

WILEY FINANCE

# PROJECT FINANCING

Asset-Based Financial Engineering

SECOND EDITION

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## Designing Security Arrangements

**P**assive investors typically provide the bulk of the capital for a project. Generally, these investors, which include passive equity investors as well as lenders, are interested only in receiving a return on their financial investment. They are usually prepared to bear certain credit risks but extremely reluctant to bear significant operating risks or other risks not premised on the ability of the project entity to meet its financial obligations. Consequently, project financing entails developing a network of security arrangements to insulate the passive investors from all the noncredit risks associated with the project.

In a project financing, lenders require the sponsors or other creditworthy parties involved with the project to provide assurances, generally through contractual obligations, that (1) the project will be completed even if costs exceed those originally projected (or, if the project is not completed, its debt will be repaid in full); (2) the project, when completed, will generate cash sufficient to meet all of its debt service obligations; and (3) if for any reason, including force majeure, the project's operations are interrupted, suspended, or terminated, the project will continue to service (and fully repay on schedule) its debt obligations.

The credit supporting a project financing comes in the first instance from the project itself. Such credit strength often needs to be supplemented by a set of security arrangements between the project and its sponsors or other creditworthy parties. The benefit of these arrangements is assigned to project lenders. The security arrangements provide that creditworthy entities will undertake to advance funds to the project if needed to ensure completion. They also usually provide for some sort of undertaking on the part of creditworthy entities to supplement the project's cash flow after completion, to the extent required to enable the project entity to meet its debt service requirements. The precise form of these commitments varies, depending on the

nature and projected economics of the project and on the prevailing political and capital market environments.

Several identifiable parties will normally have an interest in a project. Interested parties may include the sponsors, the suppliers of raw materials, the purchasers of project output, and the host political jurisdiction's government. The interests of these parties may diverge. Often, a particular party may have more than one area of interest. For example, a purchaser of the project's output may also be an equity investor in the project. Broadly speaking, a sponsor seeks to earn a rate of return on his or her equity investment that is commensurate with the project-related risks the sponsor assumes. A purchaser of the project's output is interested in obtaining a long-term source of supply at the lowest possible price. A government may regulate the price of the project's output or support the project for reasons of national interest, such as promoting employment. The willingness and ability of the various parties to assume risks associated with the project depend on the benefits each expects to derive from the project, the financial strength and business objectives of each party, and the perceived likelihood that those bearing project risks will be compensated fully for doing so.

## **PURPOSE OF SECURITY ARRANGEMENTS**

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Arranging sufficient credit support for project debt securities is a necessary precondition to arranging debt financing for any project. Lenders to a project will require that security arrangements be put in place to protect them from various risks. The contractual security arrangements apportion the risks among the project sponsors, the purchasers of the project output, and the other parties involved in the project. They represent a means of conveying the credit strength of going-concern entities to support project debt.

These contractual arrangements, whether in the form of a "hell-or-high-water" contract, a tariff, a financial support agreement, or some other form of contract, serve as the means by which the requisite credit support is conveyed to the project. The nature and extent of these contractual arrangements will depend on the type and magnitude of project risks, the financial strength of the parties at interest relative to those risks, and the profitability of the project.

Contractual undertakings that provide legal recourse to the credit strength of third parties normally form the nucleus of the security arrangements of a project. In most circumstances, these obligations will be several; each obligor's liability will be limited to a defined proportion of the total liability. The adequacy of such security depends on the creditworthiness of

the parties so obligated, as well as on the extent of their respective obligations. The lenders' assessment of the adequacy of any security that is offered is likely to be strongly influenced by the economics of the project. If the economics of the project are sufficiently compelling so as to make many of the normal business risks appear highly remote, lenders may be willing to assume certain types of risks that they would otherwise eschew. The discussion below, concerning the security arrangements utilized in various gas pipeline financings, illustrates this point.

