbook* and are also set out, in part, in the *NI 51-101 Glossary*.

Subparagraph 5.2(1)(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 of *resources* other than *reserves*, must be prepared in accordance with the *COGE Handbook*; subject to the exception pursuant to section 5.18 of *NI 51-101*.

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~~ with prospects, unproved properties or resources, ~~could still~~ other than reserves, may be deemed to 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 reporting 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.

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* or auditor. These long and detailed reports ~~cannot~~should not 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* and other oil and gas information is not mandatory, we encourage reporting 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.

A *reporting issuer* may supplement the annual disclosure required under *NI 51-101* with additional information corresponding to that prescribed in *Form 51-101F1*, *Form 51-101F2* and *Form 51-101F3*, but as at dates, or for periods, subsequent to those for which annual disclosure is required. However, to avoid confusion, such supplementary

disclosure should be clearly identified as being interim disclosure and distinguished from the annual disclosure (for example, if appropriate, by reference to a particular interim period). Supplementary interim disclosure does not satisfy the annual disclosure requirements of section 2.1 of *NI 51-101*.

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*. If a reporting issuer adopting this approach provides optional disclosure of contingent resources data and prospective resources data in its statement of reserves data and other oil and gas information required under section 2.1, that disclosure must be included as an appendix to the reporting issuer's 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~~allows 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~~to the 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. However, a *reporting issuer* that elects to follow this approach must file, at the same time and on *SEDAR*, in the appropriate *SEDAR* category, a notice in accordance with *Form 51-101F4* (see subsection 2.3(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 With No Reserves*** ***or Ceasing to Engage in Oil and Gas Activities***

The requirement to make annual *NI 51-101* filings is not limited to only those reporting 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 reporting 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*, *Form 51-101F5* 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~~ a *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 ~~is not reporting~~ related *future net revenue*.

Supporting information regarding *reserves data* required under Part 2 (e.g., price estimates) that are not *material* to the reporting issuer may be omitted. However, if the reporting 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 by Part 4 of Form 51-101F1 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 reporting issuer had no *production*, as that fact would be *material*.

- (2) ***Form 51-101F2*** - *NI 51-101* requires a reporting issuer's issuer to retain an *independent qualified reserves evaluator or auditor* to evaluate or audit ~~the company's reserves data and~~ its reserves data, contingent resources data or prospective resources data, if that data is included in the statement required under item 1 of section 2.1 of NI 51-101, and to have that evaluator or auditor report to the board of directors.

If the *reporting issuer* had no *reserves* during the year ~~and hence did, it would~~ not need to 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* or resources other than reserves to report, the requirement to file a report of management and directors in the form of *Form 51-101F3* applies.
- (4) **Form 51-101F5** - Section 6.2 of *NI 51-101* requires *reporting issuers that cease to be engaged in oil and gas activities* to file a notice in the form of *Form 51-101F5*.
- (5) **Other NI 51-101 Requirements** - *NI 51-101* does not require *reporting issuers* to disclose *anticipated results* from ~~their~~, or estimates of a quantity or an estimated value attributable to an estimated quantity of, their contingent resources or prospective resources. However, if a *reporting issuer* chooses to disclose that type of information, ~~section 5.9 of NI 51-101~~ sections 5.9, 5.16 and 5.17 of NI 51-101 apply to that disclosure. If disclosed in the statement required under item 1 of section 2.1 of NI 51-101, Part 7 of Form 51-101F1 also applies to that disclosure.

Section 5.3 of NI 51-101 requires reserves and resources other than reserves to be disclosed using the applicable terminology and categories set out in the COGE Handbook.

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~~ is reliance by a *qualified reserves evaluator or auditor* on information derived or obtained from a *reporting issuer's independent financial auditors* or ~~reflecting~~ reflected in 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 / *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**

Reporting issuers are required to disclose estimates of after-tax net present value of *proved* and *probable reserves* in the statement prepared in accordance with *Form 51-101F1*. In addition, *reporting issuers* may, but are not required to, disclose volumes and estimates of risked after-tax net present value of *future net revenue of contingent resources* and *prospective resources* in an appendix to the statement prepared in accordance with *Form 51-101F1*. In a separate disclosure document, a *reporting issuer* may also disclose its *reserves* or other information of a type that is specified in the *Form 51-101F1* in the aggregate or for a portion of its activities, subject to the requirements of subparagraph 5.2(1)(a)(iii) and paragraph 5.2(1)(c) of *NI 51-101*.

Estimates of after-tax net present value are dependent on a number of factors including, but not limited to, one or more of the following:

- forecast future capital expenditure required to achieve forecast *production*;
- interaction with, or deductibility of, government royalties or proportionate sharing rights;
- inclusion of existing tax pool balances of the *reporting issuer* (inclusion is prescribed for *reporting issuer*-aggregate estimates according to section 7 of volume 1 of the *COGE Handbook*);
- tax pool write-off rates;
- sequence of tax pool utilization;
- applicability of special tax incentives; and
- forecast *production* revenue and expenses.

