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Financing Pakistan's Hub Power Project

A Review of Experience for Future Projects

Michael Gerrard

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Contents

Foreword	v
Acknowledgments	vii
Abbreviations and Definitions	ix
Executive Summary	1
Finance Plan	1
Issues Affecting the World Bank	3
Significant Project “Firsts”	6
Project Development	6
Mobilizing Sufficient and Least-Cost Finance	9
Shortening the Development Period	9
Conclusion	10
Finance Plan	11
Overview	11
Development of the Plan	14
Banking Strategy	19
Structural Issues	23
Guidelines for Future Projects	27
Project Development	31
Market Experience	32
Timetable Analysis	34
Sponsor Group Formation	35
Development Costs and Risks	37
World Bank Perspectives	40
Guidelines for Future Projects	41
Institutional Development	43
The PSEDF and the ECO Guarantee Facility	43
Institutions in Pakistan	44
Postscript	47

Appendixes

Appendix 1	Offshore commercial bank facilities syndicate profiles	49
Appendix 2	Project chronology	50
Appendix 3	Principal project agreements	52
Appendix 4	Project participants	53
Appendix 5	Overview of insurance arrangements during construction and operation	55
Appendix 6	Expanded Cofinancing Operation (ECO): Summary of terms of the guarantee	58

Boxes

Box 1	Profile of private sector risk	16
Box 2	Role of global depository receipts in Hub Power Project financing	18
Box 3	Saving time through privatization	33
Box 4	Effects of publicity	35

Tables

Executive summary table 1	Summary of the base finance plan	1
Executive summary table 2	Facilities funded by offshore commercial banks	3
Executive summary table 3	Reasons for success in syndication	4
Table 1	Base finance plan	11
Table 2	Composition of the Private Sector Energy Development Fund	12
Table 3	Mobilization finance	13
Table 4	Facilities funded by offshore commercial banks	20
Table 5	Reasons for success in syndication	20
Table 6	Bilateral funding and procurement	26
Table 7	Key events and activities in project development	31
Table 8	Principal activities subject to delay	34
Table 9	Timetable of project activities	35
Table 10	Breakdown of development costs	38
Table 11	Personnel deployments	38

Foreword

The Hub Power Project is a 1,292 megawatt oil-fired power station located in the Pakistan province of Balochistan, some 40 kilometers northwest of Karachi. It is a private sector project undertaken by the Hub Power Company Limited (Hubco), a special single-purpose company listed on the Karachi and Luxembourg stock exchanges that has a concession to build, own, and operate the power station.

The project has become a landmark in the field of infrastructure finance. From project conception in 1987 through financial close in January 1995, it has evolved in line with the international market for private sector infrastructure. By demonstrating the viability of private finance for a major infrastructure project in a developing country, the project has set an important precedent, particularly in the energy sector. Commercial power was first exported from the station in June 1996, and construction was completed in early March 1997, ahead of schedule.

What was foreseen by the government of Pakistan and the World Bank in 1985 as the only way to relieve a serious financial bottleneck in the development of Pakistan's energy sector has since been embraced as economic orthodoxy by governments around the globe and by all types of financial institutions. Moreover, this transformation has occurred not only in the energy sector but also in transport and, increasingly, other infrastructure sectors such as water supply.

The catalytic effect of the World Bank's participation in the Hub Power Project—relative to financing of the project as well as development of the energy sector and local institutions in Pakistan and of the international market for private sector infrastructure—has been profound. The skepticism that pervaded the market in the early 1980s has been replaced by a “can do” attitude that is due in no small measure to the successful financing of the project.

As might be expected during a period of rapid market advancement, a new constraint has emerged—namely, the speed at which these transactions can be implemented. In highlighting this and other market constraints the project has been, to some extent, an exercise in financial research and development for the Bank.

The project absorbed about 225 person-years of resources, 25 of them from within the Bank; required more than 200 individual project documents; and claims no fewer than 16 “firsts” in the field of project finance. That so many people within the government of Pakistan, the Bank, the sponsors, and other financiers of the Hub Power Project prevailed over the many setbacks and frustrations inherent in the creation of such novel financial “technology” is to their collective and lasting credit.

Because of its pioneering nature, during implementation the project encountered most of the problems likely to be faced by a private infrastructure project in a developing country. Thus the solutions developed and lessons learned have wider applications. This report highlights the solutions and lessons that generally apply to similar private infrastructure projects, with an emphasis on the financial instruments used by the Bank and its management of the project development process.

In addition to its significant physical and financial dimensions, the Hub Power Project has sizable institutional dimensions: agencies of six governments collaborated with the Bank and the project's sponsors in developing the project, and more than forty international commercial banks are direct lenders to the project. As a result knowledge of and experience with the project have been widely distributed. It is hoped that through this report it will be even more widely shared, for the benefit of future project development.

Acknowledgments

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Abbreviations and Definitions

Arrangers	Arranger group: Citibank, Crédit Lyonnais, NatWest, Sakura Bank, and Bank of Tokyo-Mitsubishi; as well as MedioCredito Centrale (with respect to the SACE insured facility)
Bridge finance	The facilities provided by Al Rajhi (Istisna) and the National Development Finance Corporation (rupee term facility), forming part of mobilization finance.
CDC	Commonwealth Development Corporation of the United Kingdom
COFACE	Compagnie Française d'Assurance pour le Commerce Extérieur (France's export credit agency)
ECO	Expanded Cofinancing Operation
ECU	European currency unit
Export credit agency	COFACE, MITI, SACE, and others, as the context implies
Finance plan	Sources and arrangements for providing \$1,545,000,000 (equivalent) of base finance and \$221,000,000 (equivalent) of standby finance for the Hub Power Project
Financial close	First date (in January 1995) on which all conditions precedent to first disbursement of the ECO guarantee facility and other offshore commercial bank facilities were either satisfied or waived
Fuel supply agreement	Between Pakistan State Oil and Hubco
GDR	Global depository receipt
HRPG	HRPG Limited, the project development company for the Hub Power Project
Hubco	Hub Power Company Limited
IBRD	International Bank for Reconstruction and Development
Implementation agreement	Between the government of Pakistan and Hubco
IFC	International Finance Corporation
Istisna	Islamic form of finance
JEXIM	Export-Import Bank of Japan
K&M	K&M Engineering & Consulting Corporation of the United States
LTCB	Long Term Credit Bank of Japan
MITI	Ministry of International Trade and Industry of Japan
Mitsui	Mitsui & Co., Ltd. of Japan (construction consortium leader)
Mobilization finance	Finance made available to the Hub Power Project prior to financial close to mobilize the turnkey contractor
National Power	National Power PLC of the United Kingdom (lead sponsor)
NIC	National Insurance Corporation of Pakistan
NDFC	National Development Finance Corporation of Pakistan

Operations and maintenance agreement	Between National Power and Hubco
PIC	Pakistan Insurance Corporation
Power purchase agreement	Between the Water and Power Development Authority and Hubco
Project coordination agreement	Between Hubco and its various lenders (intercreditor agreement)
PSEDF	Private Sector Energy Development Fund, divided into two facilities: PSEDF I and PSEDF II
PSO	Pakistan State Oil
SACE	Sezione Speciale per l'Assicurazione del Credito all'Esportazione (Italy's export credit agency)
Shariah law	Islamic law as applied in Pakistan
Sponsors	National Power, Xenel, Mitsui , IHI, and K&M
USAID	U.S. Agency for International Development
WAPDA	Water and Power Development Authority
World Bank	International Bank for Reconstruction and Development
Xenel	Xenel Industries Limited of Saudi Arabia (lead sponsor)

Executive Summary

Finance Plan

The World Bank participates in the Hub Power Project finance plan in two capacities: as a lender, contributing up to \$225 million through the Private Sector Energy Development Fund (PSEDF) administered by Pakistan's National Development Finance Corporation (NDFC), and as a guarantor of political risks for a syndicate of thirty-four commercial banks lending up to \$240 million to the project through an Expanded Cofinancing Operation (ECO) guarantee facility.

Other contributors to the PSEDF include the Export-Import Bank of Japan (JEXIM), the governments of Italy and France, and the U.S. Agency for International Development (USAID). Forty-three international commercial banks lend directly to the project through the ECO guarantee facility, a similar facility guaranteed by JEXIM, and three export credit agency-insured facilities supported by France's Compagnie Française d'Assurance pour le Commerce Extérieur (COFACE), Japan's Ministry of International Trade and Industry (MITI), and Italy's Sezione Speciale per l'Assicurazione del Credito all'Espatriazione (SACE). Direct loans are also made to the project by the United Kingdom's Commonwealth Development Corporation (CDC) and a syndicate of nine Pakistani banks.

Overall, the Hub Power Project is financed 24 percent from equity and 76 percent from debt (executive summary table 1). Debt comprises seven (senior) term loan facilities (48 percent) and eight PSEDF (subordinated) facilities (28 percent). Equity is contributed by the project's sponsors—National Power, Xenel, Mitsui, Ishikawajima-Harima Heavy Industries, and K&M Engineering & Consulting (10 percent of overall funding)—as well as by other offshore investors (12 percent) and onshore investors (2 percent). All figures and exchange rates used in this report are taken from the information memorandum prepared for Bank syndication of the Hub Power Project in May 1994, as supplemented in September 1994.

The participation of fifteen debt facilities makes the project the most complicated private project financing undertaken to date. A secondary dimension of the finance plan's complexity is the number of currencies (seven) in which sources and applications of finance are denominated.

Private Sector Energy Development Fund (PSEDF)

The PSEDF provides long-term and mostly fixed-rate finance. In so doing it anticipates the two advantages normally associated with a refinancing after completion of construction. No other independent power producer in

EXECUTIVE SUMMARY TABLE 1

Summary of the base finance plan

Type of financing	Source	Amount (US\$ million equivalent)	Contribution (percent)
Equity		371	24
Debt		1,174	76
Senior debt	ECO guarantee facility and six other facilities	738 ^a	48
Subordinated debt	PSEDF, comprising eight facilities	436	28
Total		1,545	100

a. Does not include \$60 million in standby debt provided by ECO (\$40 million) and JEXIM (\$20 million).

developing markets has entered the construction phase with such long-term (twenty-three years) fixed-rate finance. In this context the PSEDF can be seen as not only forward-looking but also as genuinely innovative.

The availability of such long-term finance compensates for the fact that the balance of the debt finance (the senior debt) available to the project comes with shorter maturities (twelve years) than commercial banks provide in more developed markets (fifteen to twenty years or more). The PSEDF increases the weighted average overall maturity of debt finance for the project to sixteen years. The subordination of PSEDF facilities, in ranking of security interest and by virtue of their longer maturity, creates significant additional risk cover for the providers of senior term debt.

Loan drawings from the PSEDF are made by the project in the currencies of the underlying cofinancier loans to the government of Pakistan and in accordance with cofinancier conditions relating to eligibility of procurement and the like. The project's debt service obligations to the PSEDF are, however, standardized and become rupee denominated as and when each respective drawing is made, thereby protecting the project from exchange rate risks between the rupee and currencies of drawing.

The government's obligations to make debt service payments to the Bank and other contributors to the PSEDF are not conditional on the project's ability to meet its debt service payments to the NDFC (which administers the PSEDF on behalf of the government of Pakistan). That is, the government, not the cofinanciers, accepts limited recourse exposure to the project.

Expanded Cofinancing Operation (ECO) guarantee facility

The ECO guarantee facility and a similar facility guaranteed by JEXIM together support \$360 million of senior term debt (including \$60 million in standby debt) for the project. The cover provided under the ECO and JEXIM guarantees is partial, pertaining to certain defined political risks such as nationalization and foreign currency availability. The guarantees cover 100 percent of loan principal. They do not cover interest, which is secured through cash collateral accounts. By removing the political risks that would otherwise prevent commercial banks from lending

on such maturities to Pakistan, the ECO and JEXIM guarantees create an environment in which private sources of finance can perform the functions to which they are best suited—namely, the identification, evaluation, management, and acceptance of commercial risks.

One important role of the ECO and JEXIM guarantee facilities in the finance plan is as a provider of untied and entirely flexible finance—that is, as a “sweeper” of costs that cannot otherwise be funded because of strict procurement constraints. One common characteristic of cofinancier contributions to the PSEDF and finance insured by the export credit agencies is the rigid conditions that apply to their use. Expenditures funded by the ECO guarantee facility, by contrast, need only satisfy the more subjective criteria of economy and efficiency. The Commonwealth Development Corporation is similarly flexible.

In project finance there are significant costs, such as interest during construction and funding of reserve accounts, that satisfy neither tied nor Bank international competitive bidding procurement criteria, and yet are just as much capital costs of the project as the power station's equipment. The ratio of these “soft costs” to the “hard costs” of construction generally lies in the range 1:4 to 1:1, depending on the type of project and the length of the construction period. For the Hub Power Project the ratio is 1:1.6. The term debt finance in the project finance plan is 35 percent flexible and 65 percent inflexible. Equity finance is 100 percent flexible.

The problems of funding soft costs are even greater relative to standby finance (sometimes referred to as contingent finance), which is held in reserve to fund unforeseen costs incurred in completing construction that cannot be met from other sources. This contingent reserve typically is equal to 10–15 percent of the base finance (in the Hub Power Project the reserve is equivalent to 14 percent, or \$221 million), where the construction contract has been let on a strictly fixed-price turnkey basis. The ECO and JEXIM guarantee facilities together provide 27 percent of the standby finance arranged for the project.

Exchange rate risks between the rupee-denominated tariff revenues of the project and the debt service on the ECO guarantee and other senior term facilities are insured by the State Bank of Pakistan through its foreign exchange risk insurance scheme.

Commercial bank syndication

Offshore commercial banks provided \$686 million in limited recourse senior term debt for the project, allocated between the ECO and JEXIM guarantee facilities and the three facilities insured by export credit agencies (executive summary table 2).

Syndication of these five facilities was carried out simultaneously by a five-bank arranger group comprising Bank of Tokyo-Mitsubishi, Citibank, Crédit Lyonnais, NatWest, and Sakura Bank, supported by Mediocredito Centrale with respect to the SACE insured facility. The arranger group was chosen to reflect the national combination of suppliers within the construction consortium and associated export credit agency-insured facilities and to include banks with a proven reputation in large limited recourse projects. Syndication was launched in May 1994 and closed four months later, more than 100 percent oversubscribed. The reasons for such a successful syndication ranged from the participation of the World Bank and the novelty and scope of the ECO guarantee to the extended export credit agency insurance cover (executive summary table 3).

From the Bank's perspective, syndication was an unqualified success. It achieved its objective of mobilizing the necessary foreign currency commercial bank debt for the project with an overall maturity of twelve years and in so doing created an opportunity for thirty-four commercial banks from eight countries to participate in the first ECO-guaranteed limited recourse project financing. The presence of the Bank and JEXIM and the novelty of the guarantee program are also partly responsible for the appear-

ance in the overall commercial bank syndicate of several banks that previously had not participated in financing of private infrastructure. The decision by a group of Italian banks, led by Mediocredito Centrale, to participate in the first such financing supported by SACE also led other banks to participate in private infrastructure for the first time.

Issues Affecting the World Bank

Additionality

The unanimous and unequivocal view of the government of Pakistan, the arranger banks, sponsors, and cofinanciers of the Hub Power Project is that they would not have accepted the costs, risks, and diversion of resources required to complete the development of the project had it not been for the participation and support of the World Bank. The Bank's participation was also fundamental for banks joining the project in syndication.

The Bank provides 39 percent of the PSEDF's funding and, through the ECO partial risk guarantee, supports 29 percent of senior term finance. Thus, of the \$1,766 million mobilized for the project (base and standby finance combined), \$465 million (26 percent) was provided or partly guaranteed by the Bank. This represents an overall mobilization ratio of Bank to all sources of finance on the order of 1 to 4.