Project debt is normally secured by the direct assignment to lenders of the project's right to receive payments under various contracts, such as a completion agreement, a purchase and sale contract, or a financial support agreement. In addition, the indenture under which project debt is issued usually grants lenders a first mortgage lien on the project's assets. It will also contain certain covenants restricting activities of the project company. These covenants typically include limitations on (1) permitted investments, (2) funded indebtedness, (3) dividends to equity investors, (4) additional liens or other encumbrances, (5) expansion of the project, or (6) sales and leasebacks of project assets. In certain instances, lenders may also require the sponsors to agree to covenants designed to prevent any dissipation of their credit strength until the project is completed. Although all of the above items are relatively standard components of the lenders' security package, they are of varying practical value. For example, the degree of credit support a purchase and sale contract furnishes depends on the creditworthiness of the purchaser.

### **DIRECT SECURITY INTEREST IN PROJECT FACILITIES**

Lenders will also require a direct security interest in project facilities, usually in the form of a first mortgage lien on all project facilities. This security interest is often of limited value prior to project completion. A half-completed petrochemical plant may be worth substantially less than what it has cost to build thus far, particularly if there are concerns about its ability to perform. In the extreme, a plant that has been constructed but fails to pass its completion test may be worth only its scrap value (which is why lenders normally insist that the project debt must be repaid immediately if a project fails to satisfy its completion test).

Following completion of the project, the first lien provides added security for project loans. The lien gives lenders the ability to seize the project assets and sell them (or hire someone to operate them on the lenders' behalf) if the project defaults on its debt obligations. It thus affords a second possible source of debt repayment (the first source is project cash flow). However,

lenders would much prefer to have the project entity service its debt in a timely manner out of its cash flow. So, although the collateral value of a project's assets can affect the amount of funds prospective lenders would be willing to lend to a project, the adequacy of project cash flow is the primary criterion that lenders apply.

## **SECURITY ARRANGEMENTS COVERING COMPLETION**

The security arrangements covering completion typically involve an obligation to bring the project to completion or else repay all project debt. Lenders normally require that the sponsors or other creditworthy parties provide an unconditional undertaking to furnish any funds needed to complete the project in accordance with the design specifications and place it into service by a specified date. The specified completion date normally allows for reasonable delays. If the project is not completed by the specified date, or if the project is abandoned prior to completion for any reason, the completion agreement typically requires the sponsors or other designated parties to repay all project debt. The obligations of the parties providing the completion undertaking terminate when completion of the project is achieved. (Appendix A compares the terms of three completion agreements.)

Completion is usually defined in terms of commercial completion. *Commercial completion* occurs when the construction of substantially all elements of the project is finished and an engineer's certificate is obtained as proof that (1) the sponsors of the project have accepted the work performed under the construction contract and agreed to make the payments called for under the contract and (2) the project has sustained a certain specified level of operations over a specified period of time (i.e., as defined in the completion agreement).

A completion undertaking requires that the sponsors (or other designated obligors) stand by to provide whatever additional funds are needed to complete the project in the event a cost overrun occurs. The strength of this obligation, which the lenders will require, will depend on a number of factors, including the amount of equity the project sponsors have contributed (and will commit to contribute) and the perceived risk of noncompletion. The completion undertaking typically represents an open-ended liability (although this is not always the case). Depending on the size of the project, the potential liability could be so great that the sponsors would be unable to discharge it on their own. Lenders will then require other creditworthy entities to stand behind the sponsors and shore up the completion undertaking. Lenders must be satisfied that the sponsors and any other designated obligors have adequate credit capacity, severally and in the aggregate, to advance

funds to the extent necessary to complete the project or else repay project debt.

## **SECURITY ARRANGEMENTS COVERING DEBT SERVICE**

After the project commences operations, contracts for the purchase and sale of the project's output or utilization of the project's services normally constitute the principal security arrangements for project debt. Broadly speaking, such contracts are intended to ensure that the project will receive revenues that are sufficient to cover operating costs fully and meet debt service obligations in a timely manner. Lenders almost always insist that these contractual obligations be in place, valid, and binding (governmental or regulatory approval may be required) before any portion of their loans can be drawn down.

