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East Coast Project Financing
Issues

In this article, the authors provide a comprehensive review of project financing as a means to fund oil and gas projects in the Atlantic Canada offshore. In particular, the nature and characteristics of project financing are examined, together with a review of some recent East Coast project financings and an analysis of the legal and contractual framework that comes into play. This is followed by an extensive discussion on the structuring of a project financing including a consideration of the risks involved and how those risks may be allocated.

Dans cet article, les auteurs approfondissent la question du financement de projet comme moyen de financement des projets d'exploitation pétrolière et gazière extracôtière le long des côtes du Canada Atlantique. Ils examinent la nature et les caractéristiques des accords de financement, font le bilan des opérations de financement de certains projets récents de la côte Atlantique et décortiquent le cadre législatif et contractuel qui entre en ligne de compte. Ils terminent par un exposé fort détaillé sur la structuration du financement de projet en prenant en considération la nature et la répartition des risques.

I. Nature of Project Finance

II. Characteristics of a Project Financing

III. Recent East Coast Project Financings

IV. Constitutional and Legal Framework

V. Project Agreements

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I. *Nature of Project Finance*

Lenders providing project financing generally agree to look to the project itself, rather than the sponsors or participants, as the primary source of revenues to repay and service the financing. In such cases the collateral are the revenues derived from the project and the assets of the project used to produce them. The recourse of the lenders is generally limited to those assets and revenues, and does not extend, except through specifically negotiated credit supports or enhancements, to the participants in the project or their sponsors.¹ The returns of the lenders do not usually include participation in the project upside — through a royalty, net profit interest or other form of participation. They are generally limited to the margin earned on the money they lend over the cost of funds² and the fees they may earn for performing various related services.

1. Project financing has been defined as the “financing of a particular economic unit in which a lender is satisfied to look initially to the cash flows and earnings of that unit as the source of funds from which a loan will be repaid and to the assets of the economic unit as collateral for the loan.” P.K. Nevitt & F.J. Fabozzi, *Project Financing*, 7th ed. (London: Euromoney Books, 2000) at 1, as quoted, from 1st ed., in S.E. Rauner, “Project Finance: A Risk Spreading Approach to the Commercial Financing of Economic Development” (1993) 24 *Harv. Int’l L.J.* 145 at 155.

In Graham Vinter’s *Project Finance*, 2d ed. (London: Sweet & Maxwell, 1998) at xxxi, Vinter defines his subject as “financing the development or exploitation of a right, natural resource or other asset where the bulk of the financing is not to be provided by any form of share capital and is to be repaid principally out of revenues produced by the project in question.”

Hoffman describes “project finance” as “a nonrecourse or limited recourse financing structure in which debt, equity, and credit enhancement are combined for the construction and operation, or the refinancing of a particular facility in a capital-intensive industry, in which lenders base credit appraisals on the projected revenues from the operation of the facility, rather than on the general assets or the credit of the sponsor of the facility, and rely on the assets of the facility, including any revenue-producing contracts and other cash flow generated by the facility, as collateral for the debt.” S.L. Hoffman, “The Law and Business of International Project Finance: a resource for governments, sponsors, lenders, lawyers and project participants” (Kluwer Law International, 2000) at 4-5. See also S.L. Hoffman, “A Practical Guide to Transactional Project Finance: Basic Concepts, Risk Identification, and Contractual Considerations” (1989) 45 *Bus. Law.* 181 at 181, note 1.

Wynant states that “project financing is a financing of a major independent capital investment that the sponsoring company has segregated from its assets and general purpose obligations. The economic prospects of the project, combined with commitments from the sponsor and third parties, provide the support for extensive borrowings carrying limited financial recourse to the parent company.” L. Wynant, “Essential Elements of Project Financing” (1980) *Harv. Bus. Rev.* 165 at 166. See also P.R. Wood, *Law and Practice of International Finance: Project Finance, Subordinated Debt and State Loans* (London: Sweet & Maxwell, 1995) at 3.

2. S. Mills, “Project Financing of Oil and Gas Field Developments” (1994) 8 *J. Int’l Bank. L.* 305 at 306.

II. Characteristics of a Project Financing

1. General

A project financing structure generally includes:

- (a) debt obligations issued by the participants (or a vehicle controlled by the participants) in the project, with specified obligations for repayment of principal and of debt service costs, and remedies for failure to perform those obligations;
- (b) limitations on the recourse the lenders holding those debt obligations have in the event of the failure to perform those obligations, which generally involve the lenders accepting some of the risks associated with the project;³
- (c) a set of full or qualified recourse obligations from the participants or the project entity to the lenders designed to ensure the fundamental underpinnings of the project (compliance with regulatory requirements, maintenance of corporate status of participants, *etc.*) on which the lenders rely in accepting or sharing the risks for which their recourse is limited;
- (d) collateral security on the hard assets of the project and the revenues resulting from the operation of the project, to ensure servicing and repayment of the debt obligations; and
- (e) credit enhancement arrangements between the lenders and the participants, project sponsors or other persons having an interest on the project (such as suppliers, customers or users of the product or service the project produces).⁴

Because project financing involves negotiated contractual arrangements that shift rights and responsibilities between the parties, it is essentially a legal solution to some of the major problems of financing economic development.⁵

Participants may wish to project finance, even though the cost of such financing may be higher than they are able to obtain on their own credit, because of:

- (a) a desire to husband the use of corporate resources and preserve flexibility by avoiding too large a commitment to any one project;
- (b) increasing the debt element of project funding and, potentially, the return on equity if the project is successful;⁶
- (c) concerns over common liabilities in a joint venture arrangement particularly where a participant is financially stronger than some of the other participants;⁷

3. Vinter, *supra* note 1 at 5; see also Wynant, *supra* note 1 at 166.

4. Hoffman, *supra* note 1 at 184; Wynant, *ibid.*

5. Rauner, *supra* note 1 at 145.

6. Mills, *supra* note 2 at 305.

7. Wynant, *supra* note 1 at 172; Mills, *ibid.*

- (d) the fact that having more stakeholders involved in the project (such as major international lenders) can sometimes give the project a better negotiating position on political issues;⁸
- (e) a desire to limit the adverse impact on the participants' general borrowing costs by limiting the adverse effect on credit ratings or borrowing capacities;⁹
- (f) the enormous costs of some projects and the drain on cash flow their funding would represent if financed internally by the participants;¹⁰ and
- (g) a desire to lay off or limit specific risks.¹¹

2. *Recourse*

An important aspect of a project financing is the opportunity for the borrower to limit the lenders' recourse, in circumstances where the project does not provide the revenue required to satisfy the project debt, to realization in respect of the project assets and the revenues produced by the project, as opposed to recovery from the borrower through recourse on corporate covenants or other forms of direct recourse obligations. It is this limited recourse feature that is the hallmark of a true project financing.¹² And it is the tension involved in the definition of the circumstances in which the lenders' recourse will be limited to the underlying assets and revenues, with the risks attendant on the failure to produce the required revenues, that makes negotiating a project financing arrangement such a challenging exercise. Lenders may be prepared to accept specific project risks such as reserves, reservoir, market and the like, but only if the required underpinnings of the project are in place. The limited recourse of the lenders is often predicated upon a series of full or qualified recourse covenants and undertakings from the participants directed at assuring the lenders that the fundamental structure of the project they are lending on the basis of will be preserved.¹³

3. *Security*

In a project financing, the lenders take security on the hard assets that make up the project facilities, often through fixed charges (where appropriate) and a general floating charge, as well as a variety of specific charges or security interests, depending on the nature of the assets.

8. See L.T. Wells and E.S. Gleason, "Is Foreign Infrastructure Investment Still Risky?" (1995) 73 Harv. Bus. Rev. 44 at 53.

9. Vinter, *supra* note 1 at 23; Mills, *supra* note 2 at 305.

10. Rauner, *supra* note 1 at 154.

11. Mills, *supra* note 2 at 305.

12. Woods, *supra* note 1 at 23.

13. Vinter, *supra* note 1 at 5.

These tangible assets of the project, particularly in the offshore area, generally do not represent sufficient security for the project loan. The real security for the loan is the revenue resulting from the sale of production from the project or the use of the project facilities. It is this revenue the lender must be assured of in order to justify the project financing. Accordingly, when considering whether to finance on a project finance basis, the lender will consider whether

- (a) project costs until project completion can be satisfied and specified performance standards can be achieved without requiring contributions from the lenders,
- (b) there is recourse to creditworthy parties if the project is not completed or does not attain the required levels of performance,
- (c) project revenues will be sufficient to cover repayment of the project finance debt, debt service and operating costs in the currencies that such debt service and operating costs are required to be paid, and
- (d) there are reliable arrangements in place to ensure that project revenues will be allocated to repay and service the project finance debt.¹⁴

4. *Project Financing of Separate Interests*

Project financing may be done on an entire project or on the separate interest of an individual participant. The latter is more complicated, particularly if some participants do not require project financing. The very nature of an undivided interest in a project, and the web of project agreements that may require modification for project financing purposes when some of the participants are not using project finance, present challenges for the lenders and the participants that wish to project finance. In some projects the participants (joint venture or otherwise) use a single purpose corporation to manage the project, and the project financing is done on a separate unit basis with required collateral support (such as guarantees, direct agreements, reserve funds, *etc.*) from the individual participants. The opportunities to limit recourse where such a single purpose entity is used are obvious. Absent circumstances in which a court might pierce the corporate veil, the only recourse to the participants themselves beyond the assets held by the entity will be that provided through specific credit enhancements bargained for and granted by the participants, such as guarantees, back stop arrangements, debt service or reserve accounts, assignments of project revenues or the like. In some major East Coast projects, however, the project financing has been done on the basis of the separate undivided interests of the individual partici-

14. *Ibid.* at 103-04.

pants. In the Hibernia project, each of the initial participants entered into a project loan facility with the lenders, with respect to the participant's separate undivided interest in the project. In the Terra Nova project, only Husky has to date done a project financing and that was with respect to its undivided interest in the project.

III. *Recent East Coast Project Financings*

In recent years there have been a number of East Coast project financings. We examine four of them.

1. *Hibernia Development Project*

In 1991, project financing arrangements were entered into with respect to the Hibernia development project, an offshore oil development project located approximately 315 kilometres east-southeast of St. John's, Newfoundland. The current owners of Hibernia are Mobil Oil Canada Properties, Mobil Canada Hibernia Company Ltd., Petro-Canada Hibernia Partnership, Chevron Canada Resources, Murphy Atlantic Offshore Oil Company Ltd., Norsk Hydro Canada Oil & Gas Inc. and Canada Hibernia Holding Corporation. Pursuant to agreements entered into in 1990 between the Government of Canada and the then-owners of Hibernia relating to the provision of financial assistance facilities for the project, a \$1.66 billion primary guarantee facility was provided by Canada. The facility allowed the owners, under certain circumstances, to issue debt instruments in order to raise money for construction costs for the project backed by a Government of Canada guarantee. Canada held security on the project assets that was not dissimilar to that found in a project financing. The policy of the Government of Canada at the time required that when the government provided financial assistance to a project, such as the primary guarantee facility, third party lenders be involved in the project to provide ongoing monitoring in respect of the project and to assume a portion of the project financing risk. Pursuant to the project financing arrangements relating to Hibernia, the owners received a financial commitment from the project lenders to provide, after production start-up, \$415 million in project financing subject to satisfaction of predetermined drawdown tests relating to project economics. If drawdown occurred, the project loan facility would replace 25 percent of the government guaranteed financing under an owner's primary guarantee facility. The repayment of the project loan facilities would not be guaranteed by Canada. The project lenders also committed to provide Canada with fiscal and monitoring services in respect of the project, similar to those that a lead lender would customarily provide to a syndicated lending group.

2. *Husky Terra Nova Finance Ltd.*

The Terra Nova oil development project¹⁵ involves the development, construction and operation of a floating production and storage facility (FPSO) to exploit the crude oil reserves of the Terra Nova oil field located in the Jeanne d' Arc Basin, off the East Coast of Newfoundland. The Terra Nova project owners are again a consortium of oil companies including Petro-Canada Terra Nova Partnership, Mobil Oil Canada Properties, Husky Terra Nova Partnership, Norsk Hydro Canada Oil & Gas Inc., Murphy Oil Company Ltd., Mosbacher Operating Ltd. and Chevron Canada Resources.

Husky Terra Nova Partnership, which holds an undivided interest in Terra Nova through Husky Terra Nova Finance Ltd. (Finance), a funding vehicle and direct wholly owned subsidiary of the partnership, issued U.S. \$250 million senior secured bonds due in 2012. The partnership will use the proceeds of the issue to fund 67 percent of its share of the Terra Nova project. The partnership has pledged all of its rights under its undivided interest in the project to the bondholders to secure the bond obligations. Finance has a first claim on all revenues the partnership receives from its sale of Terra Nova crude oil, with the result that the debt servicing and repayment of the bonds has a priority claim to those revenues subject only to provincial royalty claims on certain assets and the claims of other owners who have funded the partnership's share of operating costs following a default by the partnership in funding those costs.

Husky Oil Operations Ltd. (HOOL) will provide the partnership with all transportation services necessary to ship its Terra Nova crude oil to market pursuant to a transportation and marketing services agreement. In order to meet this obligation to the partnership, HOOL has entered into transportation agreements that relate to tanker capacity and a transshipment facility.¹⁶

HOOL's interest in the production licence, which allows HOOL to benefit from the oil extracted from the field and provide cash flow to Finance, will be assigned to the partnership. All revenues received by the partnership will be deposited directly with a trustee for the benefit of the bondholders.¹⁷ Under the terms of the development and operating agreement and through an additional undertaking by HOOL to the bondhold-

15. The description of the project is taken from Standard & Poor's, "Husky Terra Nova Finance Ltd." *Ratings Direct* (25 August 1999) [hereinafter "S & P Husky Terra Nova"].

16. *Ibid.* at 17.

17. *Ibid.*

ers, HOOL remains liable for funding the project's royalty and operating costs and incremental capital expenditures over the term of the agreement.¹⁸

The lending structure permits Finance to incur additional debt, subject to a rating confirmation requirement taking into account the incidence of the debt. If reserves, as demonstrated by an annual reserve test, are less than 90 percent of the partnership's base forecast, the partnership will be required to fund into a debt service reserve account an amount equal to the percentage of the remaining debt service on the bonds that is equivalent to the reduction in the reserves. If a reserve report after 2005 does not demonstrate proved reserves of at least 70 million barrels in the years beyond the final debt maturity date (the "tail" period), the Partnership will be required to fund an additional amount equal to the last three years of debt service.¹⁹

3. *Maritimes & Northeast Pipeline*

The Maritimes & Northeast Pipeline²⁰ consists of Canadian and United States mainlines and laterals. The Canadian mainline consists of 352 miles of pipeline extending from the outlet point of a hydrocarbon processing plant near Goldboro, Nova Scotia to the U.S. border near St. Stephen, New Brunswick, with a lateral to Point Tupper, Nova Scotia. The U.S. mainline is a 306-mile pipeline from the international border to the interconnection with Tennessee Gas Pipeline Co. near Dracut, Massachusetts. The Canadian pipeline is owned by Maritimes & Northeast Pipeline Limited Partnership (Maritimes-Canada), a New Brunswick limited partnership, and the United States pipeline is owned by Maritimes & North East LLC, a Delaware limited liability company. Both pipeline owners are affiliates of Duke Energy, Westcoast Energy, Mobil Corporation and Nova Scotia Power. The pipeline transports gas produced by the Sable Offshore Energy Project in the offshore region of Nova Scotia. Sable involves facilities both onshore and offshore which will produce, transmit and process the natural gas from the fields. Gas will be collected from offshore production platforms and transported by a submarine pipeline to the gas plant at Goldboro, Nova Scotia. The natural gas liquids, separated from the gas, will then be transported by an onshore liquids pipeline from Country Harbour for further processing and shipping at the liquids processing facility in Port Tupper, Cape Breton. The Sable Offshore Energy Project is owned by Sable Offshore Energy Inc.,

18. *Ibid.* at 18.