Furthermore, the project is the first time so many cofinanciers have participated in a private project. If the agencies of the French, Italian, and Japanese governments that contributed to the PSEDF are considered distinct from COFACE, SACE, and MITI, the project had nine

EXECUTIVE SUMMARY TABLE 2

Facilities funded by offshore commercial banks

Facility	Amount (US\$ million equivalent)	Number of banks	Average participation (US\$ million equivalent)	Facility agent ^a
ECO guaranteed	240 ^b	34	7.1	Bank of Tokyo-Mitsubishi
JEXIM guaranteed	120 ^c	19	6.3	Sakura Bank
COFACE insured	45	7	6.4	Crédit Lyonnais
MITI insured	86	17	5.1	Sakura Bank
SACE insured	195	18	10.8	Mediocredito Centrale
Total	686	43 ^d	16.0 ^e	

a. Citibank is the intercreditor agent.

b. Includes \$40 million of standby debt.

c. Includes \$20 million of standby debt.

d. Most banks participated in more than one facility.

e. Average overall participation per bank.

EXECUTIVE SUMMARY TABLE 3

Reasons for success in syndication

(percent)

Rank	Reason	Indicative weighting
1	Presence of the World Bank and novelty of the ECO guarantee	20
2	Scope of the ECO guarantee	20
3	Market timing	15
4	Financial and commercial structure and quality of sponsors	15
5	Arranger group and market presentation	10
6	Italian market underwriting of the SACE insured facility	10
7	Pricing	5
8	Extended export credit agency insurance cover (for commercial risks) after completion of construction	5
Total		100

Source: Survey of arrangers.

cofinanciers. The Bank played a central catalytic role in introducing the cofinanciers, sustaining their interest, and bringing them together within the context of the inter-creditor agreement.

Most of the offshore banks that participated in ECO, JEXIM, and the three facilities supported by export credit agencies had never lent to Pakistan before, and many had never participated in a Bank cofinancing before.

International competitive bidding

The philosophy underlying fixed-price turnkey contracting—in which the contractor absorbs cost overruns but benefits from savings if it can procure goods or services more cheaply than the original estimate that lies behind the contract price—is not necessarily consistent with the philosophy of international competitive bidding, in which there can be a transparent relationship between the cost of procurement and the price charged to the client. Nonetheless, fixed-price turnkey contracting is ubiquitous in private infrastructure projects with limited recourse financing (such as build-own-operate projects).

For project sponsors the competitiveness of the overall tariff offered to the client (host government) from the infrastructure project and the project's deliverability in terms of available sources of finance are more important than the capital costs of procurement. Thus a project sponsor will want to select contractors according to criteria that may

not require that all the equipment procured be the cheapest available.

In principle the Bank's rules may be applied to a project's output costs, such as a power tariff—as in the 60 megawatt Rockfort power project in Jamaica (financial close October 1994)—which opens the door for all of a project's capital costs (hard or soft and however procured) to become eligible for Bank funding. But it may not always be possible to adopt this approach, particularly for larger projects in which the tenders for the output costs are conditional upon sources of finance other than the Bank being available on appropriate terms.

In the absence of this or alternative approaches, the Bank's participation in a project through a vehicle such as the PSEDF will be limited to the extent of procurement that satisfies Bank rules. About 40 percent of the Hub Power Project's turnkey construction contract costs satisfied Bank procurement rules. The procurement of goods and services under international competitive bidding has the potential to introduce delays into a project timetable.

Finance plan fragmentation

It has become increasingly apparent that the financing of major private infrastructure projects in developing markets requires the participation of several cofinanciers and multiple loan facilities. For example, the finance plans for the Paiton I power project in Indonesia, the Sual power project in the Philippines, and the Izmit Su water project in Turkey each comprise at least four foreign currency senior loan facilities supported by various export credit agencies. The Hub Power Project finance plan differs from these only in the extent of its fragmentation.

These finance plans are fragmented for two reasons. First, the contractor may divide procurement responsibilities into a series of discrete national packages. Second, there is generally a tight ceiling on the political risk cover available for a single country or project from individual export credit agencies or other cofinanciers. Other cofinanciers also may be responsible for the contractor opting for discrete national packages of procurement. If the Bank is involved in the project, the objective of cofinancier mobilization, as well as the Bank's role as lender or guarantor of last resort, further encourage fragmentation.

The problem is compounded when export credit agency cover for a country is limited or when a project wishes to access a significant portion of the cover available from a single export credit agency. The duty of export credit agencies will remain to their exporters, and they may reduce their commitment to a single project rather than see it sterilized (that is, committed but undrawn) by project novelty or complexity, which cause a project to take years to bring to financial close.

The ECO and JEXIM guarantee facilities use an identical form of guarantee, whereas each export credit agency uses its traditional form of insurance policy. As a result four forms of documentation for political risk cover were deployed on the Hub Power Project.

Given that the number of export credit agencies participating in the project is not abnormally high compared with other developing country independent power projects, the PSEDF's structure is the most significant source of fragmentation and consequent complexity. The difficulties of coordinating multiparty cofinancings may be partly reduced by bilateral collaboration arrangements and internal reorganizations, which some cofinanciers—notably export credit agencies—have since initiated.

Risk transfer

For developing countries one of the central achievements of the Hub Power Project is the creation of a contractual framework in which the commercial risks normally associated with an independent power project are transferred to private lenders and project investors. This reflects one of the government's and the Bank's earliest and most fundamental objectives of the private initiative in Pakistan—that commercial bank finance and equity capital be mobilized without direct government guarantees of debt service or return. As a result the risk matrix used in the project's bank information memorandum is essentially the same as for an independent power project in an industrial country (except, of course, with respect to political risks).

The envelope of risk that lies with the private sector in infrastructure projects may be expanded in two ways. First, because of increased experience and the confidence that flows from it, the private sector will be progressively more willing to accept risk, to price it more finely, or both. Second,

the process of evolutionary change may be accelerated by the use of competition to “test the envelope.”

These processes have been evident in subsequent independent power projects in Pakistan, which have progressively fewer government undertakings within their implementation agreements, lower levels of political risk coverage, and less commercial risk coverage under export credit agency insurance policies, as well as lower debt coverage ratios. Since 1995 there have been increasing examples of international banks being prepared to commit uncovered term finance for projects in Pakistan—in contrast to the market position in the early 1990s.

Mobilization finance

The turnkey contractor for the Hub Power Project was a consortium comprising Ansaldo of Italy, Campenon Bernard of France, and Ishikawajima-Harima Heavy Industries and Mitsui of Japan, with Mitsui as overall consortium leader. The contractor was mobilized in December 1992, some two years prior to financial close. As a result power from the project was first exported less than eighteen months after financial close, in June 1996.

Mobilization finance was provided by the Bank and the governments of France and Italy in the form of term loans through the PSEDF; by Al Rajhi and NDFC in the form of bridge loans; by the Commonwealth Development Corporation through a term loan; and by the project sponsors through equity contributions. Some \$423 million in mobilization finance was advanced from these sources—in the case of debt facilities, largely with the support of the government of Pakistan.

Mobilization finance played a crucial role in maintaining the project's timetable for delivering power to the Pakistan grid and in avoiding the potential cost increases that may follow from the expiration of a turnkey contract price offer. It also represented a “crossing of the Rubicon” for all concerned—the government of Pakistan, the Bank, and sponsors—in terms of creating an unstoppable momentum to the project development effort. In circumstances where institutional development forms an integral part of the overall project development effort (as in the case of the Hub Power Project) or where other factors give rise to unacceptable delays in the start of construction, mobiliza-

tion finance is one of the few mitigating measures available to the host government and the Bank.

In arranging mobilization finance that did not disturb the overall permanent finance plan, the project encountered an important limitation on the ability of some facilities to refinance construction expenditures that had already been funded, but that were otherwise entirely eligible. This crowding out of some of the permanent facilities would have become a serious problem for the project had financial close been further delayed.

Cofinancier leadership

At the project's cofinancier meetings, sometimes attended by as many as forty delegates, it was natural that the Bank be perceived as the catalyst and assume the role of chairman, particularly since government institutions were in attendance. Moreover, pressure on the Bank to assume a wider coordinating role on behalf of cofinanciers grew from this chairmanship. Given that the Bank was already a major contributor to the development of the energy sector in Pakistan, this coordinating role had an inherent rationale.

The Bank may have been a reluctant leader in circumstances such as these, particularly given the intensive demand on personnel resources that such a role brings. But it has a unique capacity to shoulder these responsibilities, and its suitability is universally endorsed by the government of Pakistan and the project's cofinanciers, banks, and sponsors. Most cofinanciers see proactive cofinancier coordination by the Bank as the best hope of speeding up the flow of future projects.

The Bank was also, quite naturally, cast in the role of confidante to the government of Pakistan. On occasion this role extended to "honest broker" to help resolve issues between the government and the project's sponsors. Both roles are invaluable when the project under development is pioneering and the sectoral initiative is new for the host country.

Significant Project "Firsts"

The Hub Power Project occasioned many "firsts" for Pakistan, the Bank, and the international financial markets. For Pakistan, it was the first private infrastructure project

and the first limited recourse financing. For the Bank, it was the first private infrastructure project, Bank-financed infrastructure fund (the PSEDF) to support private projects, partial risk guarantee under the ECO program, ECO guarantee with another institution (JEXIM), and use of the ECO program to support a private project.

For the financial markets, it was the first major private infrastructure project in a sub-investment grade developing country to be financed by international commercial banks on a limited recourse basis, international equity offering (global depository receipt) and underwriting for a developing country infrastructure project under construction, stock market flotation of a single power station under construction, multi-cofinanced private infrastructure project, COFACE-supported limited recourse financing for an infrastructure project, JEXIM-supported limited recourse financing for an infrastructure project, MITI-supported limited recourse financing for a major infrastructure project, SACE-supported limited recourse financing for an infrastructure project, and markup-based (in accordance with Islamic principles) limited recourse infrastructure project financing (the locally arranged rupee term facility).

Project Development

Development timetables

The origins of the Hub Power Project can be traced back to 1985, to the announcement by the government of Pakistan of an initiative to encourage private participation in power generation. Work on developing the project began in the summer of 1987 and expanded rapidly from April 1988 onward, when a detailed feasibility study began. Construction of the station began in December 1992, on the basis of mobilization finance, and the total finance package for the project became irrevocably committed in September 1994. Financial close was achieved in January 1995. The elapsed time taken to develop the project is generally regarded to be eight years (1987–95).

If, however, allowances are made for time lost through unforeseen events such as the Gulf war (1990–91), a Pakistan court ruling on the applicability of Shariah Law to the payment of interest (1991–92), the disruption caused by having to reconstitute the construction consortium following

the departure of two members (1990), and the occasional losses of continuity that attended several changes of government in Pakistan, the active period of project development is closer to five years.

The project's history is not simply about the development of a project, but about giving life to an entire policy initiative by the government of Pakistan and the Bank. This endeavor necessarily entailed the creation of new institutions in Pakistan as well as a large body of documentation, all of which are of a general (rather than project-specific) application. The speed with which several further independent power projects reached financial close in Pakistan, subsequent to the Hub Power Project, illustrates this point.

In developed markets independent power projects usually take one to two years to bring to financial close. In developing markets a pattern is emerging of such projects requiring an average of two to three years, although the distribution of development periods is skewed toward longer than average periods. In taking eight years to reach financial close, the Hub Power Project is at the upper end of lengthy development periods—but it is not unique. If the active period of project development is considered (five years), the project is in the third quartile of project development periods.

Projects that achieve the shortest development periods, from the point of view of private sponsors, are usually well defined technically and commercially by the host government or authority before the procedure for award of concession begins (whether award is by a competitive or negotiated process). Independent power projects are particularly vulnerable to timetable overrun because of the number of parties and contracts normally required to bring them to fruition.

One important feature of developing private rather than public infrastructure projects is the largely sequential nature of the key technical, commercial, and financial tasks that have to be performed. For example, negotiation of the core commercial contracts supporting the project cannot take place until the project is defined technically, and finance cannot be arranged until the project is defined commercially. This sequential pattern of activities is a key reason development periods on private infrastructure projects are measured in years.

An important lesson that can be drawn about project development timetables is that the process of project development

does not easily lend itself to classical project management techniques that assume a level of control over events by the project management team. There are several common causes of timetable slippage that are rooted in the number of independent parties required to contribute to a project, often with very different priorities and levels of relevant experience. These difficulties are compounded by project novelty, complexity, and the disruptive effects of force majeure.

The preparation of timetables is an important activity in project development—not because they give accurate predictions of when financial close will occur (which they do not) but because they help define component development activities, identify potential critical paths, milestones, and decision points, determine the level of resources required, and establish priorities.

For parties unfamiliar with private sector project development, having only partial control over the project timetable is unnerving as well as frustrating. It can often lead to sponsors losing patience and confidence and pulling out of projects as they find that financial close is forecast to be, say, nine months away—year after year.

Few companies in the private infrastructure market have sufficient financial strength and resources to undertake major capital projects alone. Moreover, most are relative newcomers with limited experience working in developing countries. As a result the pattern that is emerging internationally is of infrastructure projects being undertaken as joint venture—sponsored or limited recourse—financed enterprises—or, commonly, both.

The market for private infrastructure projects, and for independent power projects in particular, has changed dramatically since the inception of the Hub Power Project. When Xenel sought an electric utility partner for the project in 1988 and issued an international invitation, only four companies responded. Of these, only National Power had extensive experience working in developing markets. If such an invitation were issued today, between 50 and 100 electric utility companies would likely respond. Still, few would have much operational experience outside their domestic markets.

The development of the project has spanned the transformation of the private infrastructure market, from being a rare curiosity outside a handful of industrial countries (in 1987) to mainstream policy for many countries, both industrial and developing (in 1997). During this period trends

of privatization and utility deregulation have created a market for "global" utility companies.

For its project development structure, the project chose a joint venture composed of parties with complementary interests. The core group comprised five companies: Xenel, National Power, Mitsui, Ishikawajima-Harima Heavy Industries, and K&M. Collectively, they formed a project development company (HRPG Limited) that, by virtue of being independently resourced and managed, was able to mitigate much of the inertia and dilution of management resources that comes from multiparty project sponsorship.

Costs and risks

The development costs for projects that are not well defined technically or commercially at the outset typically are 2 to 4 percent of the project's funding requirement. This rule of thumb appears to hold for most private infrastructure projects (power, transport, water) and, surprisingly, for projects of all sizes. Thus there do not appear to be economies of scale for development costs in sponsoring larger projects. In fact, there are diseconomies of scale in that development costs for larger projects tend to be near the higher end of that range—that is, 3 to 4 percent rather than 2 to 3 percent.

The Hub Power Project figure of 3.6 percent, while at the upper end of the range, is not exceptional. Given the project's gestation period and novelty, it is surprising that the figure is not higher. What is inevitably eye-catching with all large projects is the absolute sum that the sponsors must put at risk in order to create a project. Few corporations can afford to take gambles of this magnitude on their own, particularly since the probability of success in project development can be low.

The personnel required to develop the Hub Power Project and bring it to financial close is estimated at 225 person-years split broadly as follows: the government of Pakistan and its agencies and advisers, 25 percent; sponsors and their advisers, 50 percent; the Bank, 10 percent; and other cofinanciers, leading banks, and their advisers 15 percent. This excludes the resources deployed by the turnkey contractor.

The sponsors were not alone in bearing development risks; the government was also exposed to substantial risks. In granting the project an exclusivity period in which to develop and finance the project, the government was rely-

ing on the sponsors to complete the assignment successfully and as rapidly as possible. The stakes were made higher for the government by the decision to make the project its sole prototype independent power producer, so that the full attention of the government, its agencies, and the Bank could be concentrated with that of the sponsors on making the project a success. Finally, the government's stakes were raised higher still by its support for mobilization finance.

Given the project's size relative to the resources available within the government and the Bank, no other approach was viable. The decision to form a queue of other projects behind the Hub Power Project already appears to have been vindicated by the speed with which subsequent projects have reached financial close.

The frustration of the government and others in having to wait until 1995 to see so much effort come to fruition may be partly offset by the fact that between April 1988 (the date of issue of the first letter of intent for an independent power project in Pakistan) and March 1996 some 2,700 megawatts of independent power producer capacity were brought to financial close. This represents about 330 megawatts a year in new capacity—an impressive achievement.

As the prototype project for Pakistan's independent power producer program, the Hub Power Project inevitably bore a large measure of onetime development costs and risks that subsequent projects have been able to avoid. Although no mechanism exists to share such costs and risks among project sponsors generally, sponsors have been willing to accept them because of the distinction attached to being "the first," whether in Pakistan or any other country. Such is the degree of competition among sponsors in the market for private infrastructure projects.