Each of these can have a significant impact on the outcome, which could mislead investors if not considered in the *evaluation* or if the *reporting issuer's* disclosure does not provide sufficient accompanying information.

If a *reporting issuer* discloses after-tax net present value, it should generally include, as appropriate, one or more of the following:

- a general explanation of the method and assumptions used in the *reporting issuer's* calculation, worded to reflect its specific circumstance and the approach taken. This need not be detailed, but major aspects should be addressed, such as whether tax pools have been included in the *evaluation*;

~~*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.~~

- an explanatory statement to the following effect:

The after-tax net present value of [the name of company]'s oil and gas properties here reflects the tax burden on the properties on a stand-alone basis. It does not consider any tax planning. It does not provide an estimate of the value at the reporting issuer's related business entity, which may be significantly different. The financial statements and the management's discussion & analysis (MD&A) of the [name of reporting

issuer] should be consulted for information at the level of the reporting issuer.

~~Also, tax~~ 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~~ Reporting 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~~ categories of *proved reserves* and to *probable reserves*.

- (4) **Supplementary Disclosure of *Future Net Revenue* Using Constant Prices and Costs** – *Form 51-101F1* gives *reporting issuers* the option of disclosing *future net revenue*, together with associated estimates of *reserves* or *resources* other than *reserves*, ~~determined~~ calculated using *constant prices and costs*. Constant prices and costs are assumed not to change 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).

(4.1) Estimates of *Contingent Resources* and *Prospective Resources*

Estimates of *contingent resources* should be disclosed to the most specific category set out in the *COGE Handbook*, which includes *project maturity sub-classes for contingent resources*.

Since *contingent resources* and *prospective resources* are subject to risks that result in less than 100% chance of commerciality, the *qualified reserves evaluator or auditor of a reporting issuer* will need to address those risks in the estimation and classification of that *reporting issuer’s* publicly disclosed *contingent*

resources and prospective resources. There are many methods to accomplish this and no particular method is being prescribed.

Expected Value Theory is one of the methods which can be used to quantify the risked volumes and values of the resources. The expected value is the sum of all the possible outcomes of a project, such as volumes and values of the resources, multiplied by their respective estimated probabilities of occurrence. The expected value is not the actual value of the contingent resources or prospective resources for a particular project but an average of the outcomes weighted by probabilities of the outcomes. If a reporting issuer has a large number of similar projects and they are executed many times, the actual value obtained may approach the expected value. Expected value is a decision tool to decide if a project will go ahead.

If the expected value is in monetary terms, the calculated expected value is termed Expected Monetary Value (EMV) and it is one applicable method that can be used to estimate a risked net present value of future net revenue. One occurrence of a single project is unlikely to achieve the calculated EMV. In theory, by always choosing projects with the greatest positive EMV, the reporting issuer may achieve better results than by making more random decisions. The COGE Handbook states that EMV is not a projection of revenue but a tool for companies to determine whether it makes sense to proceed with a project to develop potential sales volumes. Reporting issuers will need to explain how those volumes and values were determined if included under Item 7.1 or 7.2 of Form 51-101F1.

Contingent resources in the development pending project maturity sub-class have the highest chance of development and commerciality of all resources other than reserves other than reserves. Because there is additional uncertainty with the other project maturity sub-classes of contingent resources and prospective resources, disclosure of the risked net present value of prospective resources and contingent resources other than in the development pending project maturity sub-class should be accompanied by a detailed explanation of chance of commerciality, which includes both the chance of discovery and the chance of development based on economic and development-related factors (such as development plans, production forecasts, markets, facilities, capital and operating costs, product prices and approvals) in the case of prospective resources and chance of development in the case of contingent resources. Without disclosure relating to the chance of discovery and chance of development, disclosure of the risked net present value of prospective resources and contingent resources other than in the development pending project maturity sub-class may be misleading.

(5) ~~[REPEALED—December 30, 2010]~~ Repealed.

(6) **Reserves Reconciliation**

(a) If the reporting issuer reports reserves, but had no reserves to report 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 reporting 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 reserves changes, including 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" reserve change category or in an additional stand-alone reserve change 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 reporting issuer ~~may wish to~~ should 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 ana reporting issuer to identify and discuss important economic factors or significant uncertainties that affect particular components of the *reserves data*.

Important economic factors or significant uncertainties may include *abandonment and reclamation costs*, unusually high expected *development costs* or *operating costs*, 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.

Incidents that lead to a significant decrease in the volume of *production* from business operations should be disclosed. This may include *production losses due to theft and sabotage*. In order to not be misleading, the decrease in the volume of *production* should be considered for disclosure when a *reporting issuer* sets out first-year *production* estimates under *Form 51-101F1* requirements.