The nature of the project's operating risks and the extent to which the purchase and sale contract protects lenders from these risks will determine whether the lenders will accept the purchase contract alone as security for their project loans. If the contract fails to cover certain contingencies that might call into question the project's ability to service its debt, and if prospective lenders view these adverse contingencies as significant, then other supplemental credit support arrangements will have to be added. For example, such arrangements might take the form of a cash deficiency agreement, which assures lenders that the project will always have adequate cash available to service its debt.

### **Examples**

In the 1950s and 1960s, a number of so-called "promotional pipelines" were financed on the basis of take-or-pay contracts, which freed the gas purchasers from their obligations to pay in certain events of force majeure. The pipelines were built to transport gas from the newly discovered gas fields in West Texas and Oklahoma to the rapidly expanding markets in California and the Midwest. Laying a gas pipeline in the southwestern part of the United States was not deemed difficult or risky by lenders. Also, the operating experience of gas pipelines provided comfort that any outage would last no longer than a few days. The economics of these projects were compelling. A seemingly inexhaustible supply of natural gas could be obtained at prices (set by the Federal Power Commission) substantially below the cost of alternative fuels, and the markets for this product were expanding rapidly. Overall, lenders perceived the technical and operating risks as insignificant once the

pipeline was placed into service. The combination of compelling economics and minimal business risks was sufficient to convince lenders to accept the take-or-pay obligations as a principal element of the security for their loans.

In contrast, the financing plan proposed for the Canadian Arctic Gas Pipeline envisioned that every element of project risk would be adequately covered by the security agreements. The project would have involved a number of unusual risks, including (1) dependence on a single petroleum reservoir, (2) use of a relatively new technology with respect to pipe diameter and pressurization, (3) extreme environmental conditions, (4) a large magnitude of projected capital costs relative to the financial capacity of the sponsors, and (5) a delivered cost of gas that made the project only marginally profitable. In addition, the large cost overruns the Trans Alaska Pipeline System experienced under similar environmental conditions caused concern, among prospective lenders to the Canadian Arctic Gas Pipeline, regarding completion risk. As a result, the project's financial advisers concluded that creditworthy parties had to agree to complete the project or else repay all project debt, and to provide revenues sufficient to cover operating costs and debt service costs in *all events*, including force majeure.

## **TYPES OF PURCHASE AND SALE CONTRACTS**

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Lenders typically require that creditworthy parties either directly guarantee the project debt or else provide assurances contractually that the debt will be fully serviced out of project revenues. In many circumstances, the purchase and sale contract does not have to be treated as indebtedness by the sponsors for financial reporting purposes. Off-balance-sheet treatment is possible when such contracts are considered to be commercial obligations that relate to operating expenditures rather than direct financial obligations. However, payments under such contracts must typically be disclosed in the footnotes to the purchaser's financial statements (unless they are not material), and they may constitute fixed charges for the purpose of calculating a sponsor's fixed charge coverage ratio.

The factors that determine what type of purchase and sale contract is most appropriate in connection with any particular project financing include (1) the type of facilities involved, (2) the nature of the purchase transaction, (3) the parties to the contract, and (4) the project's inherent risks. Figure 6.1 summarizes the most widely used types of purchase and sale contracts and characterizes their degree of credit support. A discussion of each type follows. (For examples of terms of three actual purchase and sale contracts, see Appendix A.)

Type of Contract	Degree of Credit Support Provided
Take-if-Offered Contract	The contract obligates the purchaser of the project's output or services to take delivery and pay for the output or services only if the project is able to deliver them. No payment is required unless the project is able to make deliveries.
Take-or-Pay Contract	The contract obligates the purchaser of the project's output or services to pay for the output or services, regardless of whether the purchaser takes delivery. Cash payments are usually credited against charges for future deliveries.
Hell-or-High-Water Contract	There are no "outs," even in adverse circumstances beyond the control of the purchaser; the purchaser must pay in all events, even if no output is delivered.
Throughput Agreement	During a specified period of time, the shippers (e.g., oil companies or gas producers) ship through the pipeline enough product to provide the pipeline with sufficient cash revenues to pay all of its operating expenses and meet all of its debt service obligations.
Cost-of-Service Contract	The contract requires each obligor to pay its proportionate share of project costs as actually incurred, in return for a contracted share of the project's output or of the project's available services.
Tolling Agreement	The project company levies tolling charges for processing a raw material that is usually owned and delivered by the project sponsors.