Given the considerable resources that had to be mobilized to complete the development of the Hub Power Project, as well as the risks borne and costs incurred, it is remarkable that fatigue did not set in among the government, the sponsors, the Bank, and the cofinanciers. Herein lies the essential reason the project reached financial close—namely, none of the key participants wavered in their determination to see it through. The importance to the government and to the project sponsors of the Bank's commitment in this regard should not be underestimated. All the project's participants should be commended for their stamina and patience.

Mobilizing Sufficient and Least-Cost Finance

In most cases the shortage of debt financing is a greater constraint on the development of private infrastructure projects than is a shortage of equity. Thus the ECO guarantee program is of crucial importance to the power sector. Since debt is cheaper than equity, maximum gearing is required to achieve the lowest overall cost of funding for a project and, in turn, the lowest tariffs for customers.

Lower tariffs for customers may also be brought about by arranging debt finance with extended average and overall maturities. The main constraint on stretching commercial bank loan maturities is the reluctance on the part of political risk guarantors to accept the longer exposure. This reluctance prevents developing countries from accessing the kinds of loan maturities that are available for similar projects in developed markets (that is, fifteen to twenty years or more). The PSEDF, with loan maturities of twenty-three years (nearly twice that of the commercial bank finance for the Hub project), has a significant impact on available loan maturities. Still, export credit agencies and other cofinanciers should consider offering maturities of fifteen years or more for infrastructure projects, to close the gap between the terms of finance that are available in developing and developed markets.

Competition is a third route through which the cost of funding projects may be minimized. The large number of potential sources of commercial term debt for private infrastructure projects indicates what may be possible in this area. However, the scope for competition is less broad for larger projects. The limiting factor on the supply of finance is generally political risk cover for term loan facilities.

Any finance plan that stretches to the limit the available finance and associated political risk cover for a project or country will face a further constraint in the form of inadequate flexibility of the finance plan, relative to soft costs and the provision of adequate standby finance. This problem will usually be worsened by increased fragmentation in the finance plan. The most important feature of the ECO guarantee facility in this context is its complete flexibility with regard to the provision of both base and standby finance. This is a vital point of differentiation between an ECO- and an export credit agency-supported facility that, in effect, makes the facilities complementary.

Shortening the Development Period

Development planning

In its predevelopment preparation for a project, and prior to issuing the invitation for private sector proposals, time spent by a host government in defining the legislative environment, the project's technical and commercial requirements, and policy objectives within the context of what can be financed by the private sector will be more than saved by the time financial close is reached.

It is also advisable to postpone as many nonessential activities as possible until after financial close. This may require dividing the project into two or more distinct phases, each with a separate finance plan and financial close. Any consequent reductions in the complexity of a given phase's finance plan should yield time savings in reaching the initial financial close, albeit at the probable cost of a temporary loss of economies of scale in output tariff.

Debt syndication is the most obvious financing activity that can usually be deferred until after financial close. Generally, financial close should be sought on the basis of an unconditional underwriting against which the project may begin loan drawdowns.

Focused resources

The fewer project participants there are the better, be they contract counterparties, contractors, cofinanciers, or project sponsors. Moreover, each participant must dedicate appropriate complementary resources. For sponsors, that means a strong, dedicated management team whose primary responsibility is bringing the project to fruition. A separate, self-contained, full-time project team is best. The Bank also requires dedicated personnel; this will require that resources be freed up from other responsibilities to concentrate on the project at hand.

Avoidable complexity

Significant complexity arises from a fragmented finance plan, which may be unavoidable. However, within any finance plan much time, effort, and cost can be saved in implementation if the plan has been developed, in at least

a rudimentary form, before construction and equipment supply contracts are tendered. For example, this may be the only opportunity to achieve a match between the currency of funding and the currency (or currencies) of capital expenditure or to solve problems that may arise if supplier export credit agencies offer banks less than 100 percent political risk coverage.

The negative effects of finance plan fragmentation may be partly mitigated by the adoption of harmonized or more standard forms of documentation.

Timetable paradox

To achieve the shortest development timetable a project should, paradoxically, be configured to survive a long haul to financial close, whether caused by force majeure or otherwise. Particular measures that should be taken include:

- Determining the level of cross-party political support within the host country
- Testing the sponsors' commitment to contribute to project financing
- Planning for continuity of resources despite sporadic progress
- Preparing commercial contracts so that they can survive unforeseen timetable slippage without requiring renegotiation.

Planners should avoid the temptation to believe in "fast track" timetables.

Conclusion

A question often asked about the Hub Power Project is whether, had it been smaller, it would have been developed more rapidly. The best answer that can be given is probably—so long as there was an associated reduction in the complexity of the finance plan. Such a reduction in complexity might have been achieved, for example, by having a single PSEDF cofinancier facility, a single export credit agency facility, and no rupee facility.

Much of the project's novelty was independent of its size, as was the time taken to develop the project agreements and to establish new institutions in Pakistan. Even much smaller independent power projects can have more than 100 project agreements and documents to complete

prior to financial close. Whether the Bank and the government of Pakistan would have remained so unwavering in their support of a smaller project remains unknown.

The Hub Power Project is a private project embedded in a public environment. The project's fuel supplier (Pakistan State Oil) and power purchaser (Water and Power Development Authority) are both owned by the state, as are several local financial institutions that provided term loan finance for the project. This pattern of partnership between private and public sectors is likely to be repeated in future project financings that introduce private capital into a nation's infrastructure development plans. The Bank's role as facilitator of this process was crucial and welcomed by all the parties involved in the project.

There are many other ways in which the Bank can, and in the case of the Hub project did, contribute to a project's success. Three measures deserve priority in the future because of their impact on the flow of private infrastructure projects in developing markets and on the financial convergence of these with equivalent projects in developed markets:

- Assumption by the Bank of a leading role with regard to coordinating cofinanciers—both generally, in their approach to such projects, and specifically, in relation to individual projects that the Bank agrees to support (this is particularly important when the project is a "first" for the host country).
- Allocation of resources by the Bank on a project-specific and usually dedicated basis for the duration of the project development period (for resource planning purposes, the equivalent of at least two Bank staff per project should be assumed).
- Deployment of ECO guarantees and PSEDF-style facilities to extend the maturity of available term finance to twenty or more years and to ensure that projects have sufficient flexible finance to overcome constraints that may attach to finance that is available from other cofinanciers.

The fourth unit of the Hub Project was completed three weeks ahead of schedule on 7 March 1997, and formal completion of the entire station complex was announced, on schedule, on 31 March 1997. The actual capital cost of completing the project was slightly below budget—in fact, a savings of about 1 percent of the budget were realized.

Finance Plan

Overview

The capital cost of the Hub Power Project was budgeted at \$1,608 million. This total includes payments for the design, fabrication, erection, and commissioning of the station (\$989 million) as well as the associated finance, management, project development, and insurance costs (\$619 million). During its commissioning the station was expected to generate \$63 million in net income from power sales, which lowered the forecast capital funding required during construction to \$1,545 million. This figure formed the basis for the finance plan.

Capital structure

The finance plan comprises three basic sources of capital: equity, which accounts for 24 percent of funding (\$371 million); senior debt, which accounts for 48 percent (\$738 million); and subordinated debt, which accounts for 28 percent (\$436 million; table 1). Equity is in the form of ordinary share capital in the Hub Power Company Limited (Hubco), the company that owns the project. Senior debt is in the form of seven individual term loans—some multitranche and all with an overall maturity of twelve years—one of which is guaranteed by the Expanded Cofinancing Operation (ECO). Subordinated debt is in the form of two multitranche term loans from the Private Sector Energy Development Fund (PSEDF) with an overall maturity of twenty-three years.

Construction of a 78 kilometer pipeline to connect the power station to the fuel oil storage terminal at Pipri (near Port Qasim) and of a 200 kilometer transmission line to connect the power station to the grid at Jamshoro were outside the scope of the project and thus did not form part of

its finance plan. Under the terms of Hubco's agreements with Pakistan State Oil and the Water and Power Development Authority, the completion of those facilities was the responsibility of Pakistan State Oil (as oil supplier) and the Water and Power Development Authority (as power purchaser).

Private Sector Energy Development Fund (PSEDF)

The PSEDF is a funding structure developed by the World Bank to direct multilateral and bilateral finance into private energy enterprises in Pakistan. Hub Power was the first project to qualify. The Bank developed a similar vehicle, the Private Sector Energy Fund, for the 60 megawatt Rockfort Private Power Project in Jamaica (financial close occurred in October 1994). The Bank and other contrib-

TABLE I
Base finance plan

Source	Amount ^a (US\$ million equivalent)	Contribution (percent)
Equity	371	24
Senior debt		
ECO guaranteed	200	
JEXIM guaranteed	100	
COFACE insured	45	
MITI insured	86	
SACE insured	195	
CPC	37	
Rupee facility	75	
Subtotal	738	48
Subordinated debt		
PSEDF I	322	
PSEDF II	114	
Subtotal	436	28
Total	1,545	100

Note: Figures are in end-1993 dollar exchange rates. In practice sources and applications of finance are in multiple currencies.

a. Does not include standby debt.

utors to the PSEDF make loan advances to the government of Pakistan which, through the state-owned National Development Finance Corporation (NDFC), onlends the money to the Hub Power Project on standardized terms.

For the first PSEDF facility (PSEDF I) the interest rate paid by the project is fixed at 14 percent a year for the duration of the loan. For the second facility (PSEDF II) the rate is fixed at 14 percent a year until the start of commercial operations, then becomes a LIBOR-linked floating rate. Repayments for both facilities begin on the eighth anniversary of financial close and are made on a straight-line basis over the succeeding fifteen years. The average loan maturity for the PSEDF is 15.5 years. The government's obligations to make debt service payments to the Bank and other contributors to the PSEDF are not conditional on the project's ability to meet its debt service obligations to the NDFC. That is, the government of Pakistan (through the NDFC), not the cofinanciers of the PSEDF, accepts limited recourse exposure to the project.

The cofinanciers that agreed to provide advances to the Hub project through the PSEDF are shown in table 2. The Bank participates in both PSEDF I and PSEDF II. The Bank's contribution through the PSEDF is \$225 million, or 39 percent of the project's subordinated debt facilities.

Although many of the terms on which the NDFC onlends the PSEDF's component facilities to the Hub Power Project are standardized, certain important conditions are not—for example, the currency of disbursement and definition of eligible expenditure, which are controlled directly by the respective cofinancier.

Although drawings from the PSEDF are made by the project in the currencies of the underlying cofinancier loans to the government of Pakistan, project debt service obligations to the NDFC become denominated in rupees when each respective drawing is made. This approach protects the project from exchange rate risks that may arise from a mismatch between the currency of tariff payment under the power purchase agreement (rupee) and the currency of cofinancier debt service. However, such protection makes tariffs under the power purchase agreement significantly more complex. The interest rate paid by the project on PSEDF drawings includes a margin to account for this exchange risk insurance.

Expanded Cofinancing Operation (ECO) and Export-Import Bank of Japan (JEXIM) guarantee facilities

The Expanded Cofinancing Operation (ECO) guarantee facility was developed under the World Bank's ECO program. The Hub Power Project's ECO guarantee facility is a \$240 million senior term loan provided by an international syndicate of thirty-four commercial banks. The loan has limited recourse to the project except for defined political risks, for which lenders are secured by an ECO guarantee issued by the Bank—that is, a partial risk guarantee. The ECO guarantee covers 100 percent of loan principal but no interest, and is secured for up to thirteen months and seven days (the maximum call period of the ECO guarantee) by a cash collateral account (guaranteed reserve account) funded by the project.

The ECO guarantee facility has four currency base tranches (denominated in U.S. dollars, Japanese yen, European currency units, and French francs) totaling \$200 million and a single standby tranche of \$40 million (denominated in U.S. dollars). Interest on each tranche is a LIBOR-linked floating rate. A separate guarantee fee of 0.25 percent a year is payable by the project to the Bank on the facility amount. The conditions of loan availability follow precedents for commercial bank finance for independent power projects in industrial countries and do not impose international competitive bidding or other procurement restric-

TABLE 2
Composition of the Private Sector Energy Development Fund
(US\$ million equivalent)

Source	Base facilities	Standby facilities	Total
PSEDF I			
World Bank	145	n.a.	145
JEXIM	94	53	147
France	27	n.a.	27
Italy	46	n.a.	46
USAID	10	n.a.	10
Subtotal	322	53	375
PSEDF II			
World Bank	35	45	80
JEXIM	71	38	109
France	8	n.a.	8
Subtotal	114	83	197
Total	436	136	572

n.a. is not available.

tions on the project. Repayments begin on the fourth anniversary of financial close and are made on a straight-line basis over the succeeding eight years. Thus the average loan maturity is eight years.

Debt service is paid by the Hub Power Project directly to the facility agent for the ECO guarantee facility in the appropriate currencies. The project's rupee-denominated tariff revenues are converted into these currencies by the State Bank of Pakistan, which assures the project of fixed exchange rates under its foreign exchange risk insurance scheme.

An Export-Import Bank of Japan (JEXIM) guarantee facility comprising \$100 million of base and \$20 million of standby finance is provided on terms broadly similar to those that apply to the ECO guarantee facility (although the JEXIM guarantee facility is denominated in only a single currency, yen) and is funded by a separate international syndicate of nineteen banks. The guarantee instruments used by the ECO and JEXIM facilities are the same and were prepared by JEXIM's legal counsel.

Other senior term loans

In addition to the ECO and JEXIM facilities, the Hub Power Project has five senior term loans, including three base facilities insured by COFACE, MITI, and SACE that are funded by separate international syndicates of commercial banks (see appendix 1).

The sixth senior facility is a term loan from the Commonwealth Development Corporation. The seventh is a rupee term facility structured on the Islamic principles of "markup" rather than interest. The rupee facility is funded by a syndicate of nine Pakistani banks and institutions (see appendix 4).

The seven senior term facilities all have the same overall maturity (twelve years), repayment profile (straight-line), and average maturity (eight years).

Mobilization finance

The turnkey contractor appointed to construct the power station was mobilized in December 1992, about two years before financial close (January 1995). Had mobilization been delayed further, the construction price that was fixed

in July 1991, when the contract was awarded, would have lapsed. Since this fixed price lay behind the tariff agreed in August 1992 between the Hub Power Project and the government of Pakistan, a contract price revision or rebid could have had serious consequences for the project's timetable and might have necessitated renegotiating tariffs (see the section on project development, below). By the time of financial close about \$423 million of finance had been drawn down to fund project development and construction costs (table 3).

The two bridge finance facilities shown in table 3 were repaid out of the proceeds of the permanent financing. Thus they are included in the finance plan figure of \$1,545 million and are not shown separately in table 1. The four term finance facilities shown in table 3 rolled over at financial close and became part of the permanent finance plan. Bridge finance was structured as short-term (for example, twelve months) facilities secured by the government. As a result of mobilization finance the first power exports from the station were achieved on schedule less than eighteen months after financial close, in June 1996.

World Bank perspectives

Additionality. The unanimous and unequivocal view of arranger banks, sponsors, and cofinanciers of the Hub Power Project is that they would not have accepted the costs, risks, and diversion of resources needed to complete project devel-

TABLE 3
Mobilization finance

Source	Amount (US\$ million equivalent)	Date of first availability
Equity		
Sponsors	65	January 1987
Others	36	September 1994
Subtotal	101	
Bridge finance		
Al Rajhi Istisna	92	December 1992
Rupee facility	10	December 1993
Subtotal	102	
Term finance		
Bank (PSEDF I)	110	April 1993
France (PSEDF I)	27	June 1994
Italy (PSEDF I)	46	June 1994
CDC	37	September 1994
Subtotal	220	
Total	423	

opment had it not been for the World Bank's participation and support. The government of Pakistan also welcomed the Bank's participation as a cofinancier, adviser, and coordinator, not least because of its long-standing support for Pakistan's energy sector. The Bank's participation was also essential to the decisions of banks and investors to join the project at financial close.

Of the \$572 million held by the PSEDF, 39 percent is provided by the Bank. Of the \$823 million of senior term finance, 29 percent is partly guaranteed for risk by the Bank. Thus of the \$1,766 million in financing mobilized for the project (base and standby finance combined), the Bank provided or partly guaranteed \$465 million (26 percent). This represents an overall mobilization ratio of the Bank to all sources of finance of about 1 to 4. The project is the first time so many cofinanciers have participated in a private project. If the French, Italian, and Japanese government agencies that contributed to the PSEDF are considered separately from COFACE, SACE, and MITI, there are nine cofinanciers.