19. *Ibid.* at 17.

20. The description of the project is taken from Standard & Poor's, *Ratings Direct: Maritimes & Northeast Pipeline L.P.* (14 June 1999).

which is in turn owned directly or indirectly by Mobil, Shell Canada Ltd., Imperial Oil Resources Limited, Nova Scotia Resources Ltd. and Mosbacher Operating Ltd.

The Maritimes & Northeast Project participants have issued bonds in the United States and Canada. The proceeds will be used to pay the costs of constructing American and Canadian portions of the project and related facilities, as well as to repay certain previously incurred indebtedness. The bonds are secured by (a) a perfected, first-priority pledge of the contract revenues; (b) a perfected, first-priority lien on the funds in the collateral accounts under the trust indenture; (c) a perfected, first-priority pledge of member interests in the pipeline; and (d) a floating charge on the property of Maritimes-Canada.

There is a sponsor completion guarantee in place for the pipeline project. A substantial portion of the United States capacity and the Canadian capacity (90 percent or more in each case) is contracted under firm service agreements (FSAs). The majority of the project's contracted volumes under the FSAs are with shippers rated at least A- by Standard & Poor. The risk of shipper defaults and FSAs expiring before the bonds mature are covered by pipeline utilization agreements (PUAs) with the Sable producers that provide payments for unsubscribed capacity. Mobil has given a backstop obligation to pay for unsubscribed capacity to the extent it is not transported or paid for pursuant to the PUAs.

4. Newfoundland Transshipment Terminal

The Newfoundland Transshipment Terminal at Whiffenhead, Newfoundland commenced operations in 1999. It is owned by Newfoundland Transshipment Ltd. (NTL), which is in turn owned, directly or indirectly, by affiliates of Chevron Canada Resources Limited, Mobil Oil Canada Ltd., IMTT-NTL Ltd., Petro-Canada, Norsk Hydro Canada Oil & Gas Inc., Murphy Atlantic Offshore Oil Company Ltd. and Husky Oil Operations Ltd. NTL has contracted an international terminal operator, International Matex Tank Terminals, to manage and operate the terminal.

The NTL facility has three heated crude oil storage tanks and a berth that can accommodate 35,000- to 150,000-deadweight-ton tankers, as well as other facilities to load and unload vessels carrying oil from the oil producing projects in the region (such as Hibernia and Terra Nova) to markets in Canada, the U.S. and other parts of the world. Additional tanks and another berth are in the process of being added this year.

The costs of constructing the NTL facility were financed in part by a project financing facility put in place with a syndicate of banks. Because there have been no public issues of securities in connection with this project financing, there is very little public information available about

the financing itself. The participants in the producing projects are each customers of NTL and their commitments to take and pay for storage space in the terminal pursuant to reserved capacity service agreements are important factors in the project financing of the facility.

IV. *Constitutional and Legal Framework*

To talk of a typical offshore structure is somewhat misleading. The very size and complexity of offshore energy projects results in each one being unique. The number of East Coast offshore projects is relatively small, making generalizations all the more difficult. The Canadian East Coast legal and fiscal regimes are themselves unique and still evolving. Nevertheless, some general observations on project structure can be made. We will discuss the constitutional setting that is the backdrop to the current legal framework applicable to the East Coast offshore, the current federal-provincial joint resource management regimes, political risk issues, the rights tenure system, royalty structures, ownership and operating arrangements and construction, lifting, transportation and production sales issues.

1. *Constitutional Setting*

The legal regime applicable to East Coast offshore energy development has evolved in response to competing claims to jurisdiction over offshore mineral resources. The Government of Canada and coastal provinces for many years engaged in a constitutional debate over which level of government has legislative jurisdiction over, and ownership of, offshore resources. A series of Supreme Court of Canada decisions²¹ and a decision of the Newfoundland Court of Appeal²² appeared to resolve the matter in favour of the federal government, at least insofar as the continental shelf proper is concerned. Coastal provinces have, however, refused to accept these decisions as determinative of the jurisdictional issue and have continued to assert jurisdiction over mineral resources in the continental shelf adjacent to their shores. As well, certain legal scholars have argued that the decisions of the courts are wrong, citing historical reasons and constitutional and international law principles.²³

21. *Reference Re Offshore Mineral Rights of British Columbia*, [1967] S.C.R. 792; *Reference Re the Seabed and Subsoil of the Continental Shelf Offshore Newfoundland*, [1984] 1 S.C.R. 86 [hereinafter the *Hibernia Reference*]; and *Canada (A.G.) v. British Columbia (A.G.)*, [1984] 4 W.W.R. 289 (S.C.C.).

22. *Reference Re Mineral and Other Natural Resources of the Continental Shelf* (1983), 145 D.L.R. (3d) 9 (Nfld. C.A.).

23. For example, see E.A. Fitzgerald, "The Newfoundland Offshore Reference: Federal-Provincial Conflict Over Offshore Energy Resources" (1991) 23 Case W. Res. J. Int'l L. 1.

2. *Joint Resource Management*

Ongoing jurisdictional disputes are not conducive to offshore energy development. Investment decisions by project participants and lending decisions by project lenders are hampered when the fundamental legal structure in which a project is to be developed is uncertain. In the East Coast offshore region, this issue has been dealt with as a practical matter, if not finally resolved from a constitutional perspective, by agreements between the Government of Canada and each of the provinces of Newfoundland and Nova Scotia establishing joint offshore resource management regimes. On 11 February 1985 the Government of Canada and the Government of Newfoundland and Labrador entered into the Atlantic Accord. The Canada-Nova Scotia Offshore Petroleum Resources Accord was signed the following year (The Atlantic Accord and the Canada-Nova Scotia Offshore Petroleum Resources Accord will be referred to collectively as the Accords and individually as an Accord). Each Accord has been implemented through complementary federal and provincial legislation.²⁴

The *Accord Acts* are important from a project financing perspective. They exhibit the political resolve of the federal and provincial governments to provide the long-term, stable political environment necessary to foster offshore energy development. They also establish the legal framework in which offshore projects will operate.

3. *Political Issues*

It seems somewhat unnatural for Canadians to analyze our own industrial development from a political risk perspective apart, perhaps, from the question of Quebec secession. Canada is one of the most stable democracies in the world. Nevertheless, lenders, investment bankers and rating agencies should and often do consider political risk in connection with the financing of any large energy project, particularly where recourse in cases of default is limited to the project assets in whole or part.

This is not to suggest that there is a significant degree of political risk associated with East Coast offshore energy projects. However, as noted above, the *Accord Acts* do not resolve the question of offshore jurisdiction as much as they put the fundamental question of jurisdiction on suspension. The Accords and the *Accord Acts* are based on a “mirror image” concept. The federal *Accord Acts* and the provincial *Accord Acts* are

24. *Canada-Newfoundland Atlantic Accord Implementation Act*, S.C. 1987, c. 3; *Canada-Newfoundland Atlantic Accord Implementation Newfoundland Act*, R.S.N. 1990, c. C-2; *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, S.C. 1988, c. 28; and *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act*, S.N.S. 1987, c. 3 [hereinafter referred to collectively as the *Accord Acts*].

essentially mirror images of one another. They are based on the notion that neither level of government has conceded jurisdictional authority. The mirror allows each level of government to put aside jurisdictional claims while at the same time ensuring that, ultimately, whichever government has jurisdiction and whichever statute (federal or provincial) ultimately governs, the same set of rules applies to offshore energy development. While this is of enormous benefit to the oil and gas industry, there are some risks that the industry, project lenders and rating agencies must be aware of. These risks should be brought to their attention and assessed in the due diligence process.

A fundamental risk exists because the integrity and stability of the East Coast offshore regime relies on the political goodwill and cooperative efforts of the federal and provincial governments. Absent these, the system could break down. Bitter intergovernmental disputes (such as those underlying the National Energy Program of the early 1980s and resulting provincial responses) are not unknown in Canada and could reappear in the future. Currently, however, there is nothing of this nature on the horizon. The *Accords* have proven to be quite robust.

How might the current federal-provincial joint resource management regime break down? First, the *Accord Acts* and any regulations promulgated thereunder must maintain the mirror. As amendments to the legislation are made and as regulations are enacted, each level of government must act in tandem. If the political will to do so erodes, the regime could begin to disintegrate, with different levels of government enacting different rules. This would undoubtedly lead to protracted and costly litigation, leaving project participants and their financiers in limbo as they await the outcome. The outcome might not be pleasant, particularly, if the rules of the game in effect at the outset of the project are changed substantially in a way that adversely affects project economics. An alteration in the royalty or other fiscal aspects of a project would be a case in point. A change in the legal and regulatory framework is a risk in any project. On the East Coast of Canada, given the joint resource management regime in effect, that risk could be considered greater.

A possible source of federal-provincial dispute arises from the very nature and operation of the boards established to administer the regime, the Canada-Newfoundland Offshore Petroleum Board and the Canada-Nova Scotia Offshore Petroleum Board. The boards are intended to operate as independent regulatory bodies and are responsible for a wide variety of matters including issuing licences, regulating offshore operations and approving development plans. A board's independence is limited, however, in respect of what the *Accord Acts* prescribe as fundamental decisions. Fundamental decisions include such matters as

approving development plans and cancelling licences for non-compliance with the legislation. Fundamental decisions may be implemented by a board only after approval by both the federal and provincial energy ministers. The *Accord Acts* contemplate that the ministers will cooperate with one another to reach consensus on fundamental decisions. If such consensus cannot be reached, the legislation provides an intricate set of overriding and suspensive vetoes. Generally, the federal minister has the overriding discretion to implement a fundamental decision during periods when Canada does not enjoy energy self-sufficiency and security of supply. This overriding discretion shifts to the provincial minister during periods when Canada has attained energy self-sufficiency and security of supply. A special rule applies in relation to the decision to approve or disapprove a development plan or amendment thereof. The provincial minister has the overriding discretion in this matter unless the federal minister determines that the provincial minister's decision would unreasonably delay the attainment of energy self-sufficiency and security of supply. Under the *Accord Acts*, the determination of energy self-sufficiency and security of supply is made for successive five-year periods. At present, Canada is not considered to enjoy energy self-sufficiency and security of supply.

This intricate balance between federal and provincial power highlights the delicate legal framework within which offshore energy projects on Canada's East Coast will be developed. So far, the Accords, while not perfect, have worked reasonably well and represent a pragmatic approach to dealing with the jurisdictional issue. Nevertheless, the cooperative approach exhibited to date may not last. Offshore energy projects take years to develop to first production and are generally expected to have field lives of one or two decades. Even if the federal and provincial governments maintain a cooperative approach to offshore joint resource management, there can be no assurance that a set of circumstances will not arise in the future where a non-government party determines that it is in its interest to challenge the constitutionality of the joint management regime.

4. *Tenure of Rights*

Under the *Accord Acts*, there is a three-tiered land tenure system, consisting of exploration licences, significant discovery licences and production licences. Under an exploration licence, the holders are granted the right to explore for hydrocarbons for a fixed period. At the end of that period, the lands subject to the licence revert to Crown reserve unless a significant discovery of hydrocarbons has been made.

If a significant discovery has been made, the holders of an exploration licence are entitled to apply for and receive a significant discovery licence in respect of the area of the significant discovery. A significant discovery licence has an indefinite term recognizing the long lead time necessary to delineate and evaluate offshore reserves. Holders of significant discovery licences are not required to establish the commerciality of the discovery but, rather, simply to establish that the discovery warrants further work.

Once the commerciality of a discovery is established, the holders of a significant discovery licence have the right to apply for and receive a production licence for the commercial discovery area. Holders of a production licence have the exclusive right to produce petroleum substances from the area to which the licence applies and obtain title to the petroleum produced. A production licence has a term of twenty-five years and continues in force for so long thereafter as production continues or the licence area remains capable of commercial production. If a commercial discovery is made, it is possible to proceed directly from the exploration licence to a production licence. This was the case with the Hibernia project. Generally, project participants will want to delay obtaining a production licence until shortly before production start-up.

There are a wide variety of licences, permits and approvals required to carry out an offshore energy project. The two most important are the production licence and the development plan approval. The production licence is the fundamental title document. It grants the project participants the right to produce, and title to, petroleum substances in the licence area. Generally, the production licence is held by the project participants in undivided shares or interests. There is no recognition in the legislation of separate and several interests, and arguably each holder of a production licence is liable, with each of the other holders, for all obligations in respect of the licence. The terms and conditions of the production licence must be reviewed by project lenders and, if applicable, rating agencies. Thus far, production licences issued by the boards have been very simple documents consisting of little more than the names of the licence holders and their respective percentage interests, the term of the licence and the lands to which the licence applies. In addition, the licences are issued subject to the provisions of the applicable legislation. The form of licence in current use purports to be issued pursuant to both *Accord Acts*, again to maintain the mirror image concept underlying the implementing legislation. It should be noted that the licence may be cancelled if the holders fail to comply with the legislation. Therefore, project lenders must ensure that the licence is in good standing and ascertain if there are any governmental assurances with regard to cancellation. In at least one instance, federal and provincial governments have given assurances that

a production licence will not be cancelled as against project participants who are in good standing in relation to royalty obligations notwithstanding a royalty default by another participant.

5. *Development Plan*

Of equal importance to prospective lenders are the terms and conditions of the development plan approval. An offshore project cannot proceed without filing a development plan and having it approved by the relevant board. A development plan filed with the board will deal with a myriad of technical issues such as estimated field reserves, method of field development, production, production rates, transportation, environmental protection and so forth, all of which are critical to project economics.

The board will conduct public hearings in relation to a development plan as part of the approval process. Amendment of a development plan also requires board approval, which may or may not involve further public hearings depending on the nature and magnitude of the proposed amendment. Development plan approval has invariably been granted subject to various terms and conditions which must be satisfied by the project participants. These terms and conditions must be carefully considered by project lenders and rating agencies in terms of their impact on project economics, operational viability and the impact on the project of a failure to fully satisfy them.

6. *Regional Benefits*

A development plan will be accompanied by a benefits plan mandated by the *Accord Acts*. Such benefit plans must address the manner in which a project will deal with issues of local hiring practices, training preferences and contracting methodology, ensuring local businesses have fair access in supplying goods and services to the project and technology transfer.

7. *Royalty Structures*

Of critical importance in assessing project economics and the ability to obtain project financing is the fiscal regime applicable to the project. Royalties on hydrocarbon production constitute a major component of that fiscal regime, as do income, commodity and other taxes. A discussion of the taxation regime applicable to the offshore area is beyond the scope of this article. However, a few comments from a financing perspective are worth making.