**FIGURE 6.1** Types of Purchase and Sale Contracts

### Take-if-Offered Contract

A take-if-offered contract obligates the purchaser of the project's output or services to accept delivery and pay for the output and services that the project is able to deliver. The contract does not require the purchaser to pay if the project is unable to deliver the product or perform the services. Therefore, the contract protects lenders only if the project is operating at a level that enables it to service its debt. Consequently, if a project's performance might be subject to serious risk of prolonged curtailment or interruption, lenders will normally require that the credit support furnished by the take-if-offered contracts be



supplemented with other security arrangements in order to provide adequate protection against events of force majeure.

### **Take-or-Pay Contract**

A take-or-pay contract is similar to the take-if-offered contract. It obligates the purchaser of the project's output or services to pay for the output or services whether or not the purchaser takes delivery. It gives the buyer the option to make a cash payment in lieu of taking delivery, whereas the take-if-offered contract requires the buyer to accept deliveries. Cash payments are usually credited against charges for future deliveries. Like the take-if-offered contract, a take-or-pay contract usually does not require the purchaser to pay if the project is unable to deliver the product or perform the services. Therefore, the contract protects lenders only if the project is operating at a level that enables it to service its debt. Consequently, if a project's performance might be subject to serious risk of prolonged curtailment or interruption, lenders will normally require supplemental credit support to provide adequate force majeure protection.

### **Hell-or-High-Water Contract**

A hell-or-high-water contract is similar to a take-or-pay contract except that there are no "outs," even when adverse circumstances are beyond the control of the purchaser. The purchaser must pay in all events, regardless of whether any output is delivered. This type of obligation therefore provides lenders with tighter security than either a take-if-offered contract or a take-or-pay contract because it protects against events of force majeure.

### **Throughput Agreement**

A throughput agreement, typically employed in connection with an oil or petroleum product pipeline financing, requires that, during a specified period of time, the shippers (e.g., oil companies or gas producers) will ship through the pipeline enough product to provide the pipeline with sufficient cash revenues to pay all of its operating expenses and meet all of its debt service obligations. The throughput requirement is normally supplemented by a cash deficiency agreement, also called a "keep well" agreement. It obligates the shipping companies to advance funds to the pipeline if, for any reason, the pipeline does not have sufficient cash to discharge its obligations as they

come due. Such cash payments are usually credited as advance payments for transportation services under the throughput agreement.

### **Cost-of-Service Contract**

A cost-of-service contract requires each obligor to pay its proportionate share of project costs as actually incurred, in return for a contracted share of the project's output (e.g., electricity) or of the project's available services (e.g., space in a gas pipeline). Such a contract typically requires payments to be made whether or not any product or service is delivered. A limited form of cost-of-service obligation would cover (1) only the fixed charges that relate to providing the project's capacity or (2) only the variable costs that relate to furnishing the commodity or service. A full cost-of-service contract would cover operating, administrative, and maintenance expenses; depreciation and amortization; interest; return on equity capital; and income and other taxes (including any deferred taxes). This type of contract, therefore, entails a hell-or-high-water obligation. It protects the project's lenders against escalation in operating expenses, changes in tax laws, and other factors.

The full cost-of-service concept has been advanced by many public utilities as the basis for the proposed tariffs in connection with gas pipelines and liquefied natural gas projects. Protection against escalation in operating costs is particularly important in such projects because of the regulatory lag inherent in the rate-making process. Without this feature, the degree of leverage that might be achieved for these projects would be lower, which could adversely affect the rate of return available to the project's sponsors.