In all, forty-three international commercial banks participated in the facilities supported by ECO, JEXIM, and the three export credit agencies. Most had never lent to Pakistan before, and many had never participated in a Bank cofinancing. For some banks the Hub Power Project was their first participation in private infrastructure project financing.

The Hub project was the first time that COFACE and SACE had supported a limited recourse infrastructure project financing. The Bank clearly played a catalytic role in introducing them, sustaining their interest, and bringing them together to share certain common views—for example, the project coordination agreement between Hubco and its various lenders (the intercreditor agreement). The rupee term facility was Pakistan's first domestically arranged limited recourse financing for an infrastructure project.

The project also has stimulated initiatives among cofinanciers that go beyond their direct participation in the project and even among some cofinanciers that did not participate in the project. For example, COFACE has since established a project financing group, and its Export Credit Guarantee Department and the Asian Development Bank are considering participating in project financings through

political risk guarantees modeled on the ECO guarantee deployed on the project.

Mobilization finance. Mobilization finance played a crucial role in maintaining the project's timetable for delivery of power to the Pakistan grid, which was agreed in November 1992 when a mobilization agreement was signed. It also represented a "crossing of the Rubicon" for all concerned—the government of Pakistan, the Bank, and sponsors—in terms of creating momentum for the project development effort (see the section on project development, below).

The short-term nature of part of the mobilization finance (namely, the bridge finance facilities) and the rate at which construction expenditures are generally incurred once a contractor has been mobilized placed considerable pressure on all concerned. In hindsight this pressure can be recognized as beneficial for the project, although potentially weakening to the negotiating position of parties already involved in the project and for whom commercial issues were still outstanding. Such issues had been few and relatively minor on the project by this time. But if commercial issues had been outstanding at the time of mobilization, the additional pressure could easily have been destructive rather than constructive.

In arranging mobilization finance that interfaced efficiently with the overall permanent finance plan, the project encountered an important limitation on the ability of some facilities (such as Bank and JEXIM contributions to the PSEDF) to refinance construction expenditures that had already been funded but that were otherwise entirely eligible. This crowding out of some of the permanent finance facilities would have become a serious problem for the project had financial close been delayed further.

Development of the Plan

Origins

The basic structure of the finance plan was established early in the development of the project and underwent relatively few changes before final implementation. The primary objective, as with all finance plans for infrastructure projects, was to mobilize the longest maturity and cheapest finance terms possible in order to achieve an accept-

able tariff. The primary constraint on the finance plan was the limited or, in the case of longer maturities, nonexistent availability of foreign currency commercial bank term loans for private enterprises in Pakistan, other than with the support of cofinanciers.

The PSEDF was created in 1988, and its availability to the Hub Power Project formed a fundamental part of the finance plan from that time. The PSEDF was designed to finance up to 30 percent of the capital costs of qualifying projects at maturities of up to twenty-three years, subject to it not providing more than 50 percent of the project's foreign exchange costs.

The government set the minimum level of equity contribution to the finance plan at 20 percent. (This lower limit was also subsequently adopted as a loan condition by the PSEDF.) The government briefly adopted a 25 percent limit on equity contributions in 1988–90, but ultimately it settled back at 20 percent (notwithstanding a target of 25 percent if market conditions permitted, which they ultimately did).

The fixed components of the finance plan became equity (20–25 percent) and the PSEDF (30 percent), which left a balance of 45–50 percent to be found in mostly foreign currency term loans. Identifying sources for these loans became the project's main fundraising task. Originally it had been hoped that facilities insured by export credit agencies and term loans from multilateral and bilateral agencies (other than the Bank) would meet the shortfall. By 1990, however, it had become clear that because of the limited and cyclical availability of export credit agency insurance cover for Pakistan and such agencies' nervousness about limited recourse finance structures, these sources were unlikely to be sufficient.

In 1988 the Commonwealth Development Corporation had indicated its interest in providing term finance and equity for the Hub Power Project. It was, however, the only multilateral or bilateral agency to do so apart from the Bank, although others were invited (including the Asian Development Bank, International Finance Corporation, and Islamic Development Bank). As a result the Bank's timely announcement of the ECO program (in 1990) and its subsequent approval (in 1991) made the ECO guarantee facility part of the finance plan to make up for the shortfall in senior term finance—although at the expense of

introducing considerable extra novelty to the project. In 1991 JEXIM agreed, in principle, to provide a sister guarantee facility. One of the most striking features of the Hub project finance plan is its complexity and associated level of innovation. There are seven senior loan facilities and, through the PSEDF, eight subordinated loan facilities.

The objective of securing the cheapest available term of finance was pursued in three ways. First, the PSEDF was structured to offer a fixed (14 percent a year) rupee interest cost to borrowers that was (when the PSEDF was established) and remains an attractive rate for twenty-three-year subordinated term finance in Pakistan. Second, senior debt interest costs were based on a combination of LIBOR-linked floating rates, export credit agency subsidized rates, and fixed rates. All were settled on an open-book basis and, where competition among finance providers was not possible (which was generally the case), the project was obliged to demonstrate that reasonable going-market rates had been achieved. Third, in the case of equity, which is usually a more expensive form of capital than debt, the government specified a ceiling of 18 percent a year on base-case rates of return on equity for the project. Adherence to a regulated, base-case rate of return was achieved by using a computer-based model of the power tariff and finance plan that was maintained by the government, the Water and Power Development Authority, and the project on an open-book basis.

It should be stressed, however, that the actual rate of return to investors is not assured by the government or any other party. Whether the projections of future shareholder (and lender) cash flow contained in the base-case computer model are realized depends on the project achieving timely and on-budget completion of construction and subsequent reliable and efficient operation (box 1).

The PSEDF's role

The PSEDF provides long-term finance, and in so doing, anticipates one of the key advantages of long maturities that would normally be associated with a refinancing (which would typically be implemented by an independent power producer once construction was complete). No other independent power producer in a developing market has entered the construction phase with such long-term finance (twenty-

Box I Profile of private sector risk

Investors in and lenders to the Hub Power Project—including the commercial banks participating in the ECO and JEXIM guarantee facilities—are exposed to the same commercial risks that they would face in a limited recourse financing of an independent power project in an industrial country—that is, during construction, risks of the plant being built on time and within budget and of its achieving intended performance characteristics; and during operation, risks of the plant performing reliably, consuming fuel, and requiring maintenance in line with expectations.

An adverse outcome with respect to one or more of these risks results in reduced or no returns for shareholders and could, in severe cases, lead to Hubco having insufficient cash flow to meet debt service payments falling due.

three years) in place. In this context the PSEDF can be seen as not only forward-looking but as genuinely innovative. A second important feature of PSEDF I and, to a lesser extent, PSEDF II is the fixed interest rate that it offers the Hub Power Project.

Such long-term finance compensates for the fact that the balance of debt finance (that is, the senior term debt) for the project is available at shorter maturities than commercial banks can provide in industrial countries. Independent power producers in industrial countries can usually secure construction finance from commercial banks with fifteen to eighteen or more years' maturity. For the Hub project the maturity is twelve years. However, with the PSEDF facilities the project's weighted average overall maturity of debt finance, at sixteen years (\$738 million, or 63 percent, at twelve years and \$436 million, or 37 percent, at twenty-three years), is comparable with those in industrial countries. The subordination of the PSEDF facilities, in ranking of security interest and by virtue of their longer maturity, creates significant additional risk cover for the providers of senior term debt.

The availability of the PSEDF became the driving force behind the government's private sector initiative in power generation. Publicity materials for this initiative were issued by the Ministry of Water and Power's Private Power Cell in 1989, 1991, and later years. These materials included descriptions of the PSEDF, since without the long-term finance provided by the PSEDF private projects were not considered feasible in Pakistan by anyone

involved in the infrastructure business at that time. Since the Hub project, several smaller independent power projects have reached financial close in Pakistan without PSEDF support, relying solely on different combinations of export credit agency-, IFC-, and JEXIM-supported debt finance, as well as equity and locally arranged term finance.

ECO guarantee facility's role

The ECO guarantee facility and its sister JEXIM guarantee facility together provide about 40 percent of base senior term debt—that is, \$300 million of \$728 million—fulfilling their primary role of supplementing the \$326 million of insurance cover provided by export credit agencies. By limiting the cover provided under the ECO and JEXIM guarantees to sovereign contractual obligations (including nationalization, foreign currency availability, and other political risks), the guarantees create an environment in which private sources of finance can perform the functions to which they are best suited—namely, identifying, evaluating, managing, and accepting commercial risks.

Another important role of the ECO and JEXIM guarantee facilities is the provision of untied and entirely flexible finance. One of the common characteristics of finance insured by multilateral and bilateral agencies and export credit agencies (though not the Commonwealth Development Corporation) is the conditions that apply to its use. Project finance involves significant costs, such as interest during construction and project management, that satisfy neither tied nor international competitive bidding procurement criteria and yet are just as much capital costs as equipment. The ratio of these "soft" costs to the "hard" costs of construction generally are in the range 1:4 to 1:1, depending on the type of project and the length of the construction period. For the Hub Power Project this ratio is 1:1.6.

In addition to interest during construction, there are significant soft costs associated with funding reserve accounts to compensate for the less than 100 percent insurance of loan principal for political risks under the SACE insured facility, for the lack of interest cover under the ECO and JEXIM guarantee facilities, and to provide a "markup" reserve account for the rupee facility.

The problems of funding soft costs are all the greater in relation to standby finance, which, if used, is usually needed to meet the costs of a delay in completing construction. Little if any additional procurement of equipment is usually required in such circumstances, and rarely anything that would lend itself to formal international competitive bidding procedures. As a result the ECO and JEXIM guarantee facilities are crucial to the provision of adequate standby finance for the project. The ratio of standby to base finance is typically 10–15 percent, with standby finance covering budgetary contingencies and the construction contract let on a fixed-price turnkey basis—that is, with no contract price reopeners (for the Hub project the ratio was 14 percent, equivalent to \$221 million). This ratio should be sufficient to sustain a delay in project completion of up to twelve months caused by circumstances for which there is no alternative source of funding—such as insurance or liquidated damages from the contractor. The ECO and JEXIM guarantee facilities together provide 27 percent of the standby finance available to the project.

The role of the ECO guarantee facility as a “sweeper” of costs that cannot otherwise be funded because of procurement constraints also extends to its role as a multicurrency facility that sweeps up remaining mismatches between currencies of expenditure and currencies of funding. The only other “sweeper” term facility in the finance plan was provided by the Commonwealth Development Corporation. Equity and revenues generated during commissioning are also entirely flexible in their application.

The term base finance in the project’s finance plan is 35 percent flexible and 65 percent inflexible. If equity and revenues during commissioning are included, these shares are more evenly split.

Equity finance

The share of equity in the finance plan remained constant at 20 to 25 percent throughout the development of the Hub Power Project. The government, the sponsors, and the financiers preferred that the share of equity remain at the higher end of this range, if possible. The sponsor equity contribution of \$149 million represents about 40 percent of the project’s equity capital. The balance was provided mainly by other offshore investors and to a much lesser

extent by onshore investors, in each case a mix of corporations, institutions, and private investors.

The government of Pakistan had always favored a combination of offshore and onshore investors, and initial plans had called for a more even split between the two. However, the difficulty in underwriting such a large issue onshore meant that, at least initially, most of the equity finance had to be mobilized offshore. Ownership of the project is expected to migrate slowly and progressively onshore over the life of the station—particularly given the interest shown in the local equity market, where the initial Rs 300 million share offer was four times oversubscribed. This experience illustrates how difficult it can be to estimate local market appetite in such circumstances. The portion of shares held onshore, about 5 percent, is still low, though it is widely distributed. Hubco now has about 100,000 shareholders in Pakistan.

The project had fortunate timing in its launching of the international and domestic equity offering (October 1994). The level of interest in the project meant that the target of 25 percent equity contribution to the finance plan was attainable (in fact, 24 percent). This achievement had the indirect benefit of creating a finance plan in which the equity contribution was still greater than 20 percent even if all available standby finance were drawn. Of course, by itself fortunate timing is no more sufficient in equity markets than in debt markets, and much credit should be given to the thorough and effective way the project was presented to the market in financial centers around the world.

The flotation of Hubco on the Karachi stock exchange and the global depository receipt issue listed on the Luxembourg stock exchange (box 2), which formed the basis of the successful international offering, were firsts for a private power station still under construction. The success of these offerings was greatly assisted by the highly successful senior debt underwriting and syndication that preceded them. For international investors that subscribed to the global depository receipt issue, the central role in the project of National Power, a major international power utility, was a more important investment consideration than the World Bank’s presence. The shares and global depository receipts have performed well since flotation; shares in Hubco have been one of the most actively traded on

Box 2 Role of global depository receipts in Hub Power Project financing

The shares in Hubco are rupee denominated (10 rupees per share par value) and are listed on the Karachi stock exchange. For many offshore investors these features create two issues that may affect their investment decision: investment valuation in a currency not freely convertible or hedgable into dollars and settlement arrangements in an unfamiliar stock exchange environment. Global depository receipts (GDRs) were created specifically to address these issues: first, they are dollar-denominated; and second, they are listed on the Luxembourg stock exchange.

A GDR represents twenty-five shares in Hubco and gives the holder the right to receive these shares, if desired. The shares that are represented by the GDRs are registered in the name of a depository (the Bank of New York, New York) and are held by a custodian (ANZ Grindlays Bank, Karachi). GDRs are traded through an international book-entry settlement system to which GDR market makers in London, New York, and other major financial centers have access, through systems such as Euroclear.

The total number of Hubco GDRs available may change over time, within certain limits, in response to market demand for GDRs relative to the underlying shares. The gradual onshore migration of Hubco share ownership should mean that the number of GDRs will eventually decline. More than 13 million Hubco GDRs with a total subscription price of around \$145 million were sold in October 1994. These GDRs represent about 30 percent of the equity in Hubco.

Dividends paid by Hubco on the underlying shares are converted into dollars by the depository, prior to distribution to GDR holders, through foreign exchange operations in the Pakistan domestic market (for which there are certain government assurances in the implementation agreement). GDR owners are entitled to instruct the depository on the exercise of the voting rights attached to the underlying shares.

The GDR issue was coordinated by Deutsche Morgan Grenfell and was fully underwritten by Deutsche Bank; such an underwriting was itself an important precedent.

the Karachi stock exchange, and Hubco has enjoyed much favorable comment from international stock brokering firms.

World Bank perspectives

Two key issues—international competitive bidding and finance plan fragmentation—arose in the development and implementation of the Hub Power Project finance plan that

have implications for World Bank participation in future projects.

International competitive bidding. The first issue is the balance that has to be struck between the philosophy of fixed price turnkey contracting, which is ubiquitous in private infrastructure projects that receive limited recourse financing (for example, build-own-operate projects), and procurement under international competitive bidding. In fixed price turnkey contracting the contractor absorbs cost overruns or benefits from savings if the costs of procurement deviate from the original estimate behind the contract price. Under international competitive bidding there is usually transparency between the costs of procurement and the price charged to the client.

A project sponsor will select a turnkey contractor based on many criteria, which may include a willingness to share project development costs. Deciding factors may not, however, include a requirement that individual pieces of equipment procured by the contractor be the cheapest available (in capital cost terms). What matters to the sponsor is the ability to offer the client (host government) the most competitive tariff from the power station (or toll bridge, water treatment works, or other project). Many factors enter into this equation, not least of which are the terms of finance or even the availability of sufficient finance that the contractor may be able mobilize for the project.

In principle, the World Bank's rules may be applied to a project's output costs, such as a power tariff—as in the case of the Rockfort power project in Jamaica—which opens the door for all the project's capital costs (hard and soft costs, however procured) to become eligible for Bank funding. However, such an approach requires the project to be largely defined technically, commercially, and financially prior to tender, which becomes more difficult as the project's size increases. In these circumstances the tenders for the output cost are heavily conditional on sources of finance other than the Bank being available on acceptable terms.