~~For example, if~~ events subsequent to the *effective date* but prior to the preparation date have resulted in significant changes in expected future prices, such that the forecast prices reflected in the *reserves data* differ ~~materially~~ significantly 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 *reporting 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. Refer to subsection 2.8(3) of this Companion Policy respecting the related commentary relating to *qualified reserves evaluators or auditors*.

- (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 prescribed in *Form 51-101F1* is the minimum disclosure required, subject to the *materiality* standard. *Reporting issuers* may provide additional disclosure that is not inconsistent with *NI 51-101* and not misleading.

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*, *contingent resources data* and *prospective resources 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** – The report prescribed by *Form 51-101F2* contains statements to the effect that variations between *reserves data*, *contingent resources data and prospective resources data* and actual results may be *material* but ~~*reserves*~~ *those estimates* have been determined in accordance with the *COGE Handbook*, *which has been* consistently applied.

Reserves and resources other than reserves estimates are made at a point in time, being the *effective date*. A reconciliation of a *reserves and resources other than 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 and resources other than reserves* estimate and the actual results may be due to technical or economic factors. Any variations arising due to technical factors must be consistent with the fact that *reserves and resources other than 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 for

disclosure purposes. 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. Refer to subsection 2.7(4.1)(7) of this Companion Policy respecting the related commentary relating to reporting issuers.

~~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.~~

2.9 Chief Executive Officer

Paragraph 2.1(3)(e) of *NI 51-101* requires a *reporting issuer* to file a report in accordance with *Form 51-101F3* that is executed by the chief executive officer. The term "chief executive officer" should be read to include the individual who has the responsibilities normally associated with this position or the person who acts in a similar capacity. This determination should be made irrespective of an individual's corporate title and whether that individual is employed directly or acts pursuant to an agreement or understanding.

2.10 Reporting Issuer Not a Corporation

If a *reporting issuer* is not a corporation, a report in accordance with *Form 51-101F3* would be executed by the persons who, in relation to the *reporting issuer*, are in a similar position or perform similar functions to the persons required to execute under paragraph 2.1(3)(e) of *NI 51-101*.

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* [and resources other than 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

[\(1\) General](#) - 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 [available](#) 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)~~ [be prepared in accordance with section 5.14](#) 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.

(2) **Supplementary Resources Disclosure** – All public disclosure of *reserves* or *resources* other than *reserves* made by a *reporting issuer* must be made in accordance with Part 5 of *NI 51-101*. This means that *reserves* and *resources* other than *reserves* disclosed publicly by a *reporting issuer* must be *evaluated* in accordance with the *COGE Handbook*. A *reporting issuer* may supplement its disclosure of *reserves* or *resources* other than *reserves* *evaluated* in accordance with an alternative *resources* evaluation standard under section 5.18 of *NI 51-101*, to the extent that such disclosure is not contrary to section 5.18 of *NI 51-101*. Alternative *resources* evaluation standards that the CSA considers acceptable include the SEC's oil and gas disclosure framework and the Petroleum Resource Management System prepared by the Society of Petroleum Engineers.

The CSA are of the view that disclosure is “required under the laws of or by a foreign jurisdiction” when, in order to access the capital markets of a foreign jurisdiction, a reporting issuer is required by that jurisdiction to present reserves or resources other than reserves disclosure in accordance with that jurisdiction’s resources evaluation standard.

If a reporting issuer re-discloses a reserves or resources other than reserves estimate that has been provided in response to the laws of a foreign jurisdiction in public disclosure that has not been required by a foreign jurisdiction (for example, in a news release), a reporting issuer will need to consider whether there is sufficient context in the non-required disclosure to allow a reader of that document to appreciate the nature of the alternative resources evaluation standard and the differences between the estimate prepared under NI 51-101 and the alternative resources evaluation standard.

Paragraphs 5.18(2)(b) and (3)(c) of NI 51-101 require a description of the differences between an estimate prepared under an alternative resources evaluation standard and an estimate prepared under NI 51-101 and the COGE Handbook, and the reasons for those differences, but does not require an actual reconciliation of those estimates

5.2 Disclosure of Reserves and Other Information

- (1) **General** - A reporting issuer must comply with the requirements of section 5.2 of NI 51-101 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~~reserves 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~~recovered. For this reason, the cautionary language prescribed in subparagraph 5.2(1)(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 and resources other than reserves* applying the definitions and using the guidelines set out in the *COGE Handbook*.
 - Entity level probabilistic *reserves and resources other than reserves* estimates should be aggregated arithmetically to provide reported level *reserves and resources other than reserves*.
 - If the evaluator also prepares aggregate *reserves and resources other than reserves* estimates using probabilistic methods, the evaluator should explain in the *evaluation* report the method used. In particular with respect to reserves, 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 and resources other than reserves* that the evaluator prepared using probabilistic methods, the *reporting issuer* should provide a brief explanation, near ~~its~~that disclosure, about the reserves and resources other than reserves definitions used for estimating the *reserves and resources other than 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 volume 1 of the COGE Handbook and subparagraph 5.2(1)(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~~the reporting issuer must ~~also~~ discuss that expectation and its plans for the *property*.