Under the *Accords*, Newfoundland and Nova Scotia have been allocated responsibility, at least in a policy and political sense, for the design of the royalty structures applicable to their respective offshore areas. The federal *Accord Acts* themselves adopt by reference the royalties prescribed by the provinces. The legislation also contemplates the establish-

ment of generic royalty regimes. To date, comprehensive generic royalty regimes have not been implemented. Royalties applicable to the Hibernia project, apart from a nominal statutory royalty, are established by a contract between the Hibernia project participants and Newfoundland. A similar contractual approach to royalties has been negotiated in relation to the Terra Nova project but is not yet in effect. While Newfoundland has indicated its intention to enact a generic royalty regime and has outlined that regime in terms of “royalty rates and triggers,” it is not at all clear when such a generic royalty regime will be implemented. It is unlikely that such regime will be implemented prior to conclusion of the Terra Nova royalty agreement. Nova Scotia has enacted royalty regulations²⁵ but the Sable project, the only large-scale offshore project in operation offshore Nova Scotia, is governed by a hybrid royalty regime consisting of a series of royalty agreements and the provincial regulations.

A generic royalty regime is something of a double-edged sword. On the one hand, it may add certainty, stability and transparency in relation to the royalty rules that will apply to a project. Such attributes assist project lenders and rating agencies in assessing the feasibility of a project and in making financing decisions. On the other hand, generic regimes can be relatively inflexible and insensitive to the nuances of a particular project. Moreover, generic regimes can be unilaterally changed by legislative action. Most offshore energy projects, by their very nature, are long-term affairs. The longer a project is in operation, the greater the risk that royalty rules may change. While project economics and lending decisions are made at the outset of a project based on a set of reasonable assumptions, government priorities can change rapidly in response to new policy objectives and political pressures, including changing economic circumstances.

Royalty agreements with a province, on the other hand, offer flexibility, in that the royalty structure can be specifically tailored to fit the project, taking into consideration such things as the size of project reserves, the anticipated production profile and projected project cash flows. In addition, such a royalty agreement affords some measure of protection against arbitrary royalty changes imposed by government, inasmuch as any adverse changes to the royalty can be viewed as a breach of contract leading to litigation by project participants against the government for losses suffered as a result of the change in rules. As such, the use of a provincial royalty agreement or the use of a hybrid model may be preferred if favourable royalty terms can be negotiated with the provincial government in a timely and cost-effective manner. In that

25. *Offshore Petroleum Royalty Regulations*, N.S. Reg. 71/99.

regard, negotiation of a royalty agreement is not an easy undertaking and can take several years to complete.

8. *Project Agreements*

The documents referred to as “project agreements” constitute the contractual framework the participants have negotiated among themselves and with third parties (suppliers, contractors, customers, licensors of technology, governments, *etc.*) for the purpose of carrying out the project. They are discussed in more detail in Part V.

9. *Security and Registration*

Due to its non-recourse or limited recourse nature, project financing relies heavily on the ability of a lender to obtain effective security against project assets. Access to non-project corporate assets and revenues of project participants, if it exists at all, may be limited to the pre-completion phase. This section of the article discusses the project assets available for lender security, the competing needs for security of project stakeholders and the security registration systems applicable to the East Coast offshore.

Each offshore oil or gas development project has several classes of assets available to secure project financing. These include (a) the production licence, (b) the offshore production platform or vessel and related facilities and equipment, both onshore and offshore, (c) the petroleum substances produced from the project and the revenues derived from such production, and (d) the bundle of intangible project-related rights created under the various project agreements.

The project production licence, as noted earlier, is the fundamental document of title giving its holders the right to produce petroleum substances from the production licence area and title to the petroleum substances produced. Without such licence there would be no project. The project lender will want a security interest in the licence, as will the province (to secure royalty obligations) and the project participants (to secure joint account obligations). The province may insist on having a first priority security interest in the project production licence and may register that security interest by way of a security notice under the registration system established by the *Accord Acts*. The province may also insist that prior security interests be subordinated to its security. The operator’s lien is automatically given priority under the *Accord Acts* over other security interests unless specifically postponed, and the province will require such postponement to be registered. In addition, the project will require any prior security interests registered on behalf of the participants or project lenders to be postponed in favour of the province’s security. Such postponement requirements will generally be set forth in

the royalty agreement applicable to the province and may be a condition of the participants having the benefit of the "royalty deal" provided for in that royalty agreement.

The registration of a security interest by the province to secure royalty obligations is unique to the East Coast offshore regimes. This approach is not seen in western Canada. The reason for this unique situation is two-fold. Under the Accords and their implementing legislation, the provinces are the ultimate beneficiaries of offshore production royalties. However, the production licence is not issued by the province and cannot be cancelled by the province. The production licence is issued by the relevant board. Failure to pay royalties is a ground for cancellation of the licence, however, cancellation is a power exercised by the board, subject only to approval by both the federal and provincial ministers. As such, the province has no direct statutory enforcement powers to ensure payment of royalties. Rather, the province must proceed under the payment covenants and security provisions of the royalty agreement. Secondly, the royalty agreement is usually a private contract between the province and the project participants and falls outside the legislative scheme of the *Accord Acts* themselves. This is true in the case of the Hibernia royalty agreement, for example. Accordingly, failure to pay the contractual royalty would not constitute a breach of the legislation. Thus, the usual government statutory power to compel compliance with royalty obligations may not exist.

The *Accord Acts* establish a registration system for recording licence holdings and security interests in relation to the various licences issued under them, including the production licence. The *Accord Acts* also establish a priorities scheme. The registration system was modelled, for the most part, on the registration scheme established in Alberta for Crown minerals under the *Mines and Minerals Act*.²⁶ The registration system allows for the registration of a limited number of instruments, namely transfers, security notices, postponements, discharges of security notices and assignments of security interests. As such, only two types of interests are subject to the registration system, ownership interests in the licences and security interests in the licences. Various other types of interests common in the oil and gas industry are not covered, such as options, farmout earning rights, overriding royalty interests and net profits interests. Unless the grantor's obligations in relation to such interests are secured by the granting of a security interest in the applicable licence, there is no effective means by which these interests can obtain recognition through registration. Under the *Accord Acts*, registrable interests have

26. R.S.A. 1980, c. M-15.

priority over other registrable interests according to the time of registration and have priority over non-registrable interests acquired after the time of registration of the registrable interests. The *Accord Acts* do not address priorities as between registrable interests and non-registrable interests acquired prior to the time the registrable ones were registered. Accordingly, the registration system is not a comprehensive one. It does not address all interests that might exist in respect of the production licence. As such, a project lender cannot rely on the registration system to confirm the title of the project participants in the production licence. A title opinion may be required by lender's counsel. This entails a comprehensive review of the project participant's land and related contract files and the title documents they contain, in order to establish a good chain of title and determine the encumbrances and other burdens affecting that title. In addition, the registration system does not apply to any project assets other than the licences (*i.e.* exploration licences, significant discovery licences and production licences) issued under the *Accord Acts*.

Project assets, other than the production licence, will generally comprise various forms of tangible and intangible personal property and, possibly, real property onshore. The participants' security and the project lenders' security will be as broad as possible. The province's royalty security will be more limited, but that is a matter of negotiation between the participants and the province. The province's security for royalty purposes, in addition to the production licence, may extend to the proceeds of the sale of the production licence, to petroleum substances produced from the project and the proceeds received from the sale of such petroleum substances, and to the participants' interest in key project agreements, such as the ownership and operating arrangements and lifting and transportation agreements. We are not aware of any province seeking a charge on hard project assets such as the production facilities.

The security needs of a province, the participants and project lenders bring into play the operation of security legislation other than the *Accord Acts*, at both the federal and provincial level. To the extent any onshore real property forms part of the project assets, security in such property will be dealt with under the applicable land titles or land registry system in which such property is located. To the extent that project assets comprise ships within the meaning of the *Canada Shipping Act*²⁷ one must look to the registration system created under that act for the registration of ship's mortgages. What constitutes a ship for this purpose is determined by that statute and includes certain offshore production

27. R.S.C. 1985, c. S-9.

facilities. While the gravity-based production facility (GBS) used in the Hibernia project does not constitute a ship for this purpose, the FPSO to be used in the Terra Nova project does. Security against that facility will have to be registered under the *Canada Shipping Act*. The bulk of security registrations in respect of an offshore East Coast energy project, apart from *Accord Act* registrations, will be governed by provincial security legislation. This presents certain issues that project lenders must take into consideration.

Property and civil rights within a province are matters that, constitutionally, fall within the jurisdiction of the provinces. The offshore area does not fall within the territorial boundaries of any province, and provincial laws, in and of themselves, do not have extra-provincial effect. Indeed, federal laws, unless expressly stated to do so, do not have extra-territorial effect. This situation presented certain difficulties at the outset of East Coast offshore development. At the outset of East Coast production, there was, to a certain degree, a legal vacuum in the offshore insofar as security legislation was involved. The Hibernia project and the need for legal certainty in the offshore area spurred the federal government into enacting a limited offshore personal property legal regime. Selected federal and provincial statutes were extended to the Newfoundland offshore area by way of the *Hibernia Development Project Act*.²⁸ That *Act* enabled the extension of certain federal legislation and certain provincial legislation to the Newfoundland offshore area. The regulations²⁹ under that *Act* extended to the Newfoundland offshore area the federal *Bank Act*,³⁰ *Bankruptcy and Insolvency Act*,³¹ *Bills of Exchange Act*³² and *Interest Act*.³³ In addition, the Newfoundland *Assignment of Book Debts Act*,³⁴ the *Bills of Sale Act*,³⁵ the *Conditional Sales Act*,³⁶ the *Conveyancing Act*³⁷ and the *Registration of Deeds Act*³⁸ were extended to the Newfoundland offshore area. This extension of federal and provincial laws was generic in nature and, notwithstanding the name of the enabling legislation, was applicable to all projects in the Newfoundland offshore area, not just the Hibernia project. This extension of federal and

28. S.C. 1990, c. 41.

29. *Hibernia Development Project Offshore Application Regulations*, S.O.R./190-774.

30. R.S.C. 1985, c. B-1, as rep. by S.C. 1991, c. 46, s. 604.

31. R.S.C. 1985, c. B-3.

32. R.S.C. 1985, c. B-4.

33. R.S.C. 1985, c. I-15.

34. R.S.N. 1990, c. A-19, as rep. by *Personal Property Security Act*, S.N. 1990, c. P-7.1, s. 85 [hereinafter *PPSA*].

35. R.S.N. 1990, c. B-3, as rep. by *PPSA*, *ibid*.

36. R.S.N. 1990, c. C-28, as rep. by *PPSA*, *ibid*.

37. R.S.N. 1990, c. C-34.

38. R.S.N. 1990, c. R-10.

provincial laws allowed for a “bare bones” personal property registration regime for the Newfoundland offshore area. However, at the time, the federal government was planning a more comprehensive extension of federal and provincial law to the offshore. Shortly after the passage of the *Hibernia Development Project Act*, Parliament enacted the *Canadian Laws Offshore Application Act*,³⁹ which provided for a much more comprehensive legal regime for the offshore area and which was not limited to the Newfoundland offshore area. This statute has now been incorporated as part of the *Oceans Act*.⁴⁰ The *Oceans Act* provides the current basis on which federal and provincial security legislation can be fully extended to the offshore area. This is essential in order that provincial governments, project participants and project lenders are able to perfect their security in relation to a wide range of project assets, including offshore installations and produced petroleum substances that, in many instances, may never be landed onshore Canada.

The *Oceans Act* provides for the establishment of a property and civil rights legal system for the offshore area and gives the courts of the coastal provinces jurisdiction in relation to the offshore to the same extent as if such area was located within the province. Both Nova Scotia and Newfoundland have enacted modern personal property security legislation.⁴¹ However, the extension of provincial security legislation to the offshore area remains to be completed. In order for provincial laws to have application, regulations must be enacted under the *Oceans Act* prescribing the areas of the offshore area to which provincial laws apply. Such regulations have yet to be promulgated. This leaves Nova Scotia without a proper personal property security registration system in respect of its offshore area and leaves Newfoundland with the old one established under the *Hibernia Development Project Act*. Accordingly, the security registration system for the East Coast offshore remains to be completed and may be problematic for project lenders wishing to perfect their security interest in project assets.

39. S.C. 1990, c. 44, as rep. by *Oceans Act*, S.C. 1996, c. 31, s. 54.

40. S.C. 1996, c. 31.

41. *Personal Property Security Act*, S.N.S. 1995-96, c. 13 and *Personal Property Security Act*, S.N. 1998, c. P-7.1.

V. Project Agreements

The typical project will have a variety of project agreements that, against the backdrop of the general legal and regulatory regime applicable to the project, constitute the private ordering the participants have fashioned in respect of the project.⁴² This contractual framework allocates risks between the parties involved in the project and creates the initial risk profile that potential project lenders will address.⁴³ The typical categories of agreement one encounters in such a project include:

1. Implementation Arrangements

These govern the relationship and arrangements between the governments having legal authority over the project and the participants, to the extent it goes beyond the general legal and regulatory framework applicable to all parties in the region where the project is carried out. They may be reflected in agreements with some or all of these governments (supplemented by legislation to effectuate some of the commitments made by the governments), in a production licence or in some similar authority or interest granted under a regulatory or jointly administered regime. Enforceability of these arrangements may be an issue because of the nature of a parliamentary democracy (discussed in more detail below). In such circumstances the goal of the participant will be to increase the threshold of political inconvenience to depart from the arrangement — through so-called “stability” clauses or provisions for compensation by government to the participants if there are changes in the arrangement as a result of the actions of the government or for which it may have or accept responsibility.

A project financing may give the project lenders the right to step into the shoes of a defaulting participant insofar as such arrangements are concerned.

In its usual sense, an implementation arrangement sets out the rights and benefits to be received by the participants from the host governments with respect to the project (the right to undertake the project, land and land use rights, regulatory, tax, fiscal, customs, import and export benefits, government support for the participants and the project generally and other exemptions or approvals to facilitate the project) and the commitments the participants make in return for those (time frame for commencement and completion of project, commitments in terms of capital,

42. As Hoffman observes, “Because the ability of the project sponsor to produce revenue from project operation is the foundation of a project financing, the contracts constitute the framework for project viability and control the allocation of risks.” Hoffman, *supra* note 1 at 7.

43. Vinter, *supra* note 1 at 23.

expertise, regional benefits, financing arrangements, or supervisory arrangements, for example). In the offshore area, such arrangements may be found in the development plan approval, the production licence or in agreements between the participants and responsible governments with respect to the fiscal and other aspects of the legal regime applicable to the project.

2. Ownership and Operating Agreements

These are the agreements that define the relationships among the participants (including government or government agency participants, if any), whether in the context of a joint venture, a partnership, a limited partnership, a project corporation, an alliance or otherwise. There are two classes of relations that such agreements deal with.

- (1) Entity structure and governance: If a joint venture corporation or project corporation is used, the internal governance arrangements will be found in the underlying constating documents such as the memorandum, articles, by-laws or shareholder agreements.
- (2) Participants' relations: The rights and obligations governing the relationship among the participants for the purposes of the project are usually found in a joint venture agreement, a development and operating agreement, an ownership agreement or a combination of some or all of these.

Typically, participants will own an offshore project in undivided interests. Almost invariably, offshore energy projects are structured as joint ventures. The cost and risk of offshore exploration is usually mitigated by participants forming joint ventures at the exploration stage. Operating agreements or pre-development agreements entered into at this stage focus on exploration activities such as seismic work and drilling. These agreements do not normally address development and production operations in a meaningful way. Generally, a far more specific and sophisticated agreement is necessary once a commercial discovery is made and development activities are planned. Such agreement will supersede earlier operating agreements but carry forward the joint venture arrangement in one form or another. The reason for joint venturing is as compelling, if not more so, at the development stage. At this stage, capital costs are enormous. East Coast offshore projects such as Hibernia, Sable and Terra Nova entail the expenditure of billions of dollars prior to first production. The size of the expenditures, completion risk, reservoir risk, production risk and commodity price risk almost mandate a joint venture structure, as few participants are willing to make such expenditures and expose themselves to such risks on their own.