In the absence of this alternative approach, the Bank's participation in a project through a vehicle such as the PSEDF will be limited by the extent of procurement that satisfies its rules. In the Hub Power Project about 40 percent of the turnkey construction contract cost satisfied the Bank's procurement rules. The procurement of goods and

services under international competitive bidding can delay a project timetable unless the relationship between a project's procurement and funding is defined at the outset, which is seldom possible except on smaller projects with a less fragmented finance plan.

Finance plan fragmentation. The second issue is the fragmented nature of the finance plan. A pattern is now emerging in developing markets of multiple cofinancier participations in these kinds of projects. For example, the finance plans for the Paiton I power project in Indonesia, the Sual power project in the Philippines, and the Izmit Su water project in Turkey each included at least four foreign currency senior loan facilities.

There are two main reasons for the fragmented nature of these finance plans. First, procurement may be divided up by the turnkey or the engineering, procurement, and construction contractor into a series of discrete national packages. Second, there is generally a tight limitation on the available political risk cover for a single country or project from any individual export credit agency or other cofinancier. The latter may, of course, also be responsible for the contractor opting for discrete national packages of procurement. If the Bank is involved, there is the added objective of cofinancier mobilization ("catalysis") and the Bank's role as lender or guarantor of last resort, both of which encourage fragmentation.

Given that the number of export credit agencies participating in the Hub Power Project is not abnormally high compared with other developing market independent power producers, the structure of the PSEDF can be identified as the most significant source of fragmentation. The resolution of these and other issues has required the Hub project to develop relatively extensive financial "technology" (particularly in terms of documentation)—certainly higher than was expected when the project began.

It is becoming increasingly apparent to all cofinanciers involved in large private infrastructure projects (including the Hub Power Project) that coordination is essential if finance plan fragmentation is not to impose a heavy burden of delay in reaching financial close. Thus several cofinanciers have initiated bilateral collaboration agreements with fellow cofinanciers (particularly export credit agencies), and there is a strong desire among cofinanciers to fur-

ther pursue these initiatives. This form of collaboration is greatly facilitated by the creation of specialized project finance groups within existing organizations, a development that has been significantly stimulated for some cofinanciers by their experience with the Hub project.

One positive aspect of finance plan fragmentation, at least from the perspective of cofinanciers, is the rationale of security in numbers. This rationale carries most weight if the project in question is novel. Consequently, its importance to cofinanciers is expected to diminish as more large and complex limited recourse projects are financed. The conversely negative point about fragmentation is a phenomenon that occurs during negotiation, whereby the consensus always reflects the position of the least flexible participant (that is, "the lowest common denominator"), which generally acts to the disadvantage of the borrower and host government.

In response to the potential difficulties created by finance plan fragmentation, in 1993 the arrangers developed a project coordination agreement that is, in effect, a master loan agreement and intercreditor agreement combined; the project coordination agreement was used for all senior and subordinated facilities on the Hub Power Project. This form of documentation has subsequently been adopted on an increasing number of project finance transactions around the world.

Banking Strategy

Syndication

An international syndicate of forty-three commercial banks provided \$686 million of limited recourse senior term debt facilities for the Hub Power Project, allocated between the ECO and JEXIM guarantee facilities and the three export credit agency-insured facilities (table 4). (Syndicate profiles are provided in appendix 1).

Syndication of these five facilities was carried out simultaneously by a five-bank arranger group comprising Bank of Tokyo-Mitsubishi, Citibank, Crédit Lyonnais, NatWest, and Sakura Bank, supported by Mediocredito Centrale with respect to the SACE insured facility. The arranger group was chosen to reflect the national combination of suppliers within the construction consortium and associated export credit

TABLE 4

Facilities funded by offshore commercial banks

Facility	Amount (US\$ million equivalent)	Number of banks	Average participation (US\$ million equivalent)	Facility agent ^a
ECO guaranteed	240 ^b	34	7.1	Bank of Tokyo-Mitsubishi
JEXIM guaranteed	120 ^c	19	6.3	Sakura Bank
COFACE insured	45	7	6.4	Crédit Lyonnais
MITI insured	86	17	5.1	Sakura Bank
SACE insured	195	18	10.8	Mediocredito Centrale
Total	686	43 ^d	16.0 ^e	

a. Citibank is the intercreditor agent.

b. Includes \$40 million of standby debt.

c. Includes \$20 million of standby debt.

d. Most banks participated in more than one facility.

e. Average overall participation per bank.

agency-insured facilities and to include banks with a proven and leading reputation in large limited recourse projects. Syndication was launched in May 1994 and closed four months later. During this period some eighty banks were approached. In the end syndication was more than 100 percent oversubscribed. The reasons for such a successful syndication ranged from the participation of the World Bank and the novelty and scope of the ECO guarantee to the extended export credit insurance cover (table 5).

From the World Bank's perspective, syndication was an unqualified success. Syndication achieved the Bank's objective of mobilizing the necessary foreign currency commercial bank debt for the project with an overall maturity of twelve years. In so doing, it created an opportunity for thirty-four commercial banks from eight countries to participate

in the first ECO-guaranteed limited recourse project financing. The presence of the Bank and JEXIM and the novelty of the guarantee program are also partly responsible for the appearance in the commercial bank syndicate of several banks that previously had not participated in financings of private infrastructure. The decision by a group of Italian banks, led by Mediocredito Centrale, to participate in the first such financing supported by SACE was also responsible for other banks being introduced to the private infrastructure market.

Though ranked fifth among the reasons for success in syndication, the quality of market presentation that was achieved on the project—in terms of information memorandums and road shows—is widely acknowledged to have set new standards for quality and completeness in the field of project finance and to have transformed the project's image in many eyes. The only negative aspect of such a successful syndication is that, in the desire to disappoint no one, the resulting syndicates are large and fragmented (average participation per facility is \$7.1 million). Such fragmentation gives rise to increased administrative overheads for the facility agents and greater difficulties in managing the voting procedures under the project coordination agreement.

Role of underwriting

The dilemma faced by the Hub Power Project of whether to underwrite the commercial bank facilities and then syndicate or move straight to syndication is one faced by all projects. Reasons that support underwriting prior to syndication are:

TABLE 5

**Reasons for success in syndication
(percent)**

Rank	Reason	Indicative weighting
1	Presence of the World Bank and novelty of the ECO guarantee	20
2	Scope of the ECO guarantee	20
3	Market timing	15
4	Financial and commercial structure and quality of sponsors	15
5	Arranger group and market presentation	10
6	Italian market underwriting of the SACE insured facility	10
7	Pricing	5
8	Extended export credit agency insurance cover (for commercial risks) after completion of construction	5
	Total	100

Source: Survey of arrangers.

- The early reassurance given to the borrower and cofinanciers that there is sufficient capacity in the market to complete the financing.
- The possibility of delaying the tasks associated with syndication until after financial close, so that they do not divert the arranger banks' and borrower's resources away from the task of achieving financial close.

Reasons that favor moving straight to syndication are:

- Keeping the arranger bank group small and therefore more easily managed from a logistical point of view, and less prone to the phenomenon of bowing to the lowest common denominator during negotiation of term sheets and loan documentation.
- The costs saved in not paying underwriting fees (particularly if the project timetable is liable to slip).

However, the sheer complexity of the Hub Power Project favored a small arranger group. Still, even a five-bank group at times became unwieldy, and the strategy of keeping a small group that did not underwrite was maintained almost to the end. The need to reassure the government, the sponsors, the Bank, and the cofinanciers that sufficient market capacity existed was satisfied in the summer of 1993 through pre-marketing, on the basis of a short information memorandum. This market sounding showed a level of support for the transaction that accurately predicted the eventual level of oversubscription in 1994.

In project finance the term *underwriting* does not always carry the same meaning it may carry in a corporate finance or capital markets context. From a borrower's perspective, an underwriting is only of value if funds can be disbursed earlier than would have been the case had the facility been syndicated. The conditions precedent to disbursement, which are usually lengthy in project finance, are generally the same whether the facility is underwritten or syndicated.

In response to a request from the Bank, the Hub Power Project was underwritten conditionally on 14 September 1994 by a sixteen-bank group comprising the five arrangers, Fuji Bank, the Long Term Credit Bank of Japan, Dai-Ichi Kangyo Bank, Deutsche Bank, Mediocredito Centrale, and six other Italian banks. Syndication closed with the same conditionality some two weeks later. These conditions precedent were not finally and fully satisfied until 23 January 1995, at financial close.

The most significant benefit of underwriting the commercial bank facilities for the project was that it saved time on the underwriting and launch of the international and domestic equity offers by creating a higher level of confidence in an early financial close. Most participants in the project, particularly cofinanciers, in hindsight expressed a preference for the senior debt to have been underwritten much sooner, although they recognized that its value in advance of PSEDF I and II being irrevocably committed and the equity fully underwritten would have been largely symbolic.

Commercial bank perspectives

Risk transfer: One of the central achievements of the Hub Power Project is the creation of a contractual framework in which the commercial risks normally associated with an independent power project are transferred to private lenders and investors. Thus the project achieved one of the government's and the Bank's earliest and most fundamental objectives for the private sector initiative: that commercial bank finance and equity capital be mobilized without direct government guarantees of debt service or return. As a result the risk matrix used in the Hub Power Project's bank information memorandum was substantially the same as for an independent power project in an industrial country (except, of course, with regard to measures included in the project structure to mitigate against political risks in Pakistan).

In some instances investors and limited recourse financiers of the project are taking greater commercial risks than would usually apply in an independent power project in an industrial country. For example, the fact that the project is located in a relatively remote region of a developing country makes the commercial job of managing, resourcing, building, supplying, and operating the power station much greater. No cover is provided to lenders for these risks under the ECO guarantee. Conversely, by virtue of the ECO guarantee and the World Bank's credit rating, commercial bank lenders to the project enjoy an imputed AAA credit rating for the payment obligations for the power off-taker (Water and Power Development Authority), which would be unusual (though not unknown) for an independent power project in a developed market. The same might also be said of regulatory and environmental legislation risks

against which, paradoxically, lenders enjoy better protection (through the implementation agreement between Hubco and the government of Pakistan) than they might expect in a developed market because of the rudimentary legislation and lack of sufficient case law in Pakistan in these areas.

Because it provides subordinated debt, the PSEDF enhances substantially the loan cover ratios on the senior debt and, in so doing, mitigates the effects of any increased commercial risks that arise from the project's location. More recent and smaller independent power projects in Pakistan have been successfully underwritten and syndicated in the commercial bank market without a tranche of PSEDF-subordinated debt and so with lower cover ratios. This process of subsequent projects progressively pushing out the envelope of risk transfer to the private sector can also be seen in project agreements, including the implementation agreement, in the trend toward gradually reducing levels of political risk coverage being required by banks, and in the trend for export credit agencies to reduce the extent of commercial risk coverage they provide after completion of construction. In the early 1990s Pakistan was unable to access any uncovered finance from international banks other than short-term trade finance; since 1995 there have been several examples of international banks being prepared to commit uncovered longer-term facilities for projects in Pakistan.

Asset allocation. Banks participating in the project's ECO guarantee facility have, as expected, not booked their participation against Pakistan (in the sense of direct exposure to Pakistan sovereign risk), but have booked it against the World Bank. However, the cover provided by the ECO guarantee does not entirely eliminate lenders' concerns about the project's location (see the section on risk transfer, above). In practice, banks are recording a notional country exposure against each loan that enjoys partial risk coverage (that is, political risk coverage only) whether the partial risk coverage is provided by an ECO guarantee or an export credit agency insurance policy. There are, for example, some banks that, having participated in more than one independent power project in Pakistan, have ruled out participating in any more for the time being, with or without the benefit of an ECO guarantee.

International commercial banks' appetite for project finance assets continues to be strong, so the possibility of individual banks reaching their notional country or sector limits should not be a constraint on the overall financing of private infrastructure projects in Pakistan or other countries where such partial risk coverage is made available. Whether participating in ECO guarantee facilities would cause banks to reach their limits for projects in a particular country more slowly than participating in an export credit agency-insured facility or an IFC B loan, for example, has not yet been fully tested. Overall, however, export credit agency insurance and other forms of political risk cover are likely to be exhausted for private infrastructure projects in a country before commercial bank market capacity for the underlying commercial risks.

Strategy formulation. The formulation of a banking strategy—including the appointment of arrangers and decisions on the timing of underwriting and syndication and their methods of implementation—is, properly, the responsibility of the private sponsors of the project. Nonetheless, these decisions must necessarily be made in consultation with the respective cofinanciers, including the World Bank, that provide guarantee or insurance support for the commercial bank facilities.

Since this was the first time that it had participated, as guarantor, in a limited recourse project financing, the Bank wanted to be more closely involved in formulating and implementing the banking strategy than would normally be the case. The few instances when the Hub project sponsors or, particularly, the Bank acted unilaterally in approaching potential lenders and underwriters served only to highlight the crucial importance of all those involved adhering to an agreed strategy.

Counter-indemnities. Despite the extensive security package that was created for lenders' and cofinanciers' protection—particularly with respect to government obligations and the World Bank and JEXIM's subrogation rights as guarantors of the ECO and JEXIM guarantee facilities—Bank policy obliged the government to enter into a counter-indemnity with the Bank. The principle of nondiscrimination between cofinanciers meant that parallel counter-indemnities (for political risks) were also given

to JEXIM, the three export credit agencies, and the Commonwealth Development Corporation. Several cofinanciers would not have required a counter-indemnity had the Bank not received one; and, in fact, have not generally required them on subsequent projects supported by an ECO guarantee.

Structural Issues

The PSEDF

Assessments of the PSEDF by the parties involved in the Hub Power Project found that its best features were:

- Longer maturity finance than can be secured from commercial sources. At twenty-three years, the PSEDF's maturity is nearly twice that of the ECO guarantee and other commercial bank facilities (twelve years).
- The National Development Finance Corporation's (NDFC) ability to onlend on a limited recourse basis.
- The PSEDF's ability to fund up to 30 percent of project costs.
- Available funding, for the most part, at a fixed interest rate.
- Subordination creating additional risk cover for providers of senior term debt.
- Institutional development (see the section on institutional development, below).
- The PSEDF II standby facility, provided by the Bank and JEXIM, is an untied and flexible form of finance.

The worst features were cited as:

- Facilities are complicated to establish because of the three-step lending route needed to advance loans from the Bank (and other cofinanciers) first to the government of Pakistan, then to the NDFC, and finally from the NDFC to the Hub project. Responsibility for managing this process and associated documentation was diffused among many parties.
- Administration of the eight facilities within the PSEDF is complicated and resource-intensive for lender, administrator (the NDFC), and borrower. Implementation of draw-downs was in some instances subject to delay and time-consuming documentation.
- Inflexible currency of denomination: loans often did not match the currency of expenditure that was to be funded.

The diverse currencies of denomination of the PSEDF (and some senior) facilities caused particular problems. In an extreme case, one of the PSEDF facilities was sized in dollars, drawn in yen, and applied to meet ECU expenditure. The hedging of these exposures was an additional cost burden for the project.

- International competitive bidding or tied procurement rules generally do not take sufficient account of associated costs inherent in a project financing—for example, interest during construction—that need to be funded.
- The government of Pakistan, not the underlying cofinancier contributors to the PSEDF, faces limited recourse exposure to the Hub Power Project.
- A PSEDF administrator that is state-owned (such as the NDFC) may suffer from potential conflicts of interest when negotiating with a borrower, if the borrower is relying on the state for measures to protect its assets or revenue stream from financial loss.
- The introduction of variable rate funding after completion of construction of PSEDF II is an unwelcome dilution of the rationale for the PSEDF (namely, offering long-term fixed-rate funding not otherwise available to private enterprises in developing markets).

Whereas an increase in the size of the ECO or JEXIM guarantee facility could have substituted for some of the PSEDF in the finance plan, the reverse was not the case because the ratio of inflexible finance (that is, the PSEDF and export credit agencies) to flexible finance (all other sources) was close to its practical limit, given the pattern of procurement. From the point of view of overall funding flexibility, the Hub Power Project is slightly heavy on the PSEDF and light on the ECO and JEXIM guarantee facilities. Because of the tradeoff between an increased PSEDF contribution to the finance plan (extending the average loan maturity) and a decreased ECO guarantee facility (reducing the flexibility of disbursement of the available finance) the Hub Power Project is close to its maximum use of the PSEDF.