Disclosure of an estimate of *reserves*, *contingent resources* or *prospective resources* in respect of which timely availability of funding for development is not assured may be misleading if that disclosure is not accompanied, proximate to it, by a discussion (or a cross-reference to such a discussion in other disclosure filed by the *reporting issuer* on *SEDAR*) of funding uncertainties and their anticipated effect on the timing or completion of such development (or on any particular stage of multi-stage development such as often observed in ~~oil sands~~oil sands developments).

- (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 reporting issuer and know about the existence of these *reserves* would not be permitted to purchase or sell the securities of the reporting issuer until that information has been disclosed. If the reporting issuer has filed or intends to file 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*. Reporting issuers should review section 10.3 of volume 1 of the COGE Handbook for a discussion on what information is to be included in disclosure about these reserves.
- (7) **Mechanical Updates** - So-called “mechanical updates” of *reserves* and resources other than 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~~result in 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~~so that the information is not misleading.

5.3 Classification of *Reserves* and of *Resources* Other ~~than~~Than *Reserves*

Section 5.3 of *NI 51-101* requires that any disclosure of *reserves* or of *resources* other than *reserves* must apply the applicable categories and terminology set out in the *COGE Handbook*. The definitions of ~~various~~ *resource* 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 of *resources* other than *reserves* must relate to the most specific category of *reserves* or of *resources* other than *reserves* in which the *reserves* or *resources* other than *reserves* can be classified. For instance, there are several ~~subcategories of discovered resources including reserves, contingent resources and~~

~~discovered unrecoverable resources~~ project maturity sub-classes of contingent resources including development pending, development on-hold, development unclarified and development not viable.

Reserves can be characterized as *proved, probable* or *possible* ~~reserves~~, according to the probability that such quantities 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 indicate whether they are *proved, probable* or *possible reserves*.

Reporting issuers that disclose *resources* other than *reserves* must identify those *resources* as *discovered* or *undiscovered* ~~resources~~ except in exceptional circumstances where the most specific category is *total petroleum initially-in-place, discovered petroleum initially-in-place* or *undiscovered petroleum initially-in-place*, in which case the ~~reporting issuer~~ reporting issuer must comply with subsection 5.16(3) of *NI 51-101*.

5.4 Natural Gas By-Products

~~For further guidance on disclosure of reserves and of resources other than reserves, see sections 5.2 and 5.5 of this Companion Policy.~~

Section 5.5 of NI 51-101 does not allow natural gas liquids reserves (NGLs) to be assigned prior to the first point of sale unless the NGLs have been extracted from the natural gas stream. If the NGLs will be extracted prior to the first point of sale, it may be appropriate to disclose NGLs reserves if there is a contract in place that explicitly provides for alternate delivery or marketing arrangements.

~~5.4 Written Consents~~

5.5 Future Net Revenue Not Fair Market Value

~~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, or making direct or indirect reference to the conclusions of that report in the filed Form 51-101F1 and Form 51-101F3). 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.~~

A risked or unrisked net present value of future net revenue is not a measure of fair market value.

5.6 Evaluator or Auditor Consent

Section 4.4 of volume I of the COGE Handbook recommends the preparation of an engagement letter that specifies a "project description confirming the scope and objective of the [evaluation] project". An evaluation report is typically prepared for a particular purpose. CSA staff recommend that reporting issuers seek the consent of the evaluator prior to disclosing information from a report for a purpose other than which the report

was prepared, or for selective disclosure from any report. A requirement for the evaluator's consent to disclose part or all of an *evaluation* is often part of this engagement letter.

5.55.7 Disclosure of *Resources* Other than *Reserves*

- (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* other than *reserves* 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 of *resources* other than *reserves* that are *material* to the *reporting issuer*, even if the disclosure is not mandated by *NI 51-101*. Any such disclosure should be based on supportable analysis.

Disclosure of *resources* other than *reserves* 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 literature⁴¹ 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 *reporting issuer* include an estimate of a *resource* quantity or associated value, as set out below in subsection 5.55.7(3).

If a *reporting issuer* discloses *anticipated results* relating to numerous aggregated *properties*, *prospects* or *resources*, the *reporting 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*

⁴¹

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)

issuer must ensure that its disclosure is reasonable, meaningful and at a level appropriate to its size.

For a *reporting issuer* with ~~only~~a few *properties*, it may be appropriate to make the disclosure for each *property*. ~~Such disclosure may be unreasonably onerous for~~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, the convenience of aggregating *properties* will not justify disclosure of *resources* in a category ~~or subcategory~~ less specific than ~~would otherwise be possible, and~~ required to be disclosed by subsection 5.3~~(1)~~ of *NI 51-101*.

~~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 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~~resources.