To date East Coast joint ventures have taken two forms. One form is the traditional joint venture where the participants establish a non-incorporated joint venture. This is a contractual arrangement whereby the parties enter into a joint venture to develop and operate the project. Participants may or may not establish special purpose vehicles to participate, as working interest owners, in the joint venture. These special purpose vehicles may be corporations or partnerships. The choice of vehicle is driven by tax and liability issues particular to the individual participant. In this form, the project is operated by one of the participants, or an affiliate of such participant, on behalf of all participants. The second form involves the creation of a special purpose corporation. This corporation acts as operator of the project and holds project assets as a bare trustee on behalf of the participants. In other words, project assets remain beneficially owned by the project participants. Such corporations carry on business on a flow-through basis such that they neither make a profit nor suffer a loss. The operating agreement is accompanied by or incorporates a form of unanimous shareholders agreement. Each participant holds voting shares in the project company in the same proportion as its underlying undivided working interest in the project and the production licence. In either case, the joint venture will be managed by an executive, management or operating committee representing all the participants, with each participant having a voting interest equal to its percentage working interest in the project. All major decisions affecting the project will be taken at this level. Such decisions include, among others, budget approval, major asset acquisitions and contracts and changes to the development plan for the project. Day-to-day execution of the project is carried out by the operator in a manner consistent with the decisions, instructions, guidelines and directives established by such committee.

Regardless of the form chosen, the underlying operating, development and shareholding arrangements provide, exhaustively, for the respective rights and obligations of the project participants. The matters addressed in these agreements may include

- (a) a description of the project that is the subject of the agreement;
- (b) a statement of the respective beneficial ownership in the project of each of the participants;
- (c) the establishment of an executive, management or operating committee to oversee the operation of the project and govern the participants' relations in respect of the project;
- (d) the appointment of an operator to conduct day-to-day operations of the project and a description of the duties and authorities of the operator in relation to project operations;

- (e) the nature of the participants' obligations in relation to the project — separate and limited to their respective individual interest shares of project obligations and liabilities or joint;
- (f) the establishment of a funding mechanism by way of cash call, invoicing, zero balance banking or other procedure whereby each participant is liable for its undivided share of project expenditures;
- (g) the commitments of the participants to the project and the degree to which a participant's liability for project expenditures is non-recourse, limited recourse or full recourse;
- (h) the period the project relationship among the participants will last;
- (i) the creation of an operator's lien or inter-participant security or both to secure payment by project participants of their share of project expenditures;
- (j) default and remedy provisions, including the obligations, if any, of other participants to make good the default of a participant;
- (k) rights, if any, of participants to withdraw from the project;
- (l) restrictions, if any, on dispositions (broadly defined) of interests in the project;
- (m) abandonment and decommissioning obligations of the participants;
- (n) *force majeure* provisions;
- (o) dispute resolution mechanisms; and
- (p) if appropriate in the circumstances, unitization and reserves redetermination provisions.

3. *Regional Benefits*

Agreements or commitments may be entered into by the participants with governments that contain understandings between those parties with respect to giving the participants preference to local suppliers/state concerns.

4. *Sponsor Agreements*

These deal with the relationship between a participant and its sponsor for the purposes of the project and may involve the provision of guarantees or other forms of support from those sponsors to the other participants.

5. *Engineering Agreements*

These may be entered into with different parties dealing with front-end, design and detailed engineering for the project. Alternatively, they may be part of the services provided by a contractor or an alliance to the project and subsumed under agreements governing those services.

6. *Construction or Construction, Management and Operating Agreements*

These may include agreements dealing with all aspects of engineering, procurement and construction for the project as well as ancillary documentation (tenders, bid bonds, performance bonds, labour and material payment bonds), subcontracts, supplier agreements (goods and services, utilities, feedstock), procurement agreements, and purchase orders. The actual construction arrangements may be carried out through a variety of compensation arrangements including a fixed-price turnkey contract, unit price, cost-plus or an alliance contract.⁴⁴

7. *Managing Contractor Agreement*

This details the roles, relationship and responsibilities between the participants and a managing contractor with respect to some or all of the project design, engineering, procurement and construction. It is an alternative form of construction arrangement in which the managing contractor oversees the participants' interests in a series of engineering, procurement and construction contracts between the participants and contractors.

8. *Alliance Agreement*

These govern the relationship among members of an alliance in respect of the project. Alliancing is an alternative to the more traditional forms of contracting. Generally, an alliance consists of a group of contractors who share a common project execution philosophy with the owners (sponsors) of the project. It will usually have an integrated management team drawn from owners, the operator and contractor organizations on a best-person-for-the-position basis. The alliance is responsible for project management activities and the project execution phase. All parties in the alliance work collectively on modifications or changes required to improve the project through a consultative approach to developing common project goals and objectives, eliminating project inefficiencies, and risk identification and analysis. The profit element of the contractor

44. *Ibid.* at 45. See also J. Jenkins, "Contract Structure and Risk Allocation in Major Infrastructure Projects" (1994) 11 *Int'l Constr. L. Rev.* 489 at 442-46; and J.G. Muel, "Common Contractual Risk Allocations In International Power Projects" [1996] *Colum. Bus. L. Rev.* 37 at 42-46.

members of the alliance is at risk to cover a portion of cost overruns (generally up to a certain limit), and the same members are entitled to receive payments calculated as a share of the cost savings (generally without any limit) if the cost of the work comes in under an agreed target price or in some cases ahead of schedule. Executive leadership comes from an alliance board made up of representatives from alliance contractors and owners.

Some alliances adopt a two-tier contractual approach with a separate “works” contract for a particular scope of work area of the work relating to the project together with an overriding alliance agreement. Usually the “works” contracts set forth the respective scopes of work and related responsibilities, payment provisions, owner rights and obligations relating to suspension and termination for convenience, and default provisions. In addition, the “works” contracts may provide a fallback if the alliance is terminated. The alliance agreement itself usually provides an umbrella protocol dealing with project management, project goals and objectives, target cost and schedule, risk sharing, and final cost calculation.

In other alliances the alliance agreement is a single document (though composed of many parts) that establishes the framework for the alliance with individual work packages performed by one or more alliance contractors pursuant to that general framework.

Alliance behaviour focuses on a single “best for project” culture for the project, a clear set of goals and objectives, a design basis and design intent that is clear and accepted by all participants, an initial scope allocation for the “works” that is clearly defined, and “minimum conditions” for the acceptance of the project that are clear and accepted by all participants. Most alliances involve a target schedule and a target cost, against which the actual performance of the alliance will be measured to determine the risk/reward sharing. The target cost will be developed on an “open book” basis, with appropriate opportunities for challenges.

Payment for work under the alliance contract is usually made on a cost reimbursable basis with a reasonable uplift for profit and overhead. The alliance contractors participate in the “upside” and the “downside” of the project performance in relation to the agreed targets through a “risk/reward” or “performance contracting” formula.

9. *Supply Contracts*

These may relate to products, services, materials, equipment, labour, feedstock or utilities that are required to carry out the design, engineering, construction, development and operation of the project.⁴⁵ They contain the terms on which things that are required during the construction or

45. Vinter, *supra* note 1 at 66.

operating phases will be made available to the project. There may be a variety of support arrangements (such as guarantees, bonds, letters of credit, *etc.*) entered into with respect to critical areas of supply.

10. *Common Facilities Agreements*

Where the project or its participants share facilities with other projects there may be agreements that relate to the entitlement, and terms on which, to use those common facilities. These can relate to common power or utility sources, warehousing or support services, transportation facilities and the like. To the extent the use of the common facilities is a critical part of constructing or operating the project or getting its production to market it will be important to the project lenders.

11. *Technology Licensing Agreements*

A major offshore energy project or facility often involves cutting edge technology. The persons that own that technology will generally require detailed agreements relating to the licensing and use of it, dealing with such matters as the type of licence and the rights it grants, provisions for acknowledgement and protection of the intellectual property rights of the owner, compensation for use, restrictions on use, rights to improvements, indemnities for third party claims, process or performance guarantees, confidentiality obligations, remedies for breach, dispute-resolution provisions and the like. The ownership and right to use technology or intellectual property developed in the course of a major offshore project may be dealt with on a project-wide basis in various forms of agreements and, particularly in the alliance contest, there may be some interesting variations on the usual reservation of intellectual property rights by the owners of technology participating in the project.

12. *Operating and Maintenance Agreement*

This is the agreement among the participants and perhaps with an operating entity, to operate the project.⁴⁶ It may be subsumed in an ownership and operating agreement or a construction, management and operating agreement.

13. *Financing Agreements*

These deal with arrangements among the participants for the provision of equity through capital share subscriptions, or other forms of contribution. Often a zero balance banking facility is used. There may also be agreements dealing with third-party financing for the project (including banks, governments or private parties), such as credit facility agreements, loan agreements or financing facilities agreements.

46. *Ibid.* at 60.

14. *Security Agreements*

There may be a variety of security agreements, including debentures (fixed and floating charge) and specific security (such as assignments of production and revenues; pledges of shares in an operating or project corporation; specific charges on land and equipment; and security trust agreements or trust indentures).

15. *Credit Support*

There may also be agreements from other persons providing credit enhancement to the lenders or other parties involved in the project. These may take the form of guarantees, indemnities, letters of credit, bonds, surety agreements, comfort letters, sponsor agreements, equity commitments, completion assurances, operating cost undertakings, or backstop arrangements.⁴⁷

16. *Inter-Creditor Agreements*

In addition to the agreements entered into with the project lenders reflecting the loan facility, security and arrangements between the project lenders and third parties relating to security, credit enhancements and other arrangements, there will no doubt be a series of inter-secured-parties' agreements in place among the project lenders and other parties holding security in respect of the project. These agreements will principally deal with the relationship between the respective security interests of these secured parties, including information sharing among them and to co-ordination among these secured parties in enforcement and realization scenarios. The agreements generally provide for an acknowledgement of the security of the various secured parties, priority arrangements with respect to the allocation of proceeds of realization, agreements not to dispute each other's security, exchange of information concerning agreements held by the secured parties relating to the project together with any amendments to those agreements that might have a materially adverse affect upon the other parties' security or their rights to realize or enforce it (perhaps with certain consent requirements), and exchange of information concerning the state of accounts of the borrowers under the facilities secured by the respective parties' securities. The inter-secured-parties' agreements may also provide for rights to cure defaults under a secured facility including a right to pay out the defaulted facility.

47. *Ibid.* at 169. See also Hoffman, *supra* note 1 at 403-45; and Rauner, *supra* note 1 at 168-76. For a recent discussion of surety policies as credit support in project financing situations see Standard & Poor's, "Surety Policies as Mechanisms for Timely Credit Support in Project Finance Transactions" *Infrastructure Finance* (28 June 2000).

The inter-secured-parties' agreements also generally provide for consultation among the secured parties if a default occurs or is anticipated to occur under one or more of the various facilities governing secured arrangements with the borrower, and for notice of intention to take steps pursuant to their security and its realization. There may also be provision for joint action in respect of notices of assignments and directions to pay to debtors of the borrower, and for agreement upon a realization or enforcement agent, as well as provisions for co-ordination between the secured parties with respect to realization on the disposition of the collateral provided by the borrower.

Parties who may be involved in the inter-secured-parties arrangements include governments (where they have secured interests under financial assistance arrangements or royalty arrangements), other owners (in respect of their secured arrangements, if any, under the underlying ownership and operating agreements), lenders in respect of project financing, other secured facilities and the like.

17. *Lifting Agreements*

These contain the terms and conditions on which the owners lift their respective shares of production from an offshore development project.

The ownership and operating arrangements among the participants will typically provide that each participant has the right and obligation to separately take in kind and dispose of its share of production. The lifting and transportation arrangements determine how this will be done. Hibernia and Terra Nova are both crude oil projects. The Sable project is a gas project. Different considerations apply to each type. In an oil project, the lifting rights as between participants will be the subject of negotiation and agreement among the participants. While each participant has an undivided interest in the project, it will not have an undivided interest in each barrel of crude oil produced. Rather, production is batched such that each participant is allotted the petroleum produced during a specified interval. The length and frequency of intervals allotted to participants is a function of their relative working interests. Participants with large working interests will have more frequent liftings than those with small working interests. In this context, liftings means the right to take delivery of petroleum substances produced from the project and in storage.

Issues such as the nature of the obligation to lift, provisions among participants as to liftings (including administration, scheduling and coordination of liftings) liabilities in connection with liftings or failures to lift and events that affect the nature and quantity of lifting will all be dealt with under lifting agreements. They will also deal with measurement of the quantity and quality of the production lifted. Individual

owners may have the right to combine or exchange their liftings in order to facilitate efficient utilization of available shipping capacity.

To the extent that a government has a right to take in kind its royalty share there may also be lifting arrangements in place between the government and the owners of the project.

18. Transportation Arrangements

Production from offshore projects must be transported to market by tanker or pipeline. There is no offshore pipeline serving the Hibernia or Terra Nova projects. Each project has limited offshore storage capacity, at the GBS in the case of Hibernia and at the FPSO in the case of Terra Nova. Taking delivery of crude oil at these facilities is not a routine matter. At present there are very few crude oil tankers in the world that can do this. To accommodate the transportation needs of these projects, a three-vessel fleet of specialized shuttle tankers and a transshipment terminal in Newfoundland have been developed to date. There will be ownership or chartering arrangements in place pursuant to which the vessels can be made available to the project and transportation, pooling capacity reservation, charterparty and other agreements to make capacity on the vessels available to the participants in the projects. Vessel administration agreements will govern the terms on which the individual vessels will be operated and maintained. These vessels will take delivery of crude oil produced from the projects and either deliver the crude directly to market or to the NTL transshipment facility at Whiffenhead, Newfoundland for storage and transshipment. Crude oil delivered to Whiffenhead will subsequently be transported to market by second leg tankers in the world fleet. Arrangements will be in place between the participant shipping crude from Whiffenhead and the owners or operators of the second leg tankers to govern this use of the vessels.

19. User Arrangements

If the project financing involves a facility such as a pipeline or transshipment terminal, the nature and quality of commitments from users of the facility will be important elements in assessing its feasibility from a project financing standpoint. Are they firm commitments at a determinable price for a definite term? What conditions, if any, attach to the obligations to use the facility? Are they take-or-pay or take-and-pay contracts? What backstopping arrangements are in place?

20. Marketing Arrangements

There may, in some offshore projects, be some form of marketing arrangements among the participants. Alternatively, each participant may be entitled (and required) to lift its share of production from the

project and market it, without reference to the other participants, under its own marketing arrangements.

21. *Offtake Arrangements*

These are arrangements with third-party purchasers (or affiliates of the participants in some cases) to take production from the project at quantities, quality and on terms as to price, delivery and risk specified in the offtake agreement. Pricing may be determined on a spot-market basis or may be calculated by reference to published pricing manuals. It may also involve a net-back concept tied to the price ultimately realized by the party taking the production but allowing for deduction of costs of realizing that price. The obligation under the offtake agreement may be take-or-pay, take-and-pay or some other form of commitment of the purchaser to specified quantities of product on specified terms.⁴⁸

In the case of offshore oil projects, crude produced from the project will either be sold to a third party for cash or will be refined by an affiliate of the participant in its own refinery and then sold in the marketplace. In the first instance, crude oil will typically be sold on a spot basis or pursuant to short-term (*i.e.* thirty-day) evergreen contracts.