An alternative deployment of the PSEDF facility and ECO (or JEXIM) guarantee facility in a finance plan, and one that exploits their respective strengths, would be to use the ECO guarantee facility (in parallel with export credit agency and other term debt) preferentially to fund construction expenditure and the PSEDF to refinance the pro-

ject after construction was completed. Such a finance plan was developed for Jamaica's Rockfort Private Power Project, albeit without the deployment of an ECO guarantee. This approach is suited to much smaller projects than the Hub Power Project where the constraint on availability of term construction finance is not so pressing.

The World Bank is also considering a reverse structure in which the PSEDF finances construction expenditure and an ECO guarantee commercial term facility (bank or bond issue) takes out the PSEDF at completion of construction, in a refinancing. Both structures highlight ways in which the PSEDF has potential flexibility.

ECO and JEXIM guarantee facilities

Assessments of the ECO and JEXIM guarantee facilities by parties involved in the Hub Power Project found that their best features were:

- 100 percent coverage of loan principal.
- The World Bank and JEXIM's involvement as guarantors.
- Absence of rigid conditions on disbursement relating to procurement of goods and services.
- Availability in multicurrency tranches (not for the JEXIM guarantee facility).
- Flexibility on first loan repayment date and interest periods (in contrast to export credit agency facilities).
- Guarantee fees paid annually.

The worst features were cited as:

- Lack of interest cover (this cover will be available in subsequent IBRD guarantees).
- Call period of up to thirteen months and seven days.
- Poor readability of the guarantee document.
- Requirement for counter-indemnity.

The absence of interest cover under the ECO and JEXIM guarantees increased the funding requirement of the project by roughly \$20 million, reflecting the cash allocated to the guarantee reserve account and consequential increases in net interest during construction. A further \$15 million was added to the funding requirement by virtue of an analogous account, the rupee markup account, being required by the rupee facility banks. Interest coverage has since been added to the scope of the ECO guarantee program and will be available for future projects.

Some eighteen months were spent negotiating and amending the implementation agreement and a further six months negotiating the ECO guarantee document on the project. To the extent that adoption of a standardized starting point for these documents is possible, significant savings should be possible on the time required to implement future projects. The experience of the Lal Pir power project in Pakistan, which reached financial close within about four months of the Hub project, supports this observation. The Lal Pir project used the implementation agreement and JEXIM guarantee documents from the Hub project with only minor amendments.

Export credit agency-insured facilities

The basic export credit agency insurance policies used on the Hub Power Project have been in place for some time, although this was the first time they were used by COFACE and SACE on a limited recourse infrastructure project. The export credit agencies' cautious approach to participating in a pioneering limited recourse project was evident in the fact that, despite contractor mobilization in December 1992, the agencies did not make firm commitments until the end of 1993 and early 1994. As with the banks, the export credit agencies are unequivocal in their admission that the Bank's participation was instrumental in their decision to participate in the Hub project, given its size and complexity.

The export credit agencies' acceptance of a portion of commercial risk after completion of construction is an important difference between these and the ECO and JEXIM guarantees. Otherwise, the guarantees seek to achieve the same objective, political risk cover, although in slightly different ways. The ECO and JEXIM guarantees list the individual circumstances under which the guarantee may be called. By contrast, the export credit agency documentation, being by tradition more of an insurance policy, describes the insured risks. The somewhat vaguer wording of the export credit agency insurance policy is said to favor the insured party (the lenders) where precedent can be invoked.

The provision by COFACE and SACE of extended insurance cover for commercial risks post-construction was cited by the arrangers (see table 5) and Hub project participants as one of the reasons for the highly successful syndication of the commercial bank facilities. In hindsight, however, it

is likely that syndication would still have been oversubscribed (although to a lesser degree) had the export credit agency cover been restricted to political risks. The decision to request extended insurance cover from the export credit agencies reflected the inevitable nervousness about banking market reaction that accompanies any pioneering and, particularly, large financing. On subsequent projects export credit agencies have, on the whole, expected the private sector to bear progressively more and ideally all the commercial risks—a policy strongly supported by the Commonwealth Development Corporation, COFACE, and other Hub Power Project cofinanciers. Some export credit agencies that did not participate in the Hub project are more willing to accept commercial risks in addition to political risks.

A second important difference between the ECO and JEXIM guarantees and export credit agency cover is the less than 100 percent cover on loan principal provided by the agencies' insurance policies. There are at least three ways the portion of loan principal that is not covered for political risks can be addressed on a project. First, the bank that has the benefit of the export credit agency insurance policy can accept this exposure and make balance sheet provisions accordingly. Second, the risk can be shifted to the supplier whose equipment is being financed by the export credit agency–insured facility. Third, the borrower can arrange supplementary security, typically cash collateral. In the case of the Hub Power Project, supplementary security was used for the SACE insured facility and at least one of the other mechanisms was used for each of the other export credit agency facilities.

The need to cover a 10 percent uncovered portion of the SACE insured facility increased the project's funding requirement by about \$20 million, reflecting the cash allocated to the relevant collateral account and consequential increases in net interest during construction. The higher financing costs that this incurred were, in fact, largely offset by the subsidies provided by Mediocredito Centrale to the interest rate payable by the Hub project on the SACE insured facility. Under the export credit agency insurance policies, interest is covered to the same extent as loan principal, so no further reserve accounts were required, as was the case with the guarantee reserve account for the ECO and JEXIM guarantee facilities (and the rupee markup account for the rupee facility).

To the extent that payment of export credit agency insurance premiums is front-ended (rather than amortized over the term of the loan)—which is often the case and was on the Hub Power Project—an unwelcome consequence is an increase in the project's funding requirement, further magnified by the need to fund consequent interest during construction. Guarantee fees on the ECO and JEXIM guarantee facilities are paid annually in advance over the term of the loan and do not give rise to an increased funding requirement. Export credit agency insurance premiums included in the funding requirement of the Hub project are about \$40 million; ECO and JEXIM guarantee fees paid during construction are, in aggregate, about \$6 million.

Although the export credit agencies provide Hub project lenders with partial cover for commercial risks after completion of construction, their counter-indemnities with the government of Pakistan are similar to the ECO and JEXIM guarantee facility counter-indemnities that cover political risks only. For these purposes, the export credit agency indemnities are the same as the ECO and JEXIM guarantee facilities and Commonwealth Development Corporation indemnities.

One consequence of the multiple and occasionally competing objectives of the PSEDF, the ECO guarantee program, and the export credit agencies was that the sources of bilateral funding for the project did not match particularly closely the procurement supply sources under the construction contract (table 6).

As a direct result of their participation in the Hub project, COFACE and SACE have developed specialized project finance groups to act as a focus and resource base for future transactions. The experience of the project and of other recent major private infrastructure project financings has also increased collaboration between export credit agencies, including sharing specialist advice to minimize costs. The effects of greater confidence through these efforts will be increasingly apparent in coming years.

Political risk cover

Where lender aversion to host-country political risk is a key issue underlying the finance plan, as in the case of the Hub Power Project, the main obstacle to achieving financial close is the limited market capacity for this risk and, as

TABLE 6

Bilateral funding and procurement
(US\$ million equivalent)

Country	Procurement supply	Supplier-mobilized finance			Total
		Export credit agency	PSEDF	JEXIM guaranteed	
France	194	45	35	—	80
Italy	382	195	45	—	240
Japan	377	86	256	120	462
Total	953 ^a	326	336 ^b	120 ^b	782

a. Total turnkey contract price including charges for customs duties, income taxes, and various minor adjustments is \$989 million.

b. Includes base and standby facilities.

a result, the availability of sufficient finance. This simple fact lay behind the creation of the PSEDF and the application of the ECO and JEXIM guarantees to the project.

Two mitigating measures are available to projects to reduce the required funding: phasing construction so that early generation of revenues can partly fund later construction costs (in the extreme case, splitting the project into two or more phases) and drawing equity finance ahead of debt to reduce interest during construction. The Hub Power Project used both measures. With regard to the drawing of equity finance ahead of debt, a more usual arrangement is for equity and debt financing to be drawn down pro rata.

A second constraint on the availability of sufficient political risk cover is the term of the cover. When the commercial contracts (Hubco's implementation agreement with the government, power purchase agreement with the Water and Power Development Authority, and fuel supply agreement with Pakistan State Oil) underlying a project are of a much longer term than the available finance—thirty years in the case of the Hub project—the term of the political risk cover dictates the term of finance unless some other limit is reached in the banking market (such as the term over which banks can access funds). Maturities of fifteen to eighteen years and beyond for independent power projects in developed markets have been secured from commercial banks, and it is likely that had the ECO and JEXIM guarantees and export credit agency insurance policies had terms of that order, the banking market would have responded with longer than a twelve-year term for the Hub project (although perhaps with less oversubscription). However, OECD consensus rules ultimately limit maturities for export credit agencies.

Average loan maturities may also be extended within the limit of a fixed overall maturity by adopting annuity or other back-ended repayment profiles. In private infrastructure projects, which generally favor leveled tariff profiles, annuities are best suited and are commonly available to projects in developed markets. However, this would require guarantor and insurer (that is, the World Bank, JEXIM, and export credit agencies) as well as lender acceptance of extended average maturities.

If export credit agencies are reluctant to extend cover beyond twelve years, this may open the way for the World Bank (under its guarantee program) and other cofinanciers to cover the later maturities beyond those covered by the agencies or an IFC B loan. Such cover could be within the context of a single commercial bank facility. However, this arrangement would not substitute for an ECO guarantee facility that covered the period during which loan disbursements are made, to the extent that the finance plan still required a flexible untied “sweeper” facility to compensate for the rigidities of export credit agency and PSEDF modes of finance. Such an arrangement might, through a parallel cofinancing, also be used to encourage export credit agencies to extend maturities of cover for infrastructure projects.

Despite the work that went into structuring the implementation agreement and ECO and JEXIM guarantees, some banks declined to participate in the syndication of the Hub Power Project because they felt that it did not offer a political risk environment comparable to one enjoyed by an independent power producer in, for example, Europe or North America. Furthermore, a number of well-known project finance banks declined to participate simply by virtue

of the project's location, notwithstanding the ECO guarantee, or because all arranging roles were already allocated. Many top project finance banks did participate, however.

The nervous reaction by some banks may be partly explained by the perception that there is a class of commercial risks inherent in a project, such as the Hub project, simply by virtue of its location (see the section on bank perspectives, above). Moreover, these banks may believe that such risks cannot be addressed by an ECO or JEXIM guarantee or export credit agency insurance policy because they are not, in essence, political risks. The best mitigation for these risks is to have strong, experienced, and well-regarded project sponsors and operators.

Harmonization of documentation

The ECO and JEXIM guarantee facilities use an identical form of guarantee on the Hub Power Project. Each export credit agency uses its traditional form of insurance policy. Thus four forms of documentation for political risk cover were deployed on the project. The first step in any move toward harmonization of documentation ought logically to be among the export credit agencies. The need for such coordination has become a perennial topic of discussion at emerging market and project finance conferences, and there are signs that a consensus in favor of harmonization is being achieved, although initially on bilateral bases in which the agencies agree on common policies between themselves.

Between the export credit agencies and the World Bank, there is clearly a need for the Bank to try to increase acceptance of its political risk guarantee. A suitable occasion for attempting this might be a commercial bank facility in which an agency insures the early maturities and the Bank the later maturities. An analogous arrangement has been successfully implemented through ECO guarantees applied to financings for the Yangzhou Thermal Power Project in China and the Leyte-Luzon Geothermal Power Project in the Philippines.

A more ambitious route would be to attempt general harmonization of export credit agency and Bank political risk guarantees. The prize is considerable in terms of reduced cost and time in arranging cofinancings. Such an outcome

might be very difficult to achieve, however. Export credit agencies are known to be highly skeptical of the feasibility of general harmonization, although some are prepared to explore it further through the Berne Union and other channels.

Whichever way it is attempted, the key issues to be addressed in harmonizing documentation will be the need for:

- Export credit agencies to move to 100 percent cover of principal and interest.
- The Bank to move to cover interest as well as principal for political risks (already implemented for subsequent projects).
- Export credit agencies to accept annual payment of guarantee fees and insurance premiums.
- Export credit agencies to accept a greater element of the soft costs associated with procurement as eligible costs.
- Export credit agencies to adopt the Bank's flexible position on issues such as first repayment date and interest periods.
- Uniform policies regarding call mechanisms and timing, partial callability, and accelerability.

If there are insurmountable difficulties in harmonizing documentation, an alternative approach would be for the Bank to be the primary guarantor and for export credit agencies to participate on a risk-sharing basis to the extent of their exporting contractor's requirements. A borrower would then require only a single guarantee for all its commercial bank facilities that enjoy political risk cover, and it would be up to the Bank to enter into risk-sharing agreements with the relevant agencies. A common guarantee involving the Bank could not provide commercial risk coverage for borrowers, which would be seen as an advantage by most export credit agencies.

Guidelines for Future Projects

Finance plan objectives

The goal of any finance plan for a private infrastructure project is to achieve the lowest tariff to the customer. There are two main routes by which this objective may be achieved: maximizing gearing and ensuring access to the longest possible maturity finance. Market or policy constraints ulti-

mately limit how far a project may go along either route. It will generally also be the objective of the host government to maximize risk transfer to the private sector.

Gearing. Since debt is cheaper than equity, maximizing gearing will lower the overall cost of funding for a project. Independent power projects are typically financed with gearings ranging from 75:25 to as high as 95:5, depending on the project's contractual structure and the nature of risks that fall inside the project "fence." Globally, the average is about 80:20.

The Hub Power Project lies at the lower end of the range for two reasons. First, minimum levels of equity of 20 to 25 percent were specified by the government and the Bank. Second, the availability of sufficient debt finance, or at least political risk insurance cover, proved more of a constraint on the finance plan than the availability of equity. The experience of a greater shortage of debt than equity is becoming increasingly common among project sponsors in developing markets and is not unique to the Hub project. This underscores the crucial importance of the ECO guarantee program in assisting private sector projects.

Loan maturity. Through a combination of senior debt and the PSEDF, the Hub project achieved a weighted average overall maturity (sixteen years) comparable to that of independent power projects in developed markets. As far as average loan maturity is concerned, the project is below norms for developed markets because of its straight-line repayment profiles. The principal constraint on stretching maturities, overall and average—for example, by adopting annuity repayment profiles—is reluctance on the part of political risk guarantors and insurers to accept the longer exposure. Export credit agencies and the World Bank are largely responsible for deciding whether developing markets should be able to access annuity and other longer average maturity debt repayment profiles available to similar projects in developed markets.

Competition. A third general way to minimize costs in project finance is the same as elsewhere—namely, to procure under competitive conditions wherever possible. However, the extent to which this principle may be applied will inevitably depend on the degree of potential oversupply of finance,

given the project's size, location and novelty, and timing constraints. The large number of potential sources of commercial term debt finance indicates what may be possible in this area, although political risk cover is generally the limiting factor on the overall availability of finance.

A project must be highly developed contractually and particularly from the point of view of risk allocation before it can be tendered meaningfully among competing sources of commercial term debt finance. The tradeoff between the increased cost of arranging an underwriting, the timeframe over which the underwriting is expected to remain valid, and the requirement for evidence that sufficient finance will be available, will always be specific to a project's circumstances. The value of an underwriting to a borrower is directly linked to the extent that the term sheet and agreements underlying the project (all of which support the underwriting) are developed in detail.

Risk transfer. The envelope of risk that lies with the private sector in infrastructure projects may be expanded in two ways. First, as a result of increased experience and the market confidence that flows from it, the private sector will be more willing to accept risk or to price it more finely. Second, the process of evolutionary change may be accelerated by use of competition to "test the envelope." The recent emergence in the international commercial bank market of a limited willingness to lend to private infrastructure projects in Pakistan without political risk cover from bilateral or multilateral sources (whether from a B loan, guarantee, or insurance policy) is an indication of how quickly the market envelope can move.

Avoidance of fragmentation. A secondary objective is avoidance of finance plan fragmentation, with the predictable qualification that for larger projects there may be few alternatives to the assembly of a multi-cofinancier package. Even splitting a project into several phases may not reduce fragmentation and complexity, but should be considered.

The World Bank may be responsible for fragmentation because of its desire to limit its exposure, demonstrate additionality, and mobilize multi-cofinancier-supported facilities. The implications of fragmentation lie more in the impact on development costs and the time taken to reach financial close than in the long-term cost of finance for the project.