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 reporting issuer must disclose the basis of the calculation of the value, in accordance with paragraph 5.9(1)(e) ~~of NI 51-101~~. 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); [of NI 51-101](#). 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) [of NI 51-101](#) 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) [of NI 51-101](#) 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*. [Contingent resources data and prospective resources data disclosed as an appendix \(see Instruction 1 of Part 7 of Form 51-101F1\) to the statement required under item 1 of section 2.1 of NI 51-101 must have been prepared by an independent qualified reserves evaluator or auditor.](#)

If a *reporting issuer* ~~obtains or carries out an evaluation of resources~~ provides disclosure of reserves data, contingent resources data or prospective resources data outside of its annual required filings under section 2.1 of NI 51-101 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~~ should 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.~~ report required by item 2 of section of 2.1 of NI 51-101. 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~~ resources estimate is not an independent ~~resource~~ resources 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.~~

Pursuant to section 5.3 of NI 51-101, the *reporting issuer* must ensure that the estimated ~~resource relates~~ resources relate to the most specific applicable category of *resources* in which the ~~resource~~ resources can be classified. As discussed above in subsection ~~5.5.7~~ 5.5.7(2) of this Companion Policy, if a *reporting issuer* wishes to disclose an aggregate ~~resource~~ resources 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 subsection 5.3(1) of NI 51-101. A reporting issuer should be aware that the disclosure of the summation of volumes from an economic project with an un-economic project may be misleading.

Subsection 5.9(2) of [NI 51-101](#) 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*~~, [101](#) and the [NI 51-101 Glossary](#). Section 5 of volume 1 [and section 2 of volume 2](#) of the *COGE Handbook* and the *NI 51-101 Glossary* identify and define the various ~~*resource*~~ [classes, sub-classes and categories](#). ~~A reporting issuer may wish to report reserves or of resources other than reserves 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 of *resources* other than *reserves* must be consistent with the terminology and categories, set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*.

In addition to disclosing the most specific [applicable](#) category of ~~*resource*~~ [resources](#), the *reporting issuer* may disclose *total petroleum initially-in-place*, *discovered petroleum initially-in-place* or *undiscovered petroleum initially-in-place* estimates provided that the additional disclosure required by subsection 5.16(3) of *NI 51-101* is included.

(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)(d)(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)(d)(iii) ~~of NI 51-101~~. For example, if there is no infrastructure in the region to transport the ~~resource~~ *resources*, this may constitute a significant negative factor relevant to the estimate. Other examples would include *abandonment and reclamation costs*, a significant lease expiry, *theft and sabotage as discussed in section 2.7(7) of this Companion Policy*, 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 or resources* is warranted in order to provide adequate disclosure to investors.

The cautionary language in subparagraph 5.9(2)(d)(v) ~~of NI 51-101~~ 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~~ criteria for determining *commerciality* provided in section 5.3 of volume 1 of the *COGE Handbook*.

~~The general disclosure requirements of paragraph 5.9(2)(d) 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.~~

5.65.8 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. For the purposes of NI 51-101, CSA staff interpret a field to be limited to a single pool or a grouping of several pools within the geographic area or administrative unit from which *product types* can reasonably be recovered. 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 reporting issuer discloses an estimate of its own *reserves* or *resources* other than reserves based on an extrapolation from the *analogous information*, or if the *analogous information* itself is an estimate of its own *reserves* or *resources*, the reporting 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* or resources other than 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.

5.75.8.1 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** Reporting issuers should refer to Appendices~~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(1)(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*.

5.8.2 Oil and Gas Metrics

5.8 — *BOEs and McfGEs*

Section 5.14 of *NI 51-101* sets out requirements that apply ~~if~~ to all oil and gas metrics, including the disclosure of reserves or resources other than reserves by 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~~ A commonly used conversion ratio in the oil and gas industry is 6 *Mcf* of gas to 1 *bbl* of oil. If a reporting issuer uses a 6 *Mcf* to 1 *bbl* ratio, in order to satisfy paragraph 5.14(1)(d) of *NI 51-101*, the reporting issuer should provide a cautionary statement to the following effect:

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 “A *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.

When the value ratio is significantly different from the energy equivalency of 6:1; the disclosure may be misleading without additional information.

Results using conversion ratios other than 6:1 may be disclosed, provided an explanation is given. Section 13 of volume 1 of the *COGE Handbook*, under the heading “Barrels of Oil Equivalent”, provides additional guidance.

Net Asset Value, Reserve Replacement and Netbacks

If a reporting issuer discloses net asset value, reserves replacement or netbacks, additional disclosure will be required by paragraphs 5.14(1)(b) and 5.14(2)(a) of *NI 51-101*. For example, if a reporting issuer discloses

- (a) net asset value or net asset value per share, it would be required to include a description of the methods used to value assets and liabilities and the number of shares used in the calculation,
- (b) reserves replacement, it would be required to include an explanation of the method of calculation applied, or
- (c) netback, it would be required to reflect netbacks calculated by subtracting royalties and operating costs from revenues and state the method of calculation.