In the case of a gas project, gas may be sold on a spot basis or pursuant to short- or long-term purchase contracts. Again, the mix will depend on the participant's view of the gas market and the degree to which the participant has contracted for long-term, firm transportation capacity on the pipeline. That, in turn, is a function of the degree to which the financing for the pipeline requires long-term, firm service agreements to backstop the pipeline financing.⁴⁹

22. *Hedging Arrangements*

These may deal with commodity price, interest rates or currency, and are generally implemented by individual participants to protect against fluctuations in these areas during the project.⁵⁰ There may be arrangements in place to manage commodity price risk or provide some sort of price protection through forward sales of production or other arrangements such as options. In some cases, these are entered into to lock in the returns for production from the project at what are then perceived to be favourable prices. In other cases they are more a form of "floor"

48. Vinter, *ibid.* at 24, 39. See also D.G. Waddingham, "Financing Canadian Offshore Oil and Gas Projects" in *Financing Canada* I 417 at 436-37.

49. For a discussion of financeability issues in relation to gas sales agreements and gas projects generally, see P. Roberts, "Bankable Gas Sales Agreements in the Project Financing of Offshore Gas Production Projects" (1998) 16 J. Energy & Nat. Res. L. 200.

50. Rauner, *supra* note 1 at 179-80.

protection for commodity pricing on production from the project. To the extent they affect returns from the project they will be a key issue for the project lenders.

23. *Project Insurance Program*

The project insurance program will be a key part of the project financing arrangements during both the construction and the operating phases of the project. The nature and content of the program, provisions for lenders' review of and satisfaction with the program, distribution of proceeds in a way that will satisfy the lenders' security concerns, limitations on subrogation and other rights, approval rights with respect to insurers and coverage and changes in the insurance program will all be important to the project lenders.⁵¹ Lenders will typically require confirmation of the program coverage at the outset of their involvement in the project and notice of any change in or proposed cancellation of all or part of the insurance. In some cases, an independent insurance consultant may review and confirm to the project lenders the reasonableness of the project insurance program. The lenders will want to be satisfied that the insurance program is adequate (having regard to coverage, exclusions, limits and deductibles) to provide protection to the participants for foreseeable loss of assets or third-party liabilities as a result of perils normally covered by insurance. There may, with some owners, be self-insurance arrangements and the individual owners may endorse their own liability insurance programs to provide excess limits coverage on a contingency basis.

Most project insurance programs will involve course-of-construction insurance, property damage coverage, comprehensive general liability and perhaps insurance against business interruption. It may also involve «delay in start-up» or pollution insurance.⁵² The project insurance program on an offshore project may be taken out through the operator, with individual owners being able to supplement this common facility with their own individual programs.

The relationship of the project lenders to the project insurers will be different depending on whether the project financing is for the entire project or the interest of an individual owner. In the former situation, project lenders may require that they be added as co-insurers, as their interest may appear, with appropriate loss payable directives to allocate proceeds of the insurance, on an agreed basis, between the lenders and the owners insured. Alternatively, all insurance proceeds may be payable to the security trustee for the lenders, who will allocate it on an agreed basis.

51. Vinter, *supra* note 1 at 173-86.

52. *Ibid.* at 173.

The arrangements between the project lenders and the borrowers with respect to insurance often deal with the construction and operating phases of the project separately.⁵³ The owners may agree to effect a minimum coverage acceptable to the lenders during the construction phase, with a stated objective, such as insuring the owners' interest in the project to a maximum probable loss. Property damage coverage may be an agreed minimum based on the project loans outstanding. Other obligations as to coverage may be stated in terms of reputable insurers and coverage of an amount and extent that is in accordance with industry standards appropriate to a project of the size and characteristics of the project, perhaps with a reference to it being carried out by participants of a similar financial standing to the owners involved in similar projects in that area.⁵⁴

24. *Royalties*

In the offshore area, a provincial government may have a secured royalty interest that takes priority over the project lenders' security. Despite the fact that this royalty interest may be based on contract rather than legislation, the lenders may be prepared to recognize it as a cost of the production right in the first place, notwithstanding the very different nature of a production licence and these royalty interests from the Crown lease under Western Canadian mineral regimes.

25. *Escrow Agreement*

In circumstances where a number of the contractual or legal arrangements come into place at different times but there is a reluctance on the part of participants or lenders or governments to commit themselves to particular contractual, legislative, regulatory or administrative provisions until other elements of the project are in place, an escrow arrangement may be entered into to give the parties comfort that all their requirements will be met before some of the various arrangements contemplated become binding and effective. The document will usually attempt a road map of the inter-related obligations and commitments, a detailed listing of third-party actions required to satisfy conditions precedent, perhaps some indication as to responsibilities of the parties in obtaining those, and a process for confirmation as to the acceptability to the parties of the steps taken to satisfy the various requirements described in the agreement.

53. As Vinter notes, *ibid.* at 180, this is because the two phases involve different insurers.

54. *Ibid.*

VI. Structuring a Project Financing

Project lenders typically consider a project financing proposal from the standpoint of the project's initial feasibility, the risks that could threaten its continued viability (*i.e.* the likelihood of repayment) and what can be done, consistent with the goals of the participants, to reduce these risks to a level the lenders find acceptable.⁵⁵ This has been referred to as the "bankability" of the project — the acceptability or otherwise of a project's structure as the basis of a project financing. Lenders will want to ensure that (a) they are comfortable with the overall risk profile of the project, subject to the credit enhancements they are able to obtain in respect of it; (b) they are not bearing risks that are properly those of the parties having the benefit of the project's upside potential (so-called "equity risks" rather than "debt risks"); (c) there are no foreseeable costs — capital or operating — that have not been taken into account; and (d) the projected cash flows from the project are acceptable for the purpose of debt service, repayment and operations and appear to be reliable.⁵⁶

In structuring the project itself, the participants will consider and determine a number of issues:

- (a) How will the assets that constitute the project be held and what, if any, are the rights of the participants among themselves with respect to the design, engineering, construction, procurement and operation of those assets?
- (b) What sort of governance arrangements will exist among the participants with respect to decision-making and commitments in relation to the project?
- (c) What sort of entity will be used by the participants to carry out the project? What will be the arrangements for governance of that entity and how will those relate to the inter-participant governance arrangements?

55. Rauner, *supra* note 1 at 158. Waddingham suggests, *supra* note 48 at 425, "The objective is to design a financial package that reduces the sponsoring companies' risk while presenting the lenders with sufficient credit support." Wynant states, *supra* note 1 at 170: "The lenders must be provided with complete, detailed estimates of the project's risks and return potential, including feasibility studies, engineering reports, and particulars of commitments by the contractors, suppliers, and customers."

56. Mills, *supra* note 2 at 306; See Vinter's list of "sacred cows", *supra* note 1 at 86-87. For a discussion of the quantitative economic evaluation techniques applied by commercial bankers see S. Mills, "Project Financing of Oil and Gas Field Developments: Balancing the Interests of Investors and Lenders" (1996) 11 J. Int'l Bank. L. 24.

- (d) What are the risks attendant on the project construction and operating and what are the range and likelihood of adverse consequences as a result of those risks occurring?⁵⁷
- (e) What means are available to deal with the risks?
- (f) What sources of financing are available with respect to the project, will the participants access these on a common or an individual basis, and on what terms (including required support or enhancement arrangements) are they available?
- (g) What tax, fiscal, accounting, business and legal (liability) considerations are relevant to the project and the participants and how do those affect the proposed arrangements?⁵⁸

In the course of, or as a preliminary to, developing these arrangements, the participants may, individually or jointly, carry out feasibility and other studies to determine the technical, financial and legal viability of the project.⁵⁹ Often, an important part of this investigation of the feasibility of the project will involve financial advisors who are retained by and work with the participants to develop optimum project structures and arrangements with an eye to eventually accessing the banking or capital markets for project financing.

The financial advisors' role will vary from project to project, but they generally provide a financing perspective in the negotiations of the project agreements and in the development and articulation of the technical and commercial features of the project. Their role may involve a review and analysis of the existing or contemplated project guarantees or other credit supports, developing an understanding of the financial circumstances and objectives of the participants (individually or collectively), as well as a review of the economic and fiscal circumstances relevant to the project including applicable legal and regulatory regimes and markets for the product or service that results from the project. The advisors will try to guide the participants to the most effective structure

57. Wynant, *supra* note 1 at 167.

58. As Rauner notes, *supra* note 1 at 156: "The specific techniques used in project financing have varied from project to project, but several important steps (not necessarily in the following order) are typically involved. These include (1) analysis and appraisal of the technical, financial and legal viability of the proposed project (including analysis of all of the project risks); (2) establishment of some separate borrowing entity – a subsidiary, nominee corporation, jointly-owned corporation, general partnership, limited partnership, joint venture or trust – that will carry out the project; (3) selection of appropriate vehicles and methods for financing; (4) structuring and negotiation of arrangements between sponsors, lenders and interested third parties to support the debt, including insurance schemes and a wide variety of direct, indirect, contingent and implied covenants and guarantees; and (5) identification, maximization and allocation of tax benefits that accrue to the project."

59. *Ibid.*

for project finance in terms of tax, accounting, business and legal considerations.

The efforts of the financial advisors may lead to an information memorandum or some other document that describes the project and its characteristics relevant to a project financing. The actual structuring of financing alternatives would consist of (a) an assessment of the available alternatives and their sources in terms of lending institutions, capital markets and private funding; (b) developing a financing strategy for the project in terms of an optimal capital structure (equity *versus* debt); (c) recommendations on the financial markets to access and the terms on which financing from those markets would be achievable; and (d) an assessment of the necessary government and regulatory approvals, environmental considerations, pre-engineering, engineering, procurement and construction status and project documentation.

VII. *Risk Analysis*

A key element of the negotiations relating to a project financing involve efforts to deal with the risks in carrying out the project. When we speak of “risks” in a project we mean adverse things that can occur in relation to the project (suffering a harm or loss) and the loss or expense incurred if they do occur. Risks can be categorized in a number of ways including the area of project activity where the risk occurs such as design, construction, operation, financing, marketing or transportation; or the harm that creates the risk such as political events, *force majeure*, design error, professional negligence, cost overruns, technological deficiencies or operational error.

A risk analysis of a project may involve consideration of the following:

- (a) What needs to be done to complete the project?
- (b) What will it cost, directly (actual cash outlays) or indirectly (currency and interest rate fluctuations)?
- (c) How long will it take to complete the project and achieve start-up?
- (d) If the project is completed what revenues will it produce?
- (e) What will it cost to operate the project continuously to produce these revenues?
- (f) How will costs of constructing and operating the project be financed?
- (g) How will tax and other fiscal obligations in various jurisdictions affect the revenues from the project?
- (h) What is the risk that something that must be done to complete or operate the project or to produce the revenues for the parties entitled to them under the ownership, financing or operating arrangements:

- (i) is not done, through the default of a party or because of circumstances preventing it that are beyond the parties' control;
- (ii) is not done properly (from a design, workmanship or regulatory standpoint) and does not achieve the purpose intended;
- (iii) costs more than expected;
- (iv) takes longer than expected;
- (v) is done in a way that causes loss or damage to other parties;
- (vi) is done in a way that gives rise to government or regulatory sanction;
- (vii) is not able to benefit the participants because of political or civil actions or unrest; or
- (viii) is damaged or destroyed by causes beyond the control of the parties?

It has been suggested that there are three basic approaches to dealing with risk:⁶⁰

- (a) Reduction: through steps to remove or reduce the risk.
- (b) Allocation: through agreements to share or allocate responsibility for the risk between parties under the terms of their contractual arrangements.
- (c) Hedging or insurance: through using other parties' obligations in relation to the risk to reduce its effects on the project or the participants.

All of these must be considered in light of their cost, effectiveness and other consequences.

VIII. *Project Risks*

The project finance lenders' basic concern is whether the project can be constructed on schedule and operated at a cost to produce the revenues that will service and repay the project financing in accordance with their financial models. Delays in completion or increased costs of design, engineering, construction, marketing or transportation (whether through changes or otherwise) will affect the cost of the financing required. In a fixed price turnkey construction contract situation, much of the construction risk may be shifted to the contractor, subject to the adequacy and enforceability of recourse against the contractor or its third-party credit

60. *Ibid.* at 161.

support. In an alliance contract situation, a risk/reward sharing arrangement gives the owners and contractors a common interest in the project coming in under budget and ahead of schedule through a shared participation in savings or overruns, and possibly through a shared participation in the profits or production from operating the project. Once start-up and commissioning have occurred, the risks then relate to the successful operation, transportation and marketing of production required to ensure cash flow for cost recovery, servicing debt and a return on equity. We next discuss eighteen types of risk affecting a project.

1. *Credit*

The credit strength of the participants or the project sponsors will be a significant factor in assessing the project's practicality from a lender's standpoint, whether that credit strength becomes relevant in the context of various risk enhancement devices (such as limited or other guarantees, or usage or offtake commitments) by those sponsors or in the context of assessing the sponsors' commitment to the project through equity contributions (including overrun commitments).⁶¹

In circumstances where the commitment of each participant to fund construction is limited to a share of costs and liabilities equivalent to its separate undivided interest in the project, lenders will have to weigh each participant's creditworthiness separately and consider the legal or practical obligation of the other participants to complete the project if one of the participants does not or cannot fund its share of these costs. The participants' commitment to fund may be unlimited, it may be tied to a minimum obligation (perhaps one intended to ensure the economic drivers militate in favour of completion once it has been reached), it may be tied to a project authority for expenditure (AFE) with some voting procedure for additional or supplementary AFEs, or it may be for a budgeted amount and a specified percentage of overruns in relation to that budgeted amount (perhaps with some voting procedure required to engage the overrun obligation). If the actual participants in the project are affiliates of other more substantial entities, there may be guarantees or other forms of support from the parent organization to consider.

2. *Commercial and Financial Viability*

The project's commercial and financial feasibility must be acceptable to the lenders. This may involve economic modelling of project costs and revenues, assessment of the technology and facilities requirements of the project, evaluation of the sources of materials and labour required for construction and operation, sources of funding for that construction and

61. *Ibid.* at 158.

operation, the available resources and commitments from markets for the product or services the project will provide and the method of getting the product to market or engaging users of these services, the experience and expertise of the participants, the sponsors and persons involved in the construction and operation of the project.⁶² The lenders' evaluation of the sponsors will address several levels — their technical capacity and competence to manage the project, their financial commitment to the project and their technical and financial depth as a backstop to the project should it encounter difficulties.⁶³

3. Reserve

The risk that reserves recoverable from the reservoirs included in the project will not be sufficient to pay the debt and debt service costs is generally borne by the lenders. Lenders will normally have the benefit of detailed reserve and petroleum engineering reports on the proposed project.⁶⁴ Because of the lenders' reluctance to accept risks that they feel should properly be borne by those having the benefit of the upside of a project's success — the equity providers — lenders will often not lend against anything other than proven reserves that can be demonstrated to be commercially recoverable, and then only on the basis of a very conservative repayment schedule that contemplates repayment well before full depletion of the reserves.⁶⁵ A production history for the

62. *Ibid.* at 159; Vinter, *supra* note 1 at 85.