When the purchasers of the project company's output or services are public utilities, the cost-of-service tariff needs to be supported by assurances from the cognizant regulatory authorities that the purchasers of the project's output will be able to recover their share of the project's costs through the rates charged to their customers. Public utilities are normally allowed to earn a specified permitted maximum rate of return on their equity investment. The permitted rate of return is only sufficient to compensate them for bearing limited risks. As a result, they have neither the financial incentive nor the credit capacity to assume full responsibility for their share of a project's cost-of-service charges in all events. The regulatory assurances are designed to allocate the project risks to the purchasers' customers by recovering all costs of producing the particular good or providing the particular service. Although such cost recovery assurances would, in theory, compensate for most deficiencies in the public utility purchaser's creditworthiness, lenders tend to be skeptical of the permanence of any regulatory arrangement that provides security for a long-term contract. Unfortunately, regulatory authorities have

displayed a distressing tendency to reverse themselves at a later date, based on new developments (and probably also hindsight).

### **Tolling Agreement**

Under a tolling agreement, the project company levies tolling charges for processing a raw material that is usually owned and delivered by the project sponsors. The tolling charge payable by each participant is generally equal to its proportionate share of the total expenses incurred by the project. At a minimum, the tolling charge will be equal to the amount of operating costs and fixed charges, including debt service.

### **Step-Up Provisions**

The strength of these various agreements can be enhanced in situations where there are multiple purchasers of the output (or multiple users of the facility). A step-up provision is often included in the purchase and sale contracts. It obligates all the other purchasers to increase their respective participations, thereby taking up the slack, in case one of the purchasers goes into default. Each of the purchasers coinsures the obligations of the others.

## **RAW MATERIAL SUPPLY AGREEMENTS**

Purchase and sale contracts obligate the purchasers of the project's output or services to lend credit support to the project. Raw material supply agreements obligate the providers of the project's inputs to lend credit support. A raw material supply agreement represents a contract to fulfill the project's raw material requirements. The contract specifies certain remedies when deliveries are not made. Often, both purchase contracts and supply agreements are arranged to provide the credit support for a project.

A "supply-or-pay" contract obligates the raw material supplier to furnish the requisite amounts of the raw material specified in the contract or else make payments to the project entity that are sufficient to cover the project's debt service. For example, under a "supply-or-pay" contract in connection with a cogeneration project, a utility might undertake to supply the natural gas needed by the project. If the gas is not supplied for any reason, the utility would be obligated to pay all the project's costs. This obligation would not operate during periods of normal maintenance. Often, there is also a limited volume of deliveries that can be curtailed each year without triggering the supply-or-pay obligation under the contract.

## **SUPPLEMENTAL CREDIT SUPPORT**

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Depending on the structure of a project's completion agreement and the purchase and sale contract(s), it may be necessary to provide supplemental credit support through additional security arrangements. These arrangements will operate in the event the completion undertaking or the purchase and sale contracts fail to provide the cash to enable the project entity to meet its debt service obligations. Such mechanisms, also referred to as "ultimate backstops," might take the form of a financial support agreement, a cash deficiency agreement, a capital subscription agreement, a clawback agreement, or an escrow fund. All of these agreements are designed to accomplish the same purpose: They provide a commitment from one or more creditworthy parties to supply any cash that may be necessary for the project to meet its cash obligations. The way in which the cash payment is treated, however, may differ, depending on the form of the backstop arrangement.

### **Financial Support Agreement**

A financial support agreement can take the form of a letter of credit or similar guarantee provided by the project sponsors. Payments made under the letter of credit or guarantee are typically treated as subordinated loans to the project company. In some cases, it is advantageous to purchase the guarantee of a financially able party (such as a bank, an insurance company, or a credit insurer) to provide credit support for the obligations of the project company. Such forms of credit support are frequently used in connection with tax-exempt financings and commercial paper financings.

### **Cash Deficiency Agreement**

A cash deficiency agreement, as the name implies, is designed to cover any cash shortfalls that would impair the project company's ability to meet its debt service requirements. The obligor makes a cash payment sufficient to cover the cash deficiency. Payments made under a cash deficiency agreement, as discussed in connection with throughput agreements, are usually credited as cash advances toward payment for future services or product from the project.