The market performs best under competition, but meaningful competition between equipment suppliers that takes account of the true cost of their respective export credit agency facilities (that is, their impact on the eventual tariff) may not be possible at the time procurement decisions are made. Moreover, project sponsors may select suppliers based on criteria that do not maximize associated export credit agency cover.

The problem is further compounded when export credit agency cover for a particular country is limited in any case, or when a project wishes to access a significant portion of the cover available from a particular agency. The duty of export credit agencies will remain to their exporters, and they may reduce their commitment to a single project rather than see it sterilized (that is, committed but undrawn) by project novelty or complexity that causes a project to take years to bring to financial close.

ECO guarantee program

The main roles of an ECO guarantee in the finance plan are to:

- Supplement available political risk cover in terms of amount and maturity.
- Provide a flexible form of finance that compensates for the restrictions that apply to the export credit agency-supported and direct cofinancier (for example, the PSEDF) forms of finance in terms of funding soft costs (such as interest during construction), providing standby finance, and currency of denomination.

In fulfilling the first of these roles, the Bank has a difficult balancing act to perform between encouraging export credit agencies and other cofinanciers to participate in the financing and, as always, avoiding crowding them out. Apart from striving for the best balance between ECO guarantee and export credit agency participation in a project, there are clear benefits to devising structures in which these facilities complement one another (for example, in terms of maturities, risk coverage, and documentation simplification). The objective should be to achieve terms for commercial bank finance that more or less match those available from the same sources in developed markets for similar private infrastructure projects. This market envelope should

be tested further in subsequent projects, particularly in relation to the average and overall maturity of loans.

The PSEDF

The PSEDF's main role is as a source of long-term, low-cost, and, ideally, fixed-rate funding; and, to the extent that it is available to a project, its use should be maximized. In the form deployed on the Hub Power Project, it introduces a number of restrictions to the finance plan that do not sit comfortably with either the philosophy of fixed price turnkey contracting or build-own-operate projects. However, these problems can be (and in the Hub project were) overcome, albeit with some difficulty and consequential delay. It is strongly advised that the effects of these restrictions be anticipated before the procurement plan or the finance plan for a project is finalized.

The main restrictions relate to procurement. There are two ways that these restrictions can be overcome. First, it is important that the Bank be able to refinance eligible procurement that has already been funded (perhaps under mobilization finance), thus avoiding any loss of available finance for the project through delays in reaching financial close. Second, project output costs (rather than input costs), such as the electricity tariff charged by the power station, may be subject to international competitive bidding (rather than the underlying procurement), which opens the way for Bank financing of all costs (soft and hard) during construction or for refinancing after completion of construction (as in the case of Jamaica's Rockfort Power Project).

The lack of use of the PSEDF in most of the energy projects that have reached financial close in Pakistan subsequent to the Hub Power Project is in large part due to the procurement restrictions that apply to its availability. The optimal mix of the PSEDF and the ECO guarantee facility is one that achieves the lowest output tariff from the project (that is, the lowest cost of finance) while retaining sufficient flexibility within the matrix of sources and applications of finance such that the overall project finance plan is workable, including in relation to standby finance. Deployment of these modes of finance in alternative and equally complementary structures is also possible.

Project Development

The sponsors made their first significant investment in developing the Hub Power Project in April 1988, when they initiated a detailed feasibility study. The origins of the project, however, can be traced back as far as 1985, to the announcement by the government of Pakistan of an initiative to encourage private participation in power generation. Construction of the station began in December 1992 on the basis of mobilization finance. The project's finance package became irrevocably committed in September 1994, by which time the project had suffered two events causing significant slippage in its timetable: the Gulf war (1990–91) and a Pakistan court ruling on the applicability of Shariah Law to the payment of interest (1991–92).

Working from these key dates and allowing for the time lost through these and other intervening events, the period of active development of the project is estimated at five years. In elapsed time, however—from first involvement of the sponsors in early 1987 until financial close in January 1995—it is nearer eight years. The key events in the development of the project are summarized in table 7. Appendix 2 contains a more detailed chronology.

The Hub Power Project's history is not simply about the development of a project, but about giving life to an entire policy initiative by the government of Pakistan and the World Bank. In most other countries that have attempted such a fundamental reform—inviting large-scale private investment in what had hitherto been an exclusively public industry—the reform had been preceded by the enactment of enabling legislation. In the case of the Hub project the implementation agreement assumed the role of this legislation, so the project sponsors and the Bank became inextricably involved in the complex discussions that such structural reform involves. The implementation agreement took more than eighteen months to develop.

The implementation of a general private power initiative by the government also required that, in parallel with the project's development, institutions be established in Pakistan that would have roles reaching far beyond those of simply supporting implementation of the Hub project. These included private power cells within the Ministry of Water and Power, the Water and Power Development Authority, and the National Development Finance Corporation (or NDFC; see the section on institutional

TABLE 7

Key events and activities in project development

Year	Extent
1987	Sponsors submit proposal Initial site is selected
1988	Government issues letter of intent to project sponsors Detailed feasibility study is completed Bank approves the PSEDF Ministry of Water and Power's Private Power Cell is established
1989	Implementation agreement between the government and Hubco and power purchase agreement between WAPDA and Hubco are negotiated and initialed National Development Finance Corporation's Private Energy Division is established
1990	Fuel supply agreement between Pakistan State Oil and Hubco is negotiated Re-tender of turbine island is effected
1991	Construction contract is signed Arranger banks are mandated ECO program is approved by the Bank
1992	Mobilization finance is arranged Construction is started
1993	Commercial bank and ECO guarantee term sheets are signed Commercial bank due diligence is completed
1994	Commercial bank debt is underwritten and syndicated Equity is underwritten and placed Bank and JEXIM approve guarantee facilities
1995	Financial close

development, below). Given that the fuel supplier (Pakistan State Oil), power purchaser (Water and Power Development Authority), and administrator of the PSEDF (the NDFC) are all public entities, the project was and is essentially a partnership between the public and private sectors.

The speed with which subsequent independent power projects have reached financial close in Pakistan owes much to their use of documentation and institutions created for the Hub project and the knowledge and experience gained by those who worked on it.

Market Experience

Despite the considerable thought and effort that may go into their preparation, projects seldom if ever progress in accordance with their original (or even revised) timetables. A typical project development office will have many out-of-date timetables filed away, including some that had useful lives of perhaps only a few weeks. There are several reasons project development timetables depart from their original schedule:

- Insufficient allowance in the original timetable for the lack of timely availability of independent parties, for whom the project will be just one of many responsibilities.
- Underestimation of the committed time required, exclusive of other responsibilities.
- Decisionmaking processes and timeframes of independent parties being poorly understood or defined, or both, at the time the timetable was constructed.
- Inexperience of the parties involved with respect to the principles and practices of private infrastructure development, with the project often having to move at the speed of the slowest.
- Project novelty and complexity, particularly if the project requires new legislation, institutions, or forms of documentation.
- Changes in project scope.
- Force majeure.

All projects suffer from these problems to some extent. For people working in project development, a useful rule of thumb for determining their likely impact on an out-turn project development timetable is often to double the original time estimate. In fact, some of these factors can

cause an even greater delay than this rule would suggest, particularly project novelty and force majeure. Such was the case with the Hub Power Project.

Independent power projects in developed markets may take one to two years to bring to financial close; in developing markets a pattern is emerging of these projects requiring at least two to three years, although the distribution of development periods is skewed in favor of longer than average periods. In taking eight years in elapsed time to reach financial close, the Hub Power Project is at the upper end of lengthy development periods—but it is not unique. If only the active period of project development on the Hub project is considered (that is, five years), the project lies in the third quartile.

Recent examples of independent power projects taking longer than average to reach financial close can be found in Australia, Indonesia, and the United Kingdom (over four years in each case), and in Turkey. In Turkey the elapsed time for project development for the Birecik project was similar to that of the Hub project. Toll roads appear to have the greatest potential for marathon development periods, with examples of projects taking five to ten years to reach financial close found in the Australia, the United Kingdom, the United States, and a number of developing countries. Projects are as vulnerable to timetable slippage in industrial countries as in developing countries.

The projects that achieve the shortest development periods, from the point of view of private sponsors, are usually those that have been well defined technically and commercially by the host government or authority before the procedure for awarding a concession begins (whether award is by a competitive or negotiated process). The particular vulnerability of independent power projects to slippage is due to the number of parties and contracts normally required to bring them to fruition.

The Hub Power Project, for example, requires five core commercial contracts: the implementation agreement, power purchase agreement, fuel supply agreement, turnkey construction contract, and operations and maintenance agreement. Independent power projects seldom require fewer and often require more than five core contracts. Toll bridges and roads, by contrast, usually require only three core contracts (a concession agreement, turnkey construction contract, and operations and maintenance agreement); their

tendency to delay often owes more to choice of routing and issues of rights of way. The Hub project ultimately had more than 200 project agreements and documents. Most, however, have only minor commercial significance, and are due to the limited recourse nature of the financing, which requires all aspects of a project to be defined with legal clarity prior to disbursement of funds. Independent power projects carried out in industrial countries and of a size comparable to the Hub project would have fewer (say, 100 to 150) final agreements and documents. The additional documentation required for the Hub project derives mainly from its more complicated finance plan. A list of the more than forty principal project agreements and documents supporting the project appears in appendix 3.

One important feature of developing private, as opposed to public, infrastructure projects is the largely sequential nature of the key technical, commercial, and financial tasks that have to be performed. For example, negotiation of the core commercial contracts supporting the project (notably, power purchase and fuel supply agreements and the turnkey construction contract) cannot occur until the project is defined technically, and finance cannot be arranged until the project is defined commercially. This sequential pattern of activities is a key reason development periods for private infrastructure projects are measured in years.

An important lesson that can be drawn about project development timetables is that project development does not easily lend itself to classical project management techniques, which assume that the project management team has a level of control over events that is normally not available. This accounts for an aphorism of project development: "it will take as long as it takes."

For people and institutions unfamiliar with private sector project development, the experience of having only partial control over the project timetable is unnerving and frustrating. It can often lead to sponsors who experience it for the first time losing patience and confidence and pulling out of projects when they find that financial close is forecast to be, say, nine months away—year after year. (See box 3 for a brief discussion of public sector development projects that are later privatized.)

Paradoxically, this frustration with timetable slippage leads to revised project development timetables being pre-

pared habitually on a "fast track" basis, particularly as the project's development costs begin to mount. The basic flaw in all fast-track timetables is that they fail to take into account a realistic expectation of delays caused by the many external influences referred to above. A minimal provision of float means that out-turn events are more likely to diverge from a timetable, with the consequent risk of demotivating all concerned unless a degree of project development pragmatism, if not resilience, is shown by the project's sponsors.

Despite the limited value of project development timetables as predictors of when financial close will occur, their preparation and revision remains an important discipline that helps define component project development activities and identify potential critical paths, milestones, and decision points. It also helps sponsors determine the level of resources required and establish priorities.

Box 3 Saving time through privatization

Infrastructure assets that are financed and built in the public sector and subsequently privatized, either individually or collectively, avoid the problem of commercial arrangements and project-based (that is, limited recourse) finance arrangements delaying the start of construction.

Although this route may not be suitable or available for larger projects and for host governments that have limited financial resources, there are obvious attractions in completing negotiations of implementation agreements, power purchase agreements, and the like and in arranging project-based finance in parallel with project construction. In these circumstances the technical definition of the project, tendering of procurement, and mobilization of public sector finance lie on the critical path to the start of construction.

The disadvantages of this route lie in the poor track record of public sector construction projects relative to their private sector alternatives in terms of capital costs and the time to complete, and the loss of linkage between the responsibility to build and the responsibility to operate the facility. The use of government-secured mobilization finance to hasten the start of construction, as in the case of the Hub Power Project, is really a special, hybrid approach based partly on project finance and partly on privatization. However, a key issue underlying such a project may still be the availability of sufficient public financial resources, even if the requirement for mobilization finance is modest and represents only a small portion of the total cost of completing the project.

Timetable Analysis

A timetable prepared for the Hub Power Project in 1987 showed about eighteen months to financial close. If another project of similar size and complexity were to be developed in Pakistan today, in the wake of the Hub's success, it could probably achieve this speed of implementation. However, the significant delays that the Hub project experienced relative to this idealized timetable are attributable entirely to the factors described in the previous section—in particular, project novelty, complexity, and force majeure.

The project's novelty is well illustrated by the more than sixteen "firsts" that the project achieved (see the executive summary) and by the need to develop core contractual agreements from first principles.

With a complex finance plan came many parties and attendant logistical difficulties. A good example of these were the problems the project faced in scheduling cofinancier meetings, which required the attendance of no fewer than forty representatives of governments, their agencies, contractors, sponsors, banks, and advisers. Scheduling several consecutive working days during which all parties could

meet to resolve outstanding project issues took months of planning, and such meetings were inevitably subject to rescheduling, often on short notice.

The principal events of force majeure that affected the project were the Gulf war (1990–91) and a Pakistan court ruling on the applicability of Shariah Law to the payment of interest (1991–92). Some loss of continuity was also caused by the need to reconstitute the construction consortium in 1990 after two members resigned; and by periodic changes in government in Pakistan, of which there were several between 1987 and 1995.

To some extent, each component activity in the Hub Power Project found itself at one time or another on the critical path for the project's development. Nonetheless, there are undoubtedly some activities that, in retrospect, took too long to complete—even allowing for the factors referred to above (table 8).

Finally, when considering the Hub Power Project timetable account must be taken of a minor though important factor—namely, its multinational nature. Project operations were conducted in five regions:

- In Pakistan, where project business was carried out in Islamabad (location of the headquarters for the

TABLE 8

Principal activities subject to delay

Activity	Comment
Implementation agreement	Novelty of the document for all concerned (lack of precedents) Intermittent availability of advisers to the government of Pakistan
Turnkey construction contract price	Consortium reconstituted following expiration of validity of original bid price
Power purchase agreement	Inexperience of host authorities, intermittent availability of advisers to host authorities, and resource overhead for all parties caused by transparency of tariff process Complex indexation methodology
Private Sector Energy Development Fund (PSEDF)	PSEDF I took five years (in elapsed time) to achieve its \$375 million target because of diversity of contributors and complexity of documentation. PSEDF II, by contrast, took one year to reach \$197 million Implementation of international competitive bidding procedures
Foreign currency senior debt	Five of the senior loan facilities required political risk guarantees (ECO, JEXIM, and the three export credit agency facilities). At one time or another each found itself on the project's critical path since approval procedures for each cofinancier were different, unsynchronized, and generally untested in relation to a limited recourse infrastructure financing Periodic lapsing of indications of support from cofinanciers compounded the problems
Cofinancier documentation	Required three cofinanciers meeting over a nine-month period to agree on intercreditor principles Final export credit agency documentation was, in some cases, not available until financial close
Conditions precedent	Difficulty in procuring relevant documents in a satisfactory form from so many parties in Pakistan and abroad
Local finance	Took three years (in elapsed time)
Land title acquisition	Diversity of land ownership and unavailability of reliable land records

government of Pakistan), Lahore (the Water and Power Development Authority), Karachi (Pakistan State Oil and the financial center of the country), and Quetta (the government of Balochistan).

- In Washington, D.C., location of the World Bank and the principal project management office.
- In Tokyo, Japan, home of the construction consortium leader.
- In London, United Kingdom, home of one of the main sponsors of the project and the center from which most of the finance was arranged.
- In Jeddah, Saudi Arabia, home of the other main project sponsor.

Furthermore, the construction consortium included companies from France and Italy. The project's finance plan includes contributions from all seven locations.

A complex and novel project that is also multiparty and geographically spread out creates special difficulties in terms of coordinating activities—even with project offices that are effectively staffed twenty-four hours a day, as was often the case on the Hub project.

The key operational issues that arise with any multinational endeavor are travel times, nonoverlapping time zones, nonsynchronous working weeks and public holidays, and language difficulties. If it can be said that project finance has been made possible on a wide scale by the advent of PC-based spreadsheet programs, then it can be argued that multinational projects such as the Hub Power Project have been made possible by the fax machine. The contrast between 1987–89, the initial development period for the Hub project—during which fax machines were generally not available or were, for a time, illegal in Pakistan—and

the subsequent five years, when they had become available, was significant in terms of the efficiency of project development.