63. Mills, *supra* note 2 at 307.

64. Mills, *ibid.* at 306 notes:

It is normal for a prospective borrower to submit to potential bank lenders detailed reservoir and petroleum engineering reports on the development to be undertaken. These reports will in particular: (1) describe the exploration and appraisal work carried out on the field or fields to be developed and classify the reserves of hydrocarbons contained in the field(s) into categories depending on their likelihood of recovery. Thus a banker would expect to see a classification into proven reserves (or 'P90 reserves' — the likelihood of recovering exceeding the stated figure is deemed to be 90 per cent), probable reserves (or 'P50 reserves' — ultimate recovery is 50 per cent likely to be either greater or less than the stated value) and possible reserves; (2) detail the development work to be undertaken and set out the cost and phasing of the works required; (3) provide projections relating to the anticipated production rates of individual wells over time ('production profiles'), the associated operating and maintenance costs expected and all additional fixed and variable costs to be incurred, including estimates of abandonment costs.

65. *Ibid.* at 307. Waddingham, *supra* note 48 at 426, notes that reserve categories other than proven producing "such as proved developed non-producing, may be incorporated in the technical analysis but their inclusion or exclusion in the lending decision is on a case by case basis. For new offshore projects the loan is established for a development program when the reserves are classified as proven underdeveloped, with a high degree of certainty of successful completion. Lenders do not give much weighting, if any, to reserve categories farther down the spectrum such as probable or possible reserves."

particular reserves will assist the lenders in assessing this risk. Where production involves sophisticated technology, injection techniques or unusual or complex geological formations, it will be important for lenders to be able to rely on the opinions of credible, independent experts in these areas. The degree to which individual sponsors have committed substantial equity and have, or have involved persons having, experience in producing from these types of formations or using these or similar technologies, will be important considerations for the lenders. In circumstances where a project must rely on reserves that do not have a production history, and where reserves cannot be classified as proven until pressure maintenance has begun, for example, rating agencies may find the risk acceptable given extensive modelling that supports the reserve estimates, analagous producing fields from which to draw geologic and reservoir conclusions, known technology and the expertise and equity commitments from the sponsors.⁶⁶

4. *Production Technology*

The production from offshore oil or gas projects and the transportation of product by pipeline or tanker often involves state-of-the-art technology by the world's leading providers of that technology. The experience of these providers and the participants in the projects are significant factors in the lenders accepting the risks attendant upon their use, often in a harsh environment and with complex and challenging reservoir characteristics. Both the Hibernia and Terra Nova projects, for example, rely upon a complex and unique array of offshore marine development and production technologies.⁶⁷ The previous use of these technologies in other parts of the world, the fact that the depths at which they are used are relatively shallow compared with other functional production areas⁶⁸ and the collective experience of the organizations involved in creating, installing and utilizing these technologies in operations, as well as the experience and expertise of the owners give the lenders comfort on this risk area. An independent engineer's review and opinion will be a significant factor in the lender acceptance of these risks.

5. *Political*

These consist of both risks common to any project (such as the role and stance of government and opposition forces; changes in tax, regulatory and legal regimes; expropriation; appropriation; whether project decisions are subject to political influence or delay, *etc.*); and civil disruption.

66. See "S & P Husky Terra Nova", *supra* note 15 at 11.

67. See the discussion of those used in Terra Nova, *ibid.* at 16.

68. *Ibid.* at 17.

Attempts may be made in some jurisdictions to have the government of the jurisdiction in which the project is carried out accept some responsibility for political risks. The extent to which obligations or payment, rate or tariff provisions are adjusted to reflect cost increases resulting from changes in law or political actions serves to allocate these risks between non-government participants. If a party bearing such obligations or making such payments has government support or the government agrees to compensate it, the government may accept some of the risk. A government may also give assurances there will be no nationalization or expropriation, or at least that there will be fair compensation in such events. Alternatively, a government may give some general comfort language on maintaining the fiscal and other aspects of the legal regime affecting the project that particular government is responsible for.

A basic problem with undertakings by governments in a parliamentary democracy is the principle that one parliament cannot bind another. Given this fundamental principle of parliamentary democracy, there may be little a lender or a participant can do to achieve comfort the legal rules will not change — except to try, through negotiating a set of undertakings from the government of the day, with a set of compensation arrangements in place if the events contemplated by those undertakings do not materialize, to raise the threshold of political embarrassment involved in that or future governments changing the legal rules, with a process for compensation or perhaps even a buy-out in the event of unacceptable changes in laws or regulatory requirements.⁶⁹

69. In foreign jurisdictions there may be insurance or some form of backstop arrangement (government or otherwise) available to cover off some of the political risks. An example is the Overseas Private Investment Corporation (OPIC) for U.S. companies and the Multilateral Investment Guarantee Agency (MIGA), an affiliate of the World Bank Group. The Export Development Corporation (EDC) in Canada assists Canadian exporters in certain fields (engineering and project management, scientific and technical services, transportation, energy services and construction) by providing a range of financial and risk management services such as export credit insurance, financing to foreign buyers of Canadian goods and services, and guarantees. These include contract bonding, performance security insurance, medium to long-term financing, and limited recourse project financing. The EDC is a financially self-sustaining Crown corporation of the federal government that operates on commercial principles. It usually requires a minimum of 50 percent Canadian content. The goods and services need to be exported from Canada to another country. EDC also provides political risk insurance in support of Canadian investments abroad or on export of Canadian goods or services. Such policies insure against losses due to transfer and incontrovertibility of funds, expropriation and political unrest. Vinter, *supra* note 1 at 187-208. See also the discussion by M. Kantor, "Summary of Project Finance Programs of U.S. Eximbank, (Export – Import Bank of the United States), OPIC, JEXIM (Export Import Bank of Japan), ECGD (Export Credits Guarantee Department)" in *Project Financing: Domestic and International* (New York: Practising Law Institute, 1995). See also P.F. Fitzgerald, "Overview of Rules in International Project Financing" in *Project Financing from Domestic to International: Building Infrastructure Projects in Developing Markets* (New York: Practising Law Institute, 1995).

Given the principle of parliamentary democracy discussed above, there will almost certainly be concerns with respect to enforceability of government undertakings and the ability to recover compensation if they are not observed.

6. *Suppliers*

This involves an assessment of the materials, utilities and labour required to construct and operate the project and the factors that affect their availability, quality and costs. The reliability of the sources (physical and entity), and the costs and other things required and risks encountered (transportation delays, customs, exchange restrictions, currency fluctuations, import restrictions, embargoes, *etc.*) to get these items from the source to their use in the project must be considered. Generally, the participants attempt to have the supplier bear these risks under the terms of the supply contract but, depending on the availability of other markets and the attractiveness of the project as a purchaser of the material or service, a supplier may be successful in limiting its risk, often to all or a portion of the price paid for the thing supplied or some other pre-agreed limit on liability. The risk of supplier failure or unavailability of a product or service required for the project must be allocated among the participants and the lenders.

7. *Currency*

Currency risks relate to the currencies used in different parts of the project and its operations (supplier and construction costs, operating and maintenance costs, debt servicing and repayment, purchase of product or use of service, *etc.*), and involve factors such as inflation, changes in valuation of the currencies involved and possible restrictions on the movement of currencies from particular jurisdictions. The risks of changes in exchange rates between currencies in which costs are incurred and the compensation paid to the party incurring the cost may be allocated through indexing to other currencies, and the extent to which this indexing does or does not reflect the actual exchange differences affects the degree to which the risk is allocated from one party to another. The risk of inflation may be allocated in the same manner — by adjusting the payments to a party in accordance with an agreed inflation index. The risk of exchange restrictions is usually dealt with by assurances from the host governments that the participants will be able to freely move currency to and from their country or to provide adequate compensation or a buy-out undertaking in the event of a failure to do so.⁷⁰

70. Fitzgerald, *ibid.* at 9.

8. *Legal and Regulatory*

This involves an assessment of the effectiveness of the applicable legal regimes in recognizing and enforcing the intended interests of the participants in the project in accordance with the expressions of those interests in the project agreements and the ability of the participants to satisfy the legal requirements imposed by those regimes. In particular, does the legal regime clearly establish and protect the rights to produce or transport the commodity, or perform the service the project relates to, and the rights in relation to the assets used to do that, are those rights transferable, can they be the subject of enforceable security interests, and are they subject to termination for circumstances other than default? What approvals will be required for the construction and operation of the project and what is involved in obtaining these?

Notwithstanding the choice of law clauses in the project agreements,⁷¹ the ability to realize upon the collateral that exists in a particular jurisdiction will depend on the laws and courts, agencies or government authorities of that jurisdiction.

9. *Design and Engineering*

This involves both the risk that the initial design and engineering will not be adequate, and the possibility of changes required either to correct deficiencies or by later potential design enhancements. There will be issues as to standards of performance and the obligations of the party providing these services if the performance is defective. There are risks relating to the particular technology used with respect to the project. Many international engineering firms attempt to limit recoverable damages for their defective performance to a portion of the price they are paid for services or to a liquidated damages formula. A basic issue is to what extent the risk of improper design or engineering work is the responsibility of the party performing the work and what limitations is that assumption of risk subject to in the contract. The contractual limitations on a party's liability may not affect liability to third parties resulting from the defective work. A party may be required to correct deficiencies in its work or it may have obligations for the performance of the completed facility. The limitations of liability may not apply to fraud, negligence (ordinary or gross) or wilful misconduct, to items insured against (to the extent of insurance) or in the event of a substantial breach of the party's obligations.

71. For a discussion of choice of law provisions in a project financing context see K. Mettälä, "Governing - Law Clauses of Loan Agreements in International Project Financing" (1986) 20 *Int'l Lawyer* 219.

10. *Construction*

The basis of compensation for the construction work itself (fixed price/unit cost/cost plus/risk-reward) allocates some of the risks, as does the scope of work and provisions dealing with *force majeure*, equitable adjustments, change in circumstances and the standard contractual allocation techniques such as representations and warranties, indemnities, guarantees of performance, direct assumption of risk clauses, limitation provisions and the like. Problems that can arise in construction, such as construction and material deficiencies by the contractor and its subcontractors, inability to acquire necessary property rights, inadequacy of insurance and bonding, increased costs required to complete the work as specified, failure to obtain permits or approvals as required, changes in the work, damage to work or persons or property from the work, and regulatory sanctions, are all factors that can result in increased time or costs for construction. Provisions dealing with bonuses for early completion and liquidated damages or penalties for delay or failure in completion are used by parties to provide for such contingencies. In an alliance context, the risk and reward formula is intended to address the costs or savings that result from defective or better than target performance. The parties usually involved in the allocation of these risks are the contractor or alliance, subcontractors and suppliers, the participants and the users of the service resulting from the project together with their respective backers such as guarantors, sureties, insurers and other parties providing comfort or support in respect of the performance of the primary obligations.

There may be a cap on liabilities — it may be individual and cumulative or there may be time limits on the entitlement to be compensated for losses due to breach of warranty or of contractual obligations. There is often exclusion of consequential or extraordinary losses.

The risk of incompleteness or inaccuracy of information supplied by the owner or other parties to the contractor or alliance is also relevant. There is often an exclusion of warranties or other responsibility by the owners as to information provided.

11. *Site*

These risks relate to geography, geology, environment (such as weather), other operations in the area, civil unrest, *etc.* If different conditions are encountered, whose responsibility are those? Are they foreseeable or non-foreseeable? What are the parties' obligations to inspect or otherwise take changes in site conditions into account?⁷² How are hazardous materials dealt with?

72. For a discussion of clauses dealing with changes in site conditions see S.C. Sanders, "Unanticipated Environmental Costs In Construction Contracts: The Differing Site Conditions Clause as a Risk Allocation Tool" (1994) 11 Int'l Constr. L. Rev. 466.

12. *Completion and Start-up*

Performance, start-up or drawdown tests and commissioning will generally end the contractor/alliance risk and begin the operator/owner risk. Satisfaction of the tests provides evidence that the project is capable of operating at the level of performance considered (and established by contract) to be necessary to service and repay debt and pay operating costs. Start-up and operating risks include technological failure or obsolescence, changes in law, uninsured risks, availability or costs of raw materials and labour, shifts in demand or price received for service, and negligence in project operations. There may be a liquidated damages formula in place to compensate for performance deficiencies demonstrated on start-up and commissioning tests, with a range of results in which the participants can or must accept the facility and look to this compensation for comfort rather than rejecting the facility if it does not meet these tests.

Project lenders do not usually advance funds on a limited recourse basis before completion and start-up occur.⁷³ They are not normally comfortable assuming the risks the project will not be completed or of delays in completion or cost overruns that delay debt repayment or increase capitalized interest.⁷⁴ The result is generally either a delay in the advance of project financing until completion tests are satisfied or, if project financing is advanced prior to production start-up, additional recourse of the lenders (through guarantees, backstops, completion commitments, debt repayment or assumption obligations, cost overrun commitments or other forms of credit enhancement, such as contingency accounts or debt reserve accounts) from participants or their sponsors until such completion tests have been satisfied.⁷⁵

Drawdown or completion tests generally involve agreed-upon coverage ratios in respect of the net present value of the cash flow available for debt service (generally cash flow from operations after payment of capital and operating expenses and royalties but before payment of debt service and taxes) that measure the future debt-servicing capacity of the project.⁷⁶ These measures will be applied to the life of the project, the life of the project loan facilities, the historical cash flow available for debt service from the project for a stipulated period in relation to specified repayment

73. Mills, *supra* note 2 at 307.

74. *Ibid.*

75. Waddingham, *supra* note 48 at 436, discusses a cost overrun pool, a technique used in North Sea financings whereby lenders and sponsors shared some of the completion risks.

76. Mills, *supra* note 2 at 310. See also Waddingham, *ibid.* at 427-29, for a useful discussion of cover ratios; Mills, *supra* note 56, for a detailed review of the economic evaluation of oil and gas development projects by commercial bankers; and Wood, *supra* note 1 at 26-27.

and servicing of project debt, and the cash flow available for debt service in relation to the agreed debt service on project debt.

The lenders' efforts to evaluate and minimize completion risk will also include an assessment of the contractual arrangements in place to achieve completion (fixed price/alliance contracting structures), the experience, reputation and ability (financial and otherwise) of the participants and other parties involved in activities critical to completion, credit enhancements (such as sponsor guarantees, performance bonds, and course of construction insurance which the lenders may want security on as well) that improve the odds that the persons having obligations for construction and completion will perform these obligations, and confirmation by independent experts of the condition and suitability of the physical asset cost estimates used to create the financial projections to apply the required completion test cover ratios. The loan or credit agreements with the project lenders will generally specify the circumstances in which the completion tests will be performed, the conditions precedent to their performance and the information required by the lenders (whether internal to the participants and the operator or based on an independent petroleum engineer's estimates) as to reserves, capital and operating costs and production volumes using factors such as commodity prices, interest rates, currency rates and inflation measures that are determined in a manner agreed to by the parties, as well as risk weighting of the different categories of reserves. The successful commissioning of the project in accordance with its technical requirements is referred to by lenders as "financial completion."⁷⁷ The steps required to achieve this are intended to ensure that the project, being physically complete in the sense of operating at a prescribed level of capacity or having achieved certain specified production levels, is also generating or capable of generating the required cash flow to repay and service the project debt.⁷⁸

13. *Operating*

Successful operations depend on the personnel, experience, knowledge, reputation, financial status and local contacts of the operator. Operating costs can exceed budget because of design or equipment defects; inaccurate or incomplete assessments of the production or throughput process;⁷⁹ factors affecting quality, cost, availability and performance of materials, equipment and labour; changes in standards under laws or regulatory authorities; adequacy of insurance; or hazardous substances. Poor opera-

77. Mills, *ibid.* at 308.

78. Waddingham, *supra* note 48 at 435.

79. Wynant, *supra* note 1 at 167.

tions can result in failures to achieve projected financial performance of the project. The operating agreement may provide for liquidated damages or bonus payments for operating performance in relationship to targeted performance, with the targets adjusted for risks not considered to be the responsibility of the operator. The operator's exposure to these risks may be limited if the exposure is felt to be inconsistent with inducing the operator to run the project efficiently. The users of the project or the purchasers of its production and the owners may share in these risks, to the extent not absorbed by the operator, based on the extent to which changes in operating costs are reflected in the rates charged for use of the project's services or the price of the commodity.