### **Capital Subscription Agreement**

A capital subscription agreement obligates one or more creditworthy parties to purchase, for cash, securities issued by the project entity, to the extent

required to enable the project entity to cover any cash shortfall. A payment under a capital subscription agreement is typically structured as a cash purchase of junior securities, such as common stock or subordinated debt.

### **Clawback Agreement**

A clawback agreement represents an undertaking to contribute cash to the project to the extent the project sponsors (1) received any cash dividends from the project company or (2) realized any project-related tax benefits on account of their investments in the project. If they received tax benefits, the potential cash contribution obligation is limited to the cash value of the project-related tax benefits. Payments made under a clawback agreement can be structured by the project sponsors as either an equity investment or a subordinated loan.

### **Escrow Fund**

In certain instances, lenders may require the project to establish an escrow fund that typically contains between 12 and 18 months' debt service. A trustee can draw moneys from the escrow fund if the project's cash flow from operations proves insufficient to cover the project's debt service obligations.

## **INSURANCE**

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Lenders typically require that insurance be taken out to protect against certain risks of force majeure. The insurance will provide funds to restore the project in the event of force majeure, thereby ensuring that the project remains a viable operating entity. Insurance protection is especially important when the ability of the obligated parties to repay project debt on an accelerated basis is questionable. To the extent available, the project sponsors normally purchase commercial insurance to cover the cost of damage caused by natural disasters. They may also secure business interruption insurance to cover certain other risks. In addition, lenders may require the sponsors to agree contractually to provide additional funds to the project to the extent insurance proceeds are insufficient to restore operations.

As noted earlier, project financing has enjoyed wide application in funding the development of independent power projects. One subclass of independent power projects consists of hydropower facilities, and a principal risk inherent in such projects is uncertainty about the future water level of the river on which the facility is located. Insurers have been willing to write policies to protect lenders against the risk of low water. The insurer pays on

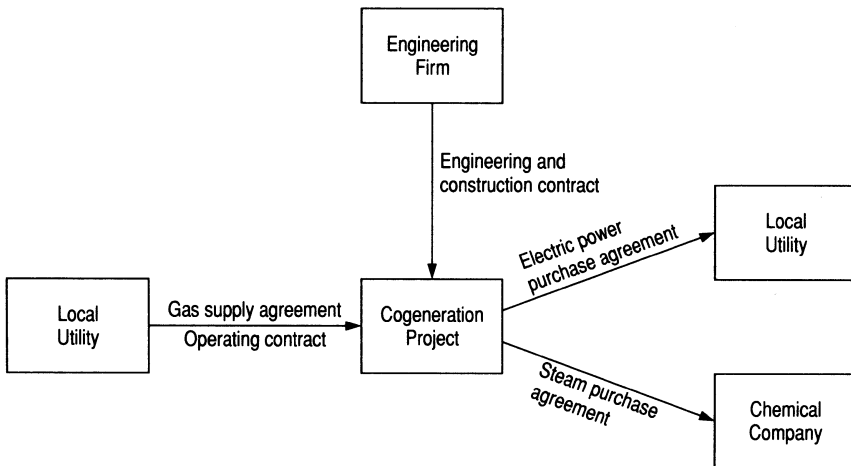
the policy during periods when the facility is not able to generate (and sell) sufficient electricity to enable the project to make its scheduled debt service payments (see Kensinger and Martin, 1988, p. 73).

### THE COGENERATION PROJECT

The contractual arrangements specific to any particular project can be designed so as to allocate the project risks among the various parties to the project according to their respective risk tolerances. In complex projects that involve several parties, a number of contracts may be interwoven to provide the security arrangements. Figure 6.2 shows the principal contractual arrangements that support the financing for the Cogeneration Project. The nexus of contracts is designed, ultimately, to allocate the economic benefits of the project in a manner commensurate with the allocation of project risks. These contractual arrangements furnish the credit support network necessary to arrange debt financing and passive equity financing.<sup>1</sup>

#### Engineering and Construction Contract

Engineering Firm is willing to enter into a fixed-price turnkey contract to design and construct the cogeneration facility. The specified fixed price is \$100 million. Engineering Firm estimates that design, construction, and



**FIGURE 6.2** Contractual Arrangements that Support the Financing for the Cogeneration Project

preoperation testing will take two years. Engineering Firm will guarantee that the cogeneration facility will operate at its design capacity, consisting of 250 megawatts of electricity and 150,000 pounds per hour of steam.