5.9 Finding and Development ~~costs~~ Costs

Section ~~5.15~~5.14 of *NI 51-101* sets out requirements that would apply if a *reporting issuer* ~~chooses to make disclosure of~~discloses 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. If a reporting issuer discloses finding and development costs, it must, pursuant to paragraphs 5.14(1)(b) and 5.14(2)(a) of NI 51-101 include the method of calculation, the results of the calculation and 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.~~

5.9.1 Summation of *Resource Categories*

An estimate of quantity or an estimate of value constitutes a summation, disclosure of which is prohibited by subsection 5.16(1) of *NI 51-101*, if that estimate reflects a combination of estimates, known or available to the *reporting issuer*, for two or more of the subcategories enumerated in that provision. There may be circumstances in which a disclosed estimate was arrived at in accordance with the *COGE Handbook* without combining, and without the *reporting issuer* knowing or having access to, estimates in two or more of those enumerated categories. Disclosure of such an estimate would not generally be considered to constitute a summation for purposes of that provision.

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~~a reporting 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 reporting 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 reporting 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, 5.10 and 5.16~~ Part 5 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 reporting 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*** Reserves - Further to the guidance provided in subsection 5.2(46) 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 reporting issuer has filed or intends to file 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 reporting 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 reserve change categories of the *reserves* reconciliation.
- (5) ***Relief to Provide More Recent Form 51-101F1 Information in a Prospectus*** - If ~~an~~ a reporting 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 reporting issuer of the requirement to disclose the *reserves data* and other information as at year-end.

~~An~~ A reporting 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 reporting 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~~ CSA staff may consider granting relief on a case-by-case basis to permit ~~an~~ a reporting 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 [reporting 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 [reporting 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*. [The continuity of ongoing disclosure, including the disclosure of material changes as they happen, is an important factor in keeping investors informed of a reporting issuer's business.](#)

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 51-101~~CP~~
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~~[101](#).

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~~2015
~~CONSTANT FORECAST~~ PRICES AND COSTS ~~[OPTIONAL SUPPLEMENTARY DISCLOSURE]~~

RESERVES CATEGORY	RESERVES ⁽¹⁾							
	LIGHT CRUDE OIL AND MEDIUM CRUDE OIL		HEAVY CRUDE OIL		CONVENTIONAL NATURAL GAS		NATURAL GAS LIQUIDS	
	Gross (Mbbl)	Net (Mbbl)	Gross (Mbbl)	Net (Mbbl)	Gross (MMcf)	Net (MMcf)	Gross (Mbbl)	Net (Mbbl)
PROVED								
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>
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.~~

(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
SUPPLEMENTARY~~

SUMMARY OF NET PRESENT ~~VALUES~~VALUE OF FUTURE NET REVENUE
as of December 31, ~~2006~~2015
~~CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTARY DISCLOSURE]~~
FORECAST PRICES AND COSTS

RESERVES CATEGORY	NET PRESENT VALUE OF FUTURE NET REVENUE										UNIT VALUE BEFORE INCOME TAXES DISCOUNTED AT 10%/year (\$/Mcf \$/bbl)
	BEFORE INCOME TAXES DISCOUNTED AT (%/year)					AFTER INCOME TAXES DISCOUNTED AT (%/year)					
	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	
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 probable reserves, by product type, in the chart for item 2.1(3)(c) of Form 51-101F1 (see sample chart below entitled Future Net Revenue by Product Type).

(2) The unit values are based on net reserves volumes.

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

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

 ~~OPTIONAL
SUPPLEMENTARY~~

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, ~~2006~~2015
~~CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTARY DISCLOSURE]~~
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 2.2 of Form 51-101F1~~
Reference: Item 2.1(3)(b) of Form 51-101F1*

 ~~OPTIONAL
SUPPLEMENTARY~~

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2006
CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTARY 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 SUPPLEMENTARY

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	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xxx</u>	<u>xx</u>
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 PRODUCT TYPE as of December 31, 2015
FORECAST PRICES AND COSTS