14. *Market*

The market for the production from or the services of the project will affect the cash flow available to service the project financing and provide the returns to justify the project. Factors that influence this market include the demand for the product or service, the length and price of commitments to take or use alternative sources of products or services, technological changes, the costs of market access, changes in taxes imposed on returns from the production or use of the facility and generally any factors that influence the demand for the production or the use of the project facilities. Fixed or floor prices or price escalation provisions can shift some of the price risks to purchasers of the product or users of the service.⁸⁰

15. *Financing*

Since the project, in a project financing situation, is not financed by equity- or entity-based borrowings of the participants (with full recourse to the participants), the recourse limitations of the loan require that the combination of contractual, regulatory and other external elements that form or affect the project will produce sufficient cash flow to service debt.⁸¹ A fundamental element of such project financing is enforceable collateral security in the form of assignments of project revenues to support debt obligations from the participants. Credit enhancement from the participants may be required to support the risk allocation.

This credit enhancement may be by way of letters of credit, capital contribution commitments, completion assurances, guarantees, insurance, indemnities, *etc.* Guarantees may take the form of limited, direct, indirect, implied or deficiency guarantees by the participants, guarantees

80. *Ibid.* at 170.

81. Hoffman, *supra* note 1 at 629.

by third parties not directly participating in the project or in some cases contingent guarantees or so-called “comfort obligations.”⁸²

Lenders are usually only prepared to take design and construction risk, completion risk, start-up risk and performance risk where they are dealing with proven technology, predictable construction and the ability to mitigate these risks through insurance, guarantees from contractors and other third-party risk enhancements. Limited recourse financing may only be available after drawdown or performance tests establish the project’s performance capabilities.⁸³ It may be that in order to make a project financeable, there would need to be some form of recourse or credit enhancement until the drawdown or performance tests had been met. Other credit enhancement mechanisms include surety obligations, take-or-pay contracts and indemnification obligations.

Contracts required to construct and operate the project, such as the documents giving the right to develop, the documents granting the interest in the site, and the design, construction and procurement contracts with respect to facilities, must not interfere unduly with the projected debt repayment from project revenues.⁸⁴ These project contracts must be enforceable and of value as collateral security. The lenders will require a security interest in, or conditional assignment of, each significant project contract.

16. *Environmental*

Environmental risk is a major concern in offshore projects. To that end, the agreements relating to the construction and operation process will generally contain detailed provisions allocating the risk of costs and liabilities associated with environmental liabilities. Again, there will be costs incurred for reducing or avoiding environmental losses and liabilities, costs incurred in dealing with environmental losses or liabilities for which a party is responsible, costs of procuring insurance or other third-party protection against environmental liability and the costs incurred in connection with that liability. Given the significant exposure that could result from a spill or contamination during construction or operation of the project facility, or the transportation of production to market from the facility, the credit support or enhancement available in respect of a party’s assumption of risk will be an important factor in the lender’s assessment of the exposure. The starting point for such assessment will be the legal regime applicable to the project, the nature of the construction, operating

82. Wynant, *supra* note 1 at 171. For a discussion of the legal effect of a so-called “comfort letter”, see *Kleinwort Benson Ltd. v. Malaysia Mining*, [1988] 1 All E.R. 714 (Q.B.).

83. Wynant, *ibid.*

84. Hoffman, *supra* note 1 at 7.

and transportation activities and the adverse environmental effects that could result in the course of those activities. Liabilities that attach by virtue of the general legal system if the parties do nothing to re-allocate the risk must be considered, followed by means available to the parties to deal with the risks through best practices, insurance, contract or other means.⁸⁵

17. *Abandonment and Decommissioning*

Abandonment and decommissioning costs represent significant project liabilities and should be addressed in the ownership and operating arrangements. Again, this is a matter of considerable concern to project lenders. In a default scenario, the project lender may, and the assignee of the defaulting participant's interest in the project on foreclosure will, be liable for such costs. Accordingly, the ownership and operating arrangements should provide for an effective mechanism to fund abandonment and decommissioning obligations. Current tax laws and royalty agreements do not foster the creation of funded reserves in the oil and gas sector to cover these obligations. However, ownership and operating arrangements can and should provide a mechanism whereby these costs are dealt with. This can be done by requiring project participants to provide acceptable security for abandonment and decommissioning costs at an appropriate time. Such security could be provided by letters of credit or other cash equivalent security. The amount and timing of the security will be linked to the present value of the remaining economically recoverable reserves.

18. *Force Majeure*

Force majeure is an interesting concept in project financing situations. The underlying project agreements often have a variety of approaches to the subject — the extent to which performance of obligations will be excused or delayed if prevented by causes that are beyond the reasonable control of the party having the obligation. There are often significant differences in the approach to *force majeure* among the various project agreements, particularly if governments (who have within their area of jurisdiction the ability to change the rules that govern the performance of the parties' obligations) are parties to the agreements. The project lenders typically resist any notion that a *force majeure* could have the effect of interrupting their payment schedule, and will look to the participants or project sponsors for recourse if this occurs. It is the consistency and "fit" of the *force majeure* provisions of the various project agreements that will

85. Vinter, *supra* note 1 at 209-22.

concern the lenders and their counsel. The effect of the limited scope of a *force majeure* clause in a particular contract is an important caution to bear in mind — such provisions may not extend to parties outside the contract (suppliers, for example) who may themselves be affected by *force majeure* and on whose performance the performance of a party to the contract depends.⁸⁶

IX. Risk Allocation

The allocation of risks among parties involved in the project will be negotiated on the basis of control over the circumstances creating the risk and the consequences of the risk if it occurs, the rewards associated with that control and the role and creditworthiness of the various parties.⁸⁷ In a perfect world the allocation will be done on the basis of the party in the best position to bear the risk from an economic standpoint. In reality and in practice the allocation of risks depends on the bargaining position of the various parties involved in the project and the ability of the project to cover risk contingencies with the underlying cash flow and reserve accounts. In arrangements involving fixed-price turnkey contracts, the contractor may assume much of the construction, completion and start-up risks. Following commissioning and start-up some of the project risks can be assumed by others. If creditworthy purchasers of production can be secured who will commit to take production or use services from the project, on a basis that gives adequate revenue assurances, lenders may be prepared to assume some operational risk once an effective start-up has been achieved. It may also be possible after start-up to allocate some of the risks to financial intermediaries who typically deal with the risks associated with currency exchange, interest rates and commodity prices, through arrangements such as swaps and forward sales. Other potential participants in project risk-sharing include equipment vendors and raw material, fuel and utility suppliers. Export credits and international financing agents may also be of assistance in project financing debt.

86. *Ibid.* at 93-94. See also the discussion of force majeure in the context of project contracts in J.R. Paulus & D.J. Meeuwig, "Force Majeure – Beyond Boilerplate" (1999) 37 *Alta L. Rev.* 302 at 313-14; P.L. Bruner, "Force Majeure Under International Law and International Construction Contract Model Forms" (1995) 12 *Int'l Constr. L. Rev.* 274; S. Jeremiah, "Insurability of Force Majeure Events in Construction Contracts" (1995) 12 *Int'l Constr. L. Rev.* 319; and P.J.M. Declercq, "Modern Analysis of the Legal Effect of Force Majeure Clauses in Situations of Commercial Impracticability" (1995) 15 *J. L. & Com.* 213.

87. Hoffman, *supra* note 1 at 41. For an excellent discussion of project risk and its management, see C. Chapman & S. Ward, *Project Risk Management: Processes, Techniques and Insights* (Chichester, NY: John Wiley & Sons, 1997).

A party to whom a risk is allocated agrees to bear the costs if the loss or damage that the risk represents occurs.

Obligations alone are not enough. They must be enforceable to be effective. In the Canadian common law system, a party, in order to have a legal obligation to another party, must be privy to an enforceable contract the other party is also privy to, or subject to an obligation arising by virtue of trust, agency or some other recognized means of conferring rights for the benefit of third parties.⁸⁸

In addition, there must be consideration of the actual means and likelihood of recovery on obligations — even if they are enforceable against a party. What is behind the party to whom the risk is allocated? What is its reputation, competence, creditworthiness? Are there other backers or persons who have an interest in the party's successful performance? What assets of the party or persons supporting its obligations may be realized upon to satisfy damages or losses incurred by its failure to perform its obligations, and how difficult and costly is it to actually realize on those assets?

Factors that should guide the parties in negotiating risk allocation on a project include the following:

- (a) What party has or has available to it the greatest expertise in dealing with the risk or areas that avoid or reduce the risk?
- (b) What financial capacity does a party have to accept the risk?
- (c) What compensation does a party receive for performing its obligations in relation to the work and how does this compare to the potential cost or damage if the risk occurs?
- (d) What party has the comparative cost advantage in bearing responsibility for the risk and in preventing it?
- (e) What party is best able to control or manage the risk?
- (f) What are other available means of allocating the risk and the cost and responsibility for the cost of those?

The process is one of identifying the risks, analyzing the factors relevant to the most optimal allocation of the risks, negotiating based on those factors and then specifying in the relevant contracts how the risk is allocated.

88. See *Greenwood Shopping Plaza v. Beattie* (1980), 111 D.L.R. (3d) 257 at 263-65 (S.C.C.), per McIntyre J.; and the more recent consideration of the issue in *London Drugs v. Kuehne & Nagle International* (1992), 97 D.L.R. (4th) 261 at 343-70 (S.C.C.), per Iacobucci J. See the recent English legislative initiative in the *Contracts (Rights of Third Parties) Act 1999* (U.K.), 1999, c. 31.

X. *Review of Risk Allocation Arrangements*

Typically, there will be a thorough review of the project agreements and the risk allocation under them. This may be done as part of the initial negotiation of these arrangements, as part of the financial advisors' retainer, in the course of preparation of an information memorandum or similar document or as part of lender due diligence. Indeed, it is often done in all these circumstances. It is directed at assessing the "fit" of the contractual, legal and regulatory regimes that relate to the project. If a risk has not been assumed by one participant, where does it fall, either on the basis of the project contracts or the general law? What assignability rights exist and what is permitted under them? Are there obvious mismatches between obligations and relief from those obligations?⁸⁹

XI. *Some Additional Lender Issues*

There are a number of specific issues that potential lenders in an East Coast project financing may be concerned about.⁹⁰ We discuss thirteen of these.

1. *Project Definition*

Lenders will want to be comfortable with the project definition found in the project agreements. What can be done, within the framework of those project agreements, to change that definition with the consequence that the risks attendant on the project are materially different from those contemplated in the original definition? The difference between what lenders will accept as a variation on the implementation of the basic project definition and what they will not accept as a material change in that concept has been referred to as the divergence of the interests of debt and equity. Lenders will want the right (directly by their consent or indirectly by controlling the participant borrower whose consent is required to make changes under the relevant project agreements) to have a say in changes to the project definition they consider to be material.

2. *Pre-Completion*

The lenders' role in monitoring and approving cost overruns and changes in project scheduling will be related to the degree of comfort they have on completion assurances. If they have adequate assurances, their involvement may be very limited. If they have any significant completion risk they will want an actual monitoring/control role, generally through an independent engineer.

89. Wood, *supra* note 1 at 13-14

90. Vinter, *supra* note 1 at 94-104, discusses requirements for bankability, and at 253-61 discusses North Sea legal issues in a project financing context.

3. *Operating Expenses*

Lenders will generally recognize that expenses required to operate and maintain the project have priority over their claims on revenues for debt service but will want to ensure that expenditures they consider to be equity-based do not have such priority and are subordinate to their claim for debt service.

4. *Default*

Lenders will want to have a role in relation to default proceedings in relation to a borrower under the project agreements in the sense of being entitled to notice of any alleged default and an opportunity to cure the default or to realize upon their collateral or both before steps are taken by other participants to take over the defaulting participant's interest. They will also want to be able to attend meetings of the governing body of the participants in the place of the participant for such cure period if the lenders have such a right under their agreements with the participant.

5. *Reporting and Monitoring*

Lenders will want the benefit of a detailed reporting or monitoring regime with respect to the project, either through their own representatives or through the operator providing them with copies of its reporting to the participants in a form and frequency that the lenders are prepared to accept.

6. *Realization by Lenders*

Lenders will require the ability to assume, in a legally effective way, the interest of a defaulting participant and to deal with that interest in such a way as to permit lenders to realize upon the collateral it represents as security for their financing. Lenders will want to be a permitted assign of that interest without further approval and to be able to participate under the project agreements as such.

7. *Ownership And Operating Arrangements*

Lenders will want comfort that operations under the project agreements will not prejudice their security without their consent (directly or indirectly through the borrower participant). The dividing line is generally between normal course operations required to carry out the project on the basis contemplated by the project agreements that the lenders have received and accepted, and expenditures or operations (such as expansions) that the lenders view as a point at which the interests of debt and equity diverge.

The ownership and operating arrangements among the project participants will normally be put in place before project financing is undertaken.

As such, the trustee holding the inter-participant security will register that security before any project financing security has been granted. The degree to which ownership and operating arrangements are lender friendly will be a function of the convergence of the participants' financing strategies and degree of readiness at the time the ownership and operating arrangements are established. A project lender may find itself having a third priority charge on project assets (behind security for provincial royalties and participants' security). The extent to which the project lender can enhance its priority will be a matter of negotiation at the time of project financing. Enhancement will be easier if the project lender is providing financing for the entire project. If the project lender is providing financing to fewer than all the participants, it may be quite difficult for the project lender to gain priority over the previously granted participants' security as certain participants may not be particularly motivated to cooperate in other participants' financing efforts and will resist attempts to dilute their security position. This, of course, limits project financing opportunities. That is not to say such financing cannot be obtained, but it may involve more expensive borrowing, greater non-project recourse to the borrower's assets and the requirement for other forms of credit support.

A project lender must carefully review the operating, ownership and joint venture agreements to confirm that there is an effective and efficient arrangement in place among the project participants for the execution of the project. Apart from this general concern, project lenders will have a number of specific concerns with a project's operating and ownership arrangements.

Of particular concern is the nature of the participant's obligation to fund project expenditures prior to production start-up, the period of highest risk to both equity and debt participants in the project. Operating and ownership arrangements will typically have restrictions on the ability of participants to withdraw. These may take a variety of forms. For example, the operating and ownership arrangements could have a blanket prohibition against, or no mention of, withdrawal prior to production start-up, with full recourse against a participant that withdraws. Alternatively, withdrawal rights may be limited. In some cases, withdrawal from the project may only be allowed after some threshold amount has been expended on the project. In others, withdrawal may be limited to situations where the original pre-completion cost estimate has been exceeded by a prescribed percentage. In any event, a project lender will want to ensure, to the greatest extent possible, the commitment to the project of the equity participants. This concern is, of course, shared by the participants themselves. Given the enormous capital costs prior to pro-

duction start-up, every participant shares in the concern that, if project completion is not achieved, its investment may be lost. While normally one thinks of contingent liabilities, it would not be unfair to think of the project assets and related expenditures as contingent assets prior to completion and production start-up.

Similarly, a project lender will take comfort in knowing that project participants must assume a *pro rata* share of a defaulting participant's share of project expenditures. In the case of a default, the other participants will be obligated to keep the project moving forward as a work-out strategy is developed. As well, the degree of recourse to the non-project revenues and assets of non-defaulting participants will be of importance to project lenders and rating agencies.