Engineering Firm will arrange with subcontractors to warrant their work. The licensor of the technology for the Cogeneration Project will have to warrant that it will work. Because the technology is not only proven but also operational in many plants in the United States, the technology licensor should be willing to provide this warranty.

### **Gas Supply Agreement**

Local Utility and Cogeneration Project will enter into a 15-year gas supply agreement. Local Utility will supply all the natural gas the project will need—1,950 million BTUs (British thermal units) per hour, at capacity operation. During the first year of operations, the gas charge will be \$3.00 per million BTUs. Thereafter, the gas price will change in line with the change in the price Cogeneration Project receives for the electricity it sells to Local Utility. The gas supply agreement eliminates the risk that the project's operations might be interrupted because Cogeneration Project is unable to obtain sufficient fuel at an acceptable price.

### **Operating Contract**

Local Utility and Cogeneration Project will enter into an operating contract in which Local Utility will assume full responsibility for operating and maintaining the cogeneration facility. Local Utility has agreed to furnish these services for \$6 million per year, including management fees, during the initial year of operations. It has also agreed to escalate its charges for these services in subsequent years at the rate of increase in the PPI. Having an experienced operator with a sound track record and an incentive to keep the facility operating should satisfy lenders that the cogeneration facility's operations are unlikely to be interrupted because of operator errors.<sup>2</sup> The specified lump-sum operator charges and the specified escalation rate are designed to control economic risk.

### **Electric Power Purchase Agreement**

Local Utility and Cogeneration Project will enter into a 15-year electric power purchase agreement. Local Utility will be obligated contractually to purchase all of the electricity Cogeneration Project offers to Local Utility. The purchase price will be \$40.00 per megawatt-hour during the first year of operations. The agreement provides that Local Utility will purchase part

of the electricity according to a schedule of fixed prices and the balance at prices that will vary according to the price Local Utility receives when it sells the electricity to industrial users. The net effect is that Cogeneration Project expects the price it will realize from the sale of electricity to Local Utility to escalate at the rate of 6 percent per annum over the life of the contract.

The electric power purchase agreement is a take-if-offered contract, not a take-or-pay contract. Local Utility must accept delivery of all the electric power the Cogeneration Project offers to sell it, except for its very limited right under the contract to refuse a small amount of deliveries. Local Utility is obligated to pay only for electric power that Cogeneration Project delivers to Local Utility. Consequently, Engineering Firm's guarantee of the cogeneration facility's ability to perform and Local Utility's ability to operate and maintain the facility properly are important to ensure that adequate quantities of electricity will be available for regular delivery to Local Utility.

### **Steam Purchase Agreement**

Chemical Company and Cogeneration Project will enter into a 15-year take-if-offered steam purchase agreement. Cogeneration Project agrees contractually to supply a minimum of 1,182.6 million pounds of steam per year (representing 90 percent of capacity) to Chemical Company. The steam will have to satisfy various quality standards that the contract will specify. The steam price will be \$4.00 per thousand pounds during the initial year of operations. Thereafter, the steam price will escalate with the PPI.

In addition to these contractual arrangements, Cogeneration Project will arrange appropriate insurance coverage via property and casualty, workers' compensation, personal liability, and business interruption insurance policies.

## **CONCLUSION**

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Security arrangements are designed to fortify the credit strength of a project. In effect, they increase the proportion of a project's construction cost that can be funded with project borrowings. Security arrangements fall into two general categories: (1) those that ensure project completion (or else repayment of project debt in full) and (2) those that ensure timely payment of debt service following project completion. The security arrangements for a project are crafted to suit the economic characteristics of the project and the risk-return preferences of the various parties associated with the project. They take the form of contractual undertakings, which allocate project risks as well as financial returns.