<u>RESERVES CATEGORY</u>	<u>PRODUCT TYPE</u>	<u>FUTURE NET REVENUE</u> <u>BEFORE INCOME TAXES</u> <u>(discounted at 10%/year)</u> <u>(M\$)</u>	<u>UNIT VALUE</u> <u>(\$/Mcf)</u> <u>(\$/bbl)</u>
<u>Proved Reserves</u>	<u>Bitumen</u>	<u>xxx</u>	<u>xxx</u>
	<u>Coal Bed Methane</u>	<u>xxx</u>	<u>xxx</u>
	<u>Conventional Natural Gas (including by-products but excluding solution gas and by-products from oil wells)</u>	<u>xxx</u>	<u>xxx</u>
	<u>Gas Hydrates</u>	<u>xxx</u>	<u>xxx</u>
	<u>Heavy Crude Oil (including solution gas and other by-products)</u>	<u>xxx</u>	<u>xxx</u>
	<u>Light Crude Oil and Medium Crude Oil (including solution gas and other by-products)</u>	<u>xxx</u>	<u>xxx</u>
	<u>Natural Gas Liquids</u>	<u>xxx</u>	<u>xxx</u>
	<u>Shale Gas</u>	<u>xxx</u>	<u>xxx</u>
	<u>Synthetic Crude Oil</u>	<u>xxx</u>	<u>xxx</u>
	<u>Synthetic Gas</u>	<u>xxx</u>	<u>xxx</u>
	<u>Tight Oil</u>	<u>xxx</u>	<u>xxx</u>
	<u>Total</u>	<u>xxx</u>	<u>xxx</u>
<u>Proved Plus Probable Reserves</u>	<u>Bitumen</u>	<u>xxx</u>	<u>xxx</u>
	<u>Coal Bed Methane</u>	<u>xxx</u>	<u>xxx</u>
	<u>Conventional Natural Gas (including by-products but excluding solution gas and by-products from oil wells)</u>	<u>xxx</u>	<u>xxx</u>
	<u>Gas Hydrates</u>	<u>xxx</u>	<u>xxx</u>
	<u>Heavy Crude Oil (including solution gas and other by-products)</u>	<u>xxx</u>	<u>xxx</u>
	<u>Light Crude Oil and Medium Crude Oil (including solution gas and other by-products)</u>	<u>xxx</u>	<u>xxx</u>
	<u>Natural Gas Liquids</u>	<u>xxx</u>	<u>xxx</u>
	<u>Shale Gas</u>	<u>xxx</u>	<u>xxx</u>
	<u>Synthetic Crude Oil</u>	<u>xxx</u>	<u>xxx</u>
	<u>Synthetic Gas</u>	<u>xxx</u>	<u>xxx</u>
	<u>Tight Oil</u>	<u>xxx</u>	<u>xxx</u>
	<u>Total</u>	<u>xxx</u>	<u>xxx</u>

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

SUMMARY OF PRICING ASSUMPTIONS
as of December 31, ~~2006~~2015

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/Mixed Sweet Blend Price 40° API (\$Cdn/bbl)	Hardisty Heavy 12° API (\$Cdn/bbl)	Cromer Medium 29.3° API (\$Cdn/bbl)			
Historical (Year End)							
2012	xx	xx	xx	xx	xx	xx	xx
2013	xx	xx	xx	xx	xx	xx	xx
2014	xx	xx	xx	xx	xx	xx	xx
2015 (Year End)	xx	xx	xx	xx	xx	xx	xx

(1) This disclosure is triggered by optional supplementary 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*

 OPTIONAL
SUPPLEMENTARY

SUMMARY OF PRICING AND INFLATION RATE ASSUMPTIONS
as of December 31, ~~2006~~2015
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 Mixed Sweet Blend Price 40° API \$Cdn/bbl	Hardisty Heavy 12° API \$Cdn/bbl	Cromer Medium 29.3° API \$Cdn/bbl				
Historical ⁽⁴⁾								
2003 2012	XX	XX	XX	XX	XX	XX	XX	XX
2004 2013	XX	XX	XX	XX	XX	XX	XX	XX
2005 2014	XX	XX	XX	XX	XX	XX	XX	XX
2006 2015	XX	XX	XX	XX	XX	XX	XX	XX
Forecast								
2007 2016	XX	XX	XX	XX	XX	XX	XX	XX
2008 2017	XX	XX	XX	XX	XX	XX	XX	XX
2009 2018	XX	XX	XX	XX	XX	XX	XX	XX
2010 2019	XX	XX	XX	XX	XX	XX	XX	XX
2011 2020	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~~,2014, in this example).

 OPTIONAL
SUPPLEMENTARY

Reference: Item 3.2 of *Form 51-101 F1*

**RECONCILIATION OF
COMPANY GROSS RESERVES
BY PRODUCT TYPE⁽¹⁾
FORECAST PRICES AND COSTS**

FACTORS	LIGHT <u>CRUDE OIL</u> AND MEDIUM <u>CRUDE OIL</u>			HEAVY <u>CRUDE OIL</u>			ASSOCIATED AND NON-ASSOCIATED <u>CONVENTIONAL</u> <u>NATURAL GAS</u>		
	Gross Proved (Mbbbl)	Gross Probable (Mbbbl)	Gross Proved Plus Probable (Mbbbl)	Gross Proved (Mbbbl)	Gross Probable (Mbbbl)	Gross Proved Plus Probable (Mbbbl)	Gross Proved (MMcf)	Gross Probable (MMcf)	Gross Proved Plus Probable (MMcf)
December 31, 2005 <u>2014</u>	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 <u>2015</u>	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