Restrictions on assignability of a participant's interest in the project is of critical importance to project lenders, particularly where the lender's recourse is limited to the project and project assets. A project lender will need the ability to assume, and eventually dispose of, a defaulting participant's interest in the project. Also important to the lender is the manner, if any, in which the ownership and operating arrangements deal with royalty defaults. Failure to pay royalties can jeopardize the status of the production licence, leading to its cancellation. In addition, royalty defaults can, in the case of a royalty agreement applicable to the project, lead to a termination of the agreement resulting in a loss of the "royalty deal" negotiated by the project participants and possibly to its replacement by more onerous royalty terms. As well, a royalty default might trigger the exercise of various remedies available to government under a royalty agreement. Such remedies could include realization by the government of its security interest in project assets. Project participants and project lenders share the same interest in keeping the project running without disruption or government intervention. The ownership and operating arrangements could place some onus on non-defaulting participants to address royalty defaults prior to government action. This might entail the non-defaulting participants funding the defaulting participant's royalty obligations during the work-out period or provisions that facilitate the project lender doing so. This will allow for an orderly disposition of the defaulting participant's interest in the project to a new, more financially capable participant. Ideally, the royalty agreement will contain complementary provisions whereby the government agrees to a "stand still" for as long as non-defaulting participants are actively seeking a solution to the royalty default. This, of course, is in the interests of the non-defaulting participants. As a practical matter, a default in payment of royalties will in almost all circumstances be accompanied by a default under the ownership and operating arrangements.

Under the ownership and operating arrangements, there will invariably be provisions whereby a participant's obligation to fund project expenditures will be secured. The security provisions are of critical importance to the lender. The security will typically include an operator's lien, inter-participant security or both. An operator's lien secures advances made by the project operator on account of project expenditures made for the joint account. Expenditures made by the operator for the joint account are then recouped by the operator billing the participants for their respective share of joint account expenditures. The lien attaches to each participant's interest in the project assets and project production. Under the *Accord Acts*, the operator's lien is given first priority over all other security interests in the production licence unless that lien is subject to a registered postponement. Project lenders recognize that advances by the operator are essential for the ongoing needs of the project and generally do not have a problem with regard to the lien's priority. As a practical matter, however, the operator's lien is becoming less relevant. The enormous costs of offshore energy projects have driven operators to abandon or limit the approach of advancing funds for the joint account. Rather, cash call or zero balance banking procedures are used. Under the cash call system, the operator estimates expenditures to be made for the joint account and requires participants to pay to the operator their share of costs in advance. Under the zero balance banking procedure, each participant's share of project costs is funded through a special banking facility whereby costs incurred by the operator for the joint account are automatically removed from each participant's bank account on a daily basis. In either case, the operator does not advance funds on behalf of the other participants.

Given the cash call and zero balance banking procedures, the operator's lien is becoming less and less important. More important is the inter-participants' security. Typically, each participant will grant security in its interest in the project to each of the other participants to secure its obligation to fund joint account expenditures. Given the enormous costs of offshore energy projects, each of the participants will seek this type of security and insist that it constitutes a first charge subject only to the government's security in respect of royalty obligations. The participants' security is usually held by a security trustee on behalf of the participants. Participants' security is of particular concern to project lenders as it will, in most cases rank in priority to the lender's security. This should not be an insurmountable obstacle to project lenders, because this security backstops the equity and project commitment of the participants. However, this prior charge is a concern to lenders and this concern may lead to negotiated inter-creditor arrangements designed to ensure an appropri-

ate allocation of risk between debt and equity and an orderly response to participant default.

As noted above, royalty agreements can be more or less lender friendly. The same is true of ownership and operating arrangements. The degree to which ownership and operating arrangements are lender friendly will be a function of how far along the participants are in relation to specific project financing strategies at the time the ownership and operating arrangements are negotiated and the degree of commonality in financing strategies among the participants. If all or a significant number of participants anticipate pursuing a particular project financing strategy, the ownership and operating arrangements are likely to be drafted in a way that will accommodate such strategies. Input from lenders and their counsel at this stage can assist in structuring the ownership and operating arrangements in a manner that facilitates rather than impedes financing efforts.

Project lenders in making financing decisions must concern themselves with the following aspects of the ownership and operating arrangements:

- (a) Will the security taken by the lenders be a permitted encumbrance (generally, ownership and operating arrangements limit what encumbrances participants may have on their interests in the project)?
- (b) What priority, if any, will the lenders have *vis-à-vis* the security granted by the participants to each other to secure their respective funding obligations in respect of the project?
- (c) What restrictions are there on assignability of the ownership and operating arrangements and related project agreements?
- (d) Will the lenders be entitled to timely notice of default by a participant under the ownership and operating arrangements?
- (e) What rights will the lenders have in relation to operating a defaulting participant's interest pending a foreclosure and sale by the lenders of that interest?
- (f) What remedies do non-defaulting participants have in relation to the defaulting participant and how might these affect the lenders' position (typically, a defaulting participant will have a limited period to cure a default under the ownership and operating arrangements, failing which its interest in the project is forfeited to the non-defaulting participants)?
- (g) What rights or obligations will the lenders have to remedy defaults by a participant during a work-out period?

Failure to address these issues in the ownership and operating arrangements may impede the ability to arrange project financing. The project lenders may require amendments to the ownership and operating arrangements as a condition of advancing project financing. The lenders may also require the participants to enter into elaborate inter-creditor agreements. These amendments to the ownership and operating arrangements and the entering into of inter-creditor agreements may be difficult to achieve if not all of the participants are pursuing the same financing strategy.

8. *Insurance*

Lenders will want comfort as to the insurance program in place for the project and their rights in relation to insurance money payable as a result of the damage or destruction of the project assets. This is of particular importance in the project financing of an undivided interest in a project. Where a participant self-insures a portion of the insurance program, the lenders may require a full recourse covenant from the participant to make such self-insurance available to the project.

9. *Alliance*

An alliance presents project lenders with an interesting variation on risk allocation in the construction phase:

- (a) Each participant in the alliance and each of its subcontractors assumes responsibility for damage to its own property and death of or injury to its own employees.
- (b) The owners are generally responsible for any loss of the work.
- (c) Each participant in the alliance generally bears its own consequential losses.
- (d) There should be no claims among alliance participants relating to cost overruns or delay costs, all of which should be captured in the risk/reward formula.
- (e) Usually each alliance contractor provides a warranty on its scope of work. The cost of warranty work may or may not be included in the target cost.
- (f) The risk of environmental contamination from equipment used in construction may be borne by the alliance. All other environmental risk is generally borne by the owners.
- (g) Usually the owners bear any upside or downside associated with exchange risk.
- (h) Usually all recoverable taxes are excluded from the final calculation of project cost and the owners bear the risk of any increase in taxes or the enactment of any new tax.

- (i) There is generally a comprehensive insurance program for the project that insures all project participants with insurance recoveries credited to the final cost calculation.
- (j) Most alliances provide for a comprehensive release of claims among the alliance participants at the end of the project subject to certain exceptions.

The lack of a testing program in the alliance context has been raised as a concern in some circumstances.⁹¹ The fact that an alliance does not offer a “single, fixed-price, turnkey, date certain engineering, procurement and construction (EPC) contractor to whom the project and lenders can turn to for recourse if the project is not complete and operational by a certain date” has also been noted. What the lenders do rely on is that the alliance is “an owner-general contractor entity that has enormous incentives to complete the project and see to it that it operates as designed” and the experience and financial commitments of the owners.⁹²

10. *Royalties*

As noted already, Newfoundland, under the contractual royalty regime negotiated with respect to Hibernia and the proposed contractual royalty regime for Terra Nova, has required security for royalties owing to the province in the form of a first charge against certain assets of the participant including the production licence and proceeds from the disposition of the production licence.

With respect to projects where the royalty agreement or hybrid (agreement-regulation) model is used, project lenders must pay particular attention to a variety of issues, including

- (a) the degree to which the royalty rates and triggers and cost deduction rules reflect the economic modelling for the project utilized by the lender in connection with project financing decisions;
- (b) the degree to which cost deduction rules accommodate the particular project financing structure, particularly in cases where unconventional and off-balance-sheet financing techniques are used to ensure not only the deductibility of expenditures but the time at which they are recognized for royalty purposes (this is important in relation to the availability of return on capital allowances under the royalty rules, the attainment of payout and the escalation from low pre-payout gross royalty rates to higher post-payout net profit royalty rates);

91. “S & P Husky Terra Nova”, *supra* note 15 at 10.

92. *Ibid.*

- (c) the assignability of the royalty agreement in cases of default (*i.e.*, can the lenders or their assignee have the benefit of the royalty agreement in a foreclosure situation?);
- (d) the right, if any, of the lenders to maintain the royalty agreement in effect by curing past and current royalty defaults of a defaulting borrower (ideally, from the lenders' perspective, the lenders would only be responsible for current royalty obligations pending completion of a workout exercise);
- (e) the rights of the province to cancel the royalty agreement as against a defaulting participant or as against the project as a whole (the risk here being the imposition of less favourable royalty terms either by regulation or negotiation of new contractual terms in the face of a default); and
- (f) the security taken by the province in relation to the project production licence and other project assets, and the priority that security will have *vis-à-vis* the lenders' security (of particular importance where project financing has been undertaken on a non-recourse or limited recourse basis and access by the lender to project assets is essential).

To some extent, opportunities exist to make the royalty agreement lender friendly by taking into account the foregoing matters. However, the ability to do so depends upon how far advanced project financing plans are at the time of royalty agreement negotiations. This, in turn, will depend on the borrowing needs of the participants and whether they are compatible as amongst the group, and the degree of readiness of the participants to proceed with project financing. Failure to address project financing at the royalty negotiation stage can lead to difficulties later on. Neither the government nor the participants will be particularly keen to reopen a signed royalty agreement so as to better accommodate financing needs down the road. As time elapses, each party will, through experience working with the royalty agreement, identify areas where the agreement does not work to their advantage or in the way originally anticipated.

11. *Redetermination*

The terms for development of an offshore oil project, in which all the development drilling has not been completed, may require a redetermination of the field interests a certain number of years following production start-up.

Unitization and reserves redetermination are of concern to project lenders. To date, no offshore East Coast energy project has entailed unitization other than Terra Nova. Unitization is a process whereby

parties holding licences for different geographic areas overlaying a common reservoir agree to consolidate their interests in those licence areas such that project costs and revenues are shared based on the relative contribution of hydrocarbon reserves from the various licence areas. The *Accord Acts* provide for two forms of unitization. One form requires the entering into of a formal unit agreement and unit operating agreement which is filed with, and approved by, the appropriate board as required under the legislation. The other is a short-form unitization whereby the holders of two or more significant discovery licences may apply to the applicable board for the issuance of one production licence covering the area of the significant discovery licences. Unitization necessarily involves determining the amount of hydrocarbon reserves located within each licence area and an allocation of working interests in the project based on each participant's relative contribution of reserves to the unit. This allocation is done relatively early in the development phase of the project and is based on the available geological, engineering and other data gathered during the exploration phase. Additional data will be obtained as the project proceeds through further delineation work and production activities. Accordingly, once a project has been in production for several years a more refined estimate of relative reserves contribution can be made. As such, ownership and operating arrangements may provide for one or more redeterminations, in which earlier allocations of working interests are revised to better reflect each participant's actual contribution of reserves. As part of the redetermination process, there will be a reallocation of sharing in project costs and revenues. This reallocation will apply to future operations and is often retrospective. Because of the enormous pre-completion costs, a great deal of technical work is done prior to the initial allocation of working interests. As such, dramatic changes in working interests are not expected on redetermination. However, even small changes can significantly and adversely affect the economics of the project for a participant whose working interest in the project is reduced on redetermination. Such changes in working interest will not be particularly problematic for a project lender that is providing project financing for all of the participants on the same terms and conditions. On the other hand, if a lender is providing financing to a particular participant only, redetermination is a risk factor that must be considered in lending decisions.

12. *Lifting and Transportation*

Project financing relies primarily, if not exclusively, on project cash flow to repay and service debt. The lifting and transportation arrangements applicable to a project are vitally important to each participant's revenue

stream and its ability to meet financing obligations. Accordingly, project lenders must carefully assess the impact of the applicable lifting and transportation arrangements. From a lender's perspective, the timing and frequency of liftings directly impacts the cash flow of a participant and the ability to service debt. If lenders are financing the entire project, this is not of great concern. On the other hand, if the project lenders are financing only a particular participant, then the terms of the loan will need to be tailored to the lifting and cash flow cycle of that participant. In any event, the lenders must carefully review the lifting arrangements to ensure that they are consistent with the debt service and repayment terms contemplated by the project financing. As well, the project lenders must consider what the respective rights and obligations of the participants are in the case of a failure to lift or other default under the lifting arrangements by a participant. An assignment of the lifting agreement should form part of the project lenders' security package.

From a project lender's perspective, the transportation arrangements for an offshore production project are also very important. These must be carefully reviewed to ensure that each participant has sufficient capacity rights in the tankers and other facilities to effectively move its share of production to market and thus generate revenue to service and repay debt. This will entail reviewing all the relevant transportation and transshipment agreements, which include the ownership and operating arrangements applicable to any owned vessels, the time charters applicable to chartered vessels, the voyage charters under which participants will ship crude oil on owned and chartered vessels, the capacity service agreements in relation to the transshipment facility and any regional agreements under which the capacity of the available tankers may be pooled. Assignment of such agreements may form part of the project lenders' security package.

The Sable project presents different transportation issues. This gas project is served by a pipeline that brings offshore production to an onshore gas processing facility and then further transports the processed gas to markets in Nova Scotia, New Brunswick and the United States. A project lender must consider what arrangements project participants have made for the processing and transportation of their share of gas production from the offshore production. Gas processing and transportation can be made on a long-term or short-term basis, and on a firm or interruptible basis. The particular mix of arrangements will be made by project participants based on their assessment of the gas market, deliverability of production, the volume of long-term, firm sales and other such factors. From a project lender's perspective, it is critical that participants have sufficient capacity, either on a firm or interruptible basis, to move

sufficient volumes of gas to market to generate the revenues needed to repay and service debt. Again, the transportation agreements between the project participants and the pipeline and the pipeline's tolls and tariffs (as approved by the National Energy Board) must be carefully reviewed. Assignment of the transportation agreements may form part of the security package for project lenders in respect of an offshore gas project.

13. *Production Sales*

Sales of petroleum substances, ultimately, provide the cash flow to repay and service project debt for an offshore development project. While the project lender will take an assignment of production revenue as part of its security package, specific assignments of crude oil sales contracts will usually not be taken because of their short-term nature. In the case where the participant's affiliate does the refining of production from the project, the project lender will need to be comfortable with the refining capacity and operational ability of the participant's affiliate.

In the case of a gas project, the lender will need to analyze the gas marketing strategy of the participant to ensure that the mix is based on reasonable assumptions as to volume and prices at the time the project financing is undertaken. Assignment of large volume, long-term gas sales contracts for utilities and industrial purposes may form part of the project lenders' security package.⁹³

Conclusion

As can be seen from the foregoing, there are some interesting and challenging issues in any East Coast project financing. The progression of energy development in this region, whether through offshore projects, transportation systems, infrastructure support or other projects or facilities, will offer many opportunities for creative refinements and innovations in the approaches to resolving these issues.

93. For a discussion of the financeability of such agreements, see Roberts, *supra* note 49.