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

Reference: Item 4.1 of Form 51-101F1

SUMMARY OF RISKED OIL AND GAS CONTINGENT RESOURCES⁽¹⁾
as of December 31, 2015
FORECAST PRICES AND COSTS

<u>RESOURCES</u> <u>PROJECT</u> <u>MATURITY SUB-</u> <u>CLASS</u>	<u>CONTINGENT RESOURCES⁽²⁾</u>							
	<u>LIGHT CRUDE OIL</u> <u>AND</u> <u>MEDIUM CRUDE OIL</u>		<u>HEAVY</u> <u>CRUDE OIL</u>		<u>CONVENTIONAL</u> <u>NATURAL GAS</u>		<u>NATURAL GAS</u> <u>LIQUIDS</u>	
	<u>Gross</u> <u>(Mbbbl)</u>	<u>Net</u> <u>(Mbbbl)</u>	<u>Gross</u> <u>(Mbbbl)</u>	<u>Net</u> <u>(Mbbbl)</u>	<u>Gross</u> <u>(MMcf)</u>	<u>Net</u> <u>(MMcf)</u>	<u>Gross</u> <u>(Mbbbl)</u>	<u>Net</u> <u>(Mbbbl)</u>
<u>CONTINGENT (2C)</u> <u>Development</u> <u>Pending</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>

(1) This disclosure is triggered by optional disclosure of *contingent resources* in the statement prepared in accordance with item 1 of section 2.1 of *NI 51-101*. Disclosure of risked estimates of volume are required under item 7.1(1)(a) of *Form 51-101F1*.

(2) Other *product types* must be added if *material*.

(3) The disclosure in this table must comply with and include the disclosure required by section 5.9 of *NI 51-101*, including section 5.9(2)(d).

(4) A *reporting issuer* should consider whether the disclosure of *development unclarified* or *development not viable sub-classes contingent resources* in the statement of *reserves data* and other *oil and gas* information would be misleading given the uncertainty and risk associated with those estimates. Section 2 of volume 2 of the *COGE Handbook* details *commerciality factors*.

 OPTIONAL
SUPPLEMENTARY

Reference: Item 7.1(a) of Form 51-101F1

SUMMARY OF RISKED NET PRESENT VALUE OF FUTURE NET REVENUE⁽¹⁾
(CONTINGENT RESOURCES)
as of December 31, 2015
FORECAST PRICES AND COSTS

An estimate of risked net present value of future net revenue of contingent resources is preliminary in nature and is provided to assist the reader in reaching an opinion on the merit and likelihood of the company proceeding with the required investment. It includes contingent resources that are considered too uncertain with respect to the chance of development to be classified as reserves. There is no certainty that the estimate of risked net present value of future net revenue will be realized.

<u>RESOURCES PROJECT</u> <u>MATURITY SUB-</u> <u>CLASS</u>	<u>RISKED NET PRESENT VALUE OF FUTURE NET REVENUE</u>									
	<u>BEFORE INCOME TAXES</u>					<u>AFTER INCOME TAXES</u>				
	<u>DISCOUNTED AT (%/year)</u>									
	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>
	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>	<u>(MM\$)</u>
<u>CONTINGENT (2C)</u> <u>Development</u> <u>Pending</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>

(1) This disclosure is triggered by optional disclosure of contingent resources in the statement prepared in accordance with item 1 of section 2.1 of NI 51-101

(2) The disclosure in this table must comply with and include the disclosure required by section 5.9 of NI 51-101.

 OPTIONAL
SUPPLEMENTARY

Reference: Item 7.1(b) of Form 51-101F1

SUMMARY OF RISKED OIL AND GAS PROSPECTIVE RESOURCES⁽¹⁾
as of December 31, 2015
VOLUMES

<u>RESOURCES</u>	<u>PROSPECTIVE RESOURCES⁽²⁾</u>							
	<u>LIGHT CRUDE OIL AND MEDIUM CRUDE OIL</u>		<u>HEAVY CRUDE OIL</u>		<u>CONVENTIONAL NATURAL GAS</u>		<u>NATURAL GAS LIQUIDS</u>	
	<u>Gross (Mbbbl)</u>	<u>Net (Mbbbl)</u>	<u>Gross (Mbbbl)</u>	<u>Net (Mbbbl)</u>	<u>Gross (MMcf)</u>	<u>Net (MMcf)</u>	<u>Gross (Mbbbl)</u>	<u>Net (Mbbbl)</u>
<u>PROSPECTIVE (Best Estimate)</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>

(1) This disclosure is triggered by optional disclosure of *prospective resources* in the statement prepared in accordance with item 1 of section 2.1 of *NI 51-101*. Disclosure of risked estimates of volume are required under Item 7.2(1) of *Form 51-101F1*

(2) Other *product types* must be added if *material*.

(3) The disclosure in this table must comply with and include the disclosure required by section 5.9 of *NI 51-101*

(4) A *reporting issuer* should consider whether the disclosure of *prospective resources* in the statement of *reserves data* and other *oil and gas* information would be misleading given the uncertainty and risk associated with those estimates.

 OPTIONAL
SUPPLEMENTARY

Reference: Item 7.2(a) of *Form 51-101F1*