As discussed, the various constraints and force majeure events prolonged the time taken to complete each of the project's three main activity groups (technical, commercial, and financial). Moreover, the sequential pattern of development activities in the project clearly extended the timetable of principal project activities beyond expectations (table 9). Beyond these factors, the publicity attendant on such a novel project approach likely lengthened the public's perception of the project's timeframe (box 4).

Sponsor Group Formation

Two classic dilemmas arise during project development: what is the optimum size of a project, and what is the optimum number of project sponsors? There are no universal answers to these questions. Still, the issues that lie behind them are worth discussing because of their relevance to the Hub Power Project and all private sector projects.

TABLE 9

Timetable of project activities

Period	Year(s)	Principal activity
1987	1	Predevelopment work
1988	1	Feasibility study
1989–91	3	Commercial contract negotiations and consortium formation Institutional development (including the PSEDF) and realization of ECO guarantee program
1992	1	Arrangement of mobilization finance and start of construction
1993–94	2	Arrangement of permanent finance
Total	8	

Box 4 Effects of publicity

One of the reasons the Hub Power Project is widely perceived to have taken a long time to develop is that it attracted publicity and an associated level of expectation, particularly in Pakistan, from an early stage. Moreover, as one year merged into another, the timeframe lengthened in people's minds. By the time the project reached financial close, it was far from being a new story—and for many observers there was a strong sense of *déjà vu*.

The publicity surrounding the Hub project was inevitable given its pioneering nature, the World Bank's participation, and the project's size and location. However, much of the publicity resulted from the numerous conference speeches given and press announcements issued by all those involved (the government, its agencies, the sponsors, and the Bank) as each milestone in project development was reached.

Still, press exposure prior to a project's financial close has certain important benefits. One is that the risk of failure becomes public, and the potential loss of reputation of those involved increases their determination to see the enterprise through to a successful conclusion. Another potential plus is that progressive and positive publicity can stimulate lender and investor interest. After financial close, the Hub project was unanimously voted "Deal of the Year" by leading specialist financial journals.

Project size

Arguments that favor larger projects include:

- Economies of scale relative to delivered unit output price.
- Increased commitment of resources and streamlined decisionmaking by the host government, reflecting the project's macroeconomic significance.
- Need for new capacity in one increment.

Arguments that favor smaller projects include:

- Lower development costs (in absolute terms).
- Fewer counterparties, reduced complexity, and potentially greater speed.
- Smaller funding requirement and correspondingly greater flexibility.

Many of the benefits of both large and small projects are, in principle, accessible to large projects comprising several phases, each separately financed and constructed. Whether a large project is better split into two or more phases is often determined by economic and technical considerations. Still, the advantages of smaller and simpler (phased) finance plans should be recognized.

Project sponsor group

Project sponsors may favor large groups for several reasons:

- Assembly of complementary skills that may not be available in a single sponsoring company (for example, the classic combination of a utility company, contractor, and local partner).
- Reduced downside risk exposure for individual sponsors through the sharing of development costs.
- Increased probability of overall corporate success by spreading limited resources among several projects rather than concentrating all on one.
- Opportunities for off-balance sheet financing for shareholders with equity interests below certain percentage thresholds (depending on jurisdiction).
- Shared ownership among the various parties with a commercial interest in the project (for example, fuel supplier, contractors, off-takers, and so on).
- Psychological security from collective corporate action.
- Greater ease in arranging finance as a result of an internationally diverse group of sponsors. This applies espe-

cially in circumstances where availability of finance is a key project constraint.

A host government may prefer a large sponsoring group to dilute project ownership, avoiding an important infrastructure asset being owned by a single foreign party.

Arguments that favor small project sponsor groups include:

- Simpler chain of command in project management.
- Less potential for overlapping or conflicting interests.
- Time saved by not having to seek consensus among shareholders before decisions can be made.

Relatively few companies have the financial strength, resources, and experience to undertake major capital projects alone. Oil companies are the best example of the kind of enterprise that can pursue such ventures. Within the private infrastructure market there are even fewer examples of companies of sufficient size to do this, and most are relative newcomers with limited experience in developing countries. As a result the pattern that is emerging internationally is of infrastructure projects being undertaken as joint venture-sponsored or limited recourse-financed enterprises or, commonly, both.

In this context it is worth recapping how dramatically the market for private infrastructure projects, and for independent power projects in particular, has changed since the inception of the Hub Power Project. When Xenel sought an electric utility partner for the Hub project in 1988 and issued an international invitation, there were only four respondents. Of these, only National Power (then in the form of British Electricity International) had extensive experience working in developing countries. Were such an invitation to be issued today, between 50 and 100 electric utility companies would respond, although it would still be the case that few would have much operational experience outside their own domestic markets.

The development of the Hub project has spanned the transformation of the private infrastructure market from a rare curiosity outside a handful of industrial countries such as the United States and the United Kingdom (in 1987), to mainstream policy for many countries both industrial and developing (in 1997). During this period trends toward privatization and utility deregulation have created a market for "global" utility companies.

The core Hub Power Project sponsor group comprised five companies: Xenel, National Power, Mitsui, Ishikawajima-

Harima Heavy Industries, and K&M. The choice of so large a group reflected, to varying degrees, the influence on the sponsors' thinking of the above rationales for larger groups. Collectively, the project sponsors formed a project development company (HRPG) that, by virtue of being independently resourced and managed, was able to mitigate much of the inertia and dilution of management resources that comes from multiparty project sponsorship. Only in the latter stages of the project's development, following its privatization and increased commitment to overseas investment, did it become possible for National Power to play a leading (rather than supporting) commercial role in the project and its financing.

As the market for international independent power projects matures and host governments, financiers, and project sponsors become more experienced, it will become increasingly possible for smaller groups or even individual companies to bear the costs and risks of developing projects as large and complex as the Hub Power Project. Still, the issue of eventual ownership of the project will remain dependent on the many factors referred to above, such as the desire of sponsors to keep the project's debt off their balance sheets.

The creation of a dedicated project development company focused solely on the development of the Hub project, and with an identity distinct from those of the sponsors and contractors, was found by the cofinanciers and banks to be a practical arrangement that greatly assisted their communications with the project. Despite the protracted development phase, with its intermittent periods of low activity, the sponsors managed through HRPG to achieve a surprisingly high degree of continuity of personnel as, indeed, did the World Bank. This continuity was crucial to the project's success.

Development Costs and Risks

Project development costs are usually 2 to 4 percent of a project's funding requirement. This rule appears to hold for most private infrastructure projects (power, transport, water) and, surprisingly, for projects of all sizes. Thus, as far as development costs are concerned, there do not appear to be any economies of scale in sponsoring larger projects. In fact, if anything, there are diseconomies of scale in that

development costs for larger projects tend to be more in the 3 to 4 percent range than the 2 to 3 percent range. Exceptions to this rule arise where the concession for a project is tendered by the host government or authority on the basis of a well-defined technical and commercial specification, in which case lower figures (around the 1 to 2 percent range) would be expected.

Development costs are defined as costs that are borne by the private sponsors of a project and that are sunk in trying to reach financial close (that is, they will be incurred whether the project reaches financial close or not). They do not include the costs borne by other parties such as the host government or the Bank, nor do they encompass pre-financial close construction costs where these are funded by separately secured mobilization finance.

The Hub Power Project development cost figure of 3.6 percent, while toward the upper end of the market range, is not exceptional. Given the gestation period of the project and its high degree of novelty, it is surprising that the figure is not higher. What is inevitably eye-catching with all large projects is the absolute sum that the sponsors must put at risk in order to create a project.

Few corporations in the world can afford to take gambles of this magnitude on their own, particularly when history shows that the probability of success in project development can be low. The primary incentive for a project sponsor to shoulder front-end risk is the possibility of creating a much larger investment opportunity at financial close—typically six to ten times the equity capital investment in developing the project. A second incentive is, generally, the possibility of earning a higher return on the development period investment if the project is successful.

Project development costs can generally be broken down into the standard categories, although allocation among these categories can vary significantly by project. The development costs for the Hub Power Project are shown in table 10. The largest element of the project development budget was legal costs, which is typical of a project-financed independent power project. Moreover, given that almost all 200 project agreements and documents had to be negotiated and drafted from scratch, this came as no surprise. Hub project sponsors ended up paying for the services of fourteen legal firms, most of which were acting for banks and cofinanciers rather than for Hubco.

The question of resource mobilization is central to the setting of a development budget. Resource mobilization is determined by a project's management in light of four considerations:

- The probability of the project proceeding successfully to financial close, as compared with other projects that the sponsors may be pursuing at the time.
- The minimum critical mass of expertise needed to ensure that each project agreement is properly structured and that issues that are interactive between different agreements are properly handled.
- A pattern of workload that may vary dramatically and unpredictably throughout the development period.
- The tradeoffs between the flexibility of having advisers who can be mobilized and demobilized according to workload, the cost of such consultants, and the risks of having knowledge of critical agreements held outside the sponsor management group.

The compromise often struck between these considerations is to assemble a core management team comprising, say, six to twelve experts dedicated or seconded from the sponsor organizations and a supporting cast of legal, technical, and financial advisers. Good advisers may not be easy to retain, however, so individual advisers must be reserved for a project even though they may be required to work only intermittently. This was the approach adopted by the Hub Power Project.

The costs and resources of the project's sponsors are only part of the picture. Each counterparty to an agreement has to staff negotiations and allocate management time. In fact, the management of advisers is as much an issue for counterparties as it is for project sponsors, and it was not always possible for the government of Pakistan and its agencies to rely on the timely availability and continuity of advisers.

TABLE 10

Breakdown of development costs
(percent)

Cost category	Share
Legal	35
Financial	25
Technical	15
Project management	15
Cofinancier advisers and due diligence	10
Total	100

The total personnel deployed in developing the Hub Power Project, based on estimates made by the relevant participants, is shown in table 11.

The total estimated personnel deployed in reaching financial close (225 person-years) can be summarized in broad categories as follows: the government and its agencies and advisers (25 percent), sponsors and their advisers (50 percent), the World Bank (10 percent), and other cofinanciers, leading banks (arrangers), and their advisers (15 percent). These figures and those provided in table 11 exclude the personnel deployed by the contractor in bidding, negotiating, and assisting with mobilizing export credit agency support for the project and all activities related to construction.

Several tasks cut across the above headings and are worth highlighting separately because of their relevance to future projects. These were development of the implementation agreement (ten person-years), development of the power purchase agreement (fifteen person-years), and creation of the PSEDF (twenty person-years).

An equally intensive though often underestimated activity is the building and running of spreadsheet financial models to support the project development effort. This activity consumed about twelve person-years of resources spread across the sponsors, financial advisers, arrangers, the NDFC, and the Water and Power Development Authority. The Hub Power Project models are among the largest and most complicated ever built for a project financing, and are capable

TABLE 11

Personnel deployments
(person-years)

Source	Length
Ministry of Water and Power (including Private Power Cell)	10
Water and Power Development Authority	15
Pakistan State Oil	5
National Development Finance Corporation	10
Other government agencies ^a	5
World Bank	25
Arrangers	25
Cofinanciers	10
Project sponsors and project managers	75
Lawyers	25
Financial advisers	10
Technical advisers	5
Other advisers	5
Total	225

a. State Bank of Pakistan, Central Board of Revenue, Ministry of Finance, and so on.

of handling fifteen loan facilities and expenditures in seven currencies. Most banks that participated in the project and that wanted to run the model had to buy new, high-powered computers to do so.

The sponsors were not alone in bearing development risks; the government also bore substantial risks. In granting the Hub Power Project an exclusivity period in which to develop and finance the project, the government was relying on the sponsors to complete the assignment successfully and as rapidly as possible. The stakes were made higher by the government's decision to make the project its sole prototype independent power producer, so that all of the government's attention and that of its agencies and of the World Bank could be focused (along with the sponsors' efforts) on making the project a success. The stakes became higher still because of the government's support for mobilization finance.

Given the size of the project relative to the resources available within the government and the Bank, no other approach was viable. The decision to form a queue of projects behind the Hub project already appears to have been vindicated by the speed with which some of these projects—which collectively add up to an additional 1,400 megawatts of private power capacity—followed the Hub project to financial close during 1995 and the first quarter of 1996. The frustrations felt by the government and others with having to wait until 1995 to see so much effort come to fruition may be partly offset by the thought that between April 1988 (the date of issue of the letter of intent to the Hub project) and March 1996 some 2,700 megawatts of independent power producer capacity was brought to financial close, representing an average of about 330 megawatts (net) a year—an impressive achievement.

As the prototype project for Pakistan's independent power producer program, the Hub Power Project inevitably bore a large measure of one-time development costs and risks that subsequent projects have avoided and will continue to be able to avoid. Although no mechanism exists whereby these one-time costs and risks can be shared among subsequent projects, it generally has not deterred sponsors from trying to achieve the distinction of being "the first," whether in Pakistan or any other country. This sponsor enthusiasm reflects the degree of competition among sponsors in the market for private infrastructure projects.

An important financial risk that the government had to address during the development period was of potential variations to the power tariff payable under the power purchase agreement. To cover this risk, the letter of intent and the subsequently expanded tariff agreement (1989) contained two fundamental protections for the government. First, the permitted base-case rate of return on equity for the project was limited to an 18 percent annual dollar real internal rate of return. Second, that cost elements of the tariff could only increase in line with agreed indices and exchange rate movements, such that the tariff's real cost to the government of Pakistan remained essentially unchanged. Furthermore, an open-book approach was agreed between the government, the sponsors, and the Bank such that the entire cost structure of the project was transparent.

This strategy could be sustained only to the extent that the project's sponsors were able to hold the cost base of the project constant in real terms. Relative to the turnkey construction contract, this proved difficult over such an extended development period, with two consequences:

- The original consortium that had bid a price in 1988 was unable to maintain it beyond December 1989, at which time financial close was still forecast to be at least nine months away. As a result two of the consortium members (Toshiba and Kumagai Gumi) departed, and their responsibilities had to be rebid.
- Having reconstituted the construction consortium in 1990–91, even the revalidated price had only a limited validity period, as is normal in contracting. This validity period expired in December 1992, at which time financial close was still forecast to be at least nine months away. Rather than face an additional rebid, the decision was made by the government, the sponsors, and the Bank to mobilize the contractor based on a limited down-payment in December 1992.

In hindsight, the expectation that so much front-end development work on agreements, institutions, and modes of finance could be completed and financial close achieved within the typical validity period of a turnkey price offer was overly optimistic. In the end the only way so many parallel and interrelated activities could be brought to a successful conclusion was for mobilization finance to be used to remove the issue of turnkey price validity (and therefore, that of the power purchase agreement tariff) from the critical

path to financial close (although mobilization finance had its own maturity deadline that maintained pressure on all parties to reach financial close). The support for mobilization finance represented a second important financial risk that had to be addressed by the government (see the discussion on mobilization finance, above).

The adoption of an open-book approach to the development of the project cost structure and tariff inevitably introduced a significant overhead for the project development effort, particularly in terms of the resources required to ensure that all parties involved were apprised of the project's detailed economics and finance plan at each step along the way to financial close. The alternative and more common approach of contracting on the basis of a single inclusive tariff figure, with no transparency offered to the purchaser, is preferred. This, in fact, is the basis on which subsequent independent power projects in Pakistan have contracted.

The more one considers the resources that had to be mobilized to complete the development of the Hub Power Project—the risks borne and costs incurred—the more remarkable it seems that fatigue did not set in among the government, the sponsors, the Bank, and the cofinanciers. And herein lies the essential reason that the project reached financial close: none of the key participants wavered in their determination to see it through. The importance to the government of Pakistan and the sponsors of the World Bank's commitment in this regard should not be underestimated. All the project's participants should be commended for their stamina and patience.

World Bank Perspectives

Leadership role

It was natural at the Hub Power Project's cofinanciers meetings that the Bank should assume the role of chairman. Cofinanciers are accustomed to the Bank showing leadership in such circumstances, particularly where (as in the case of the Hub project) the venture was a "first" for the country concerned. Indeed, for cofinancier meetings held early in the development period, the invitations to attend had to be issued by the Bank.

The pressure on the Bank to assume a coordinating role on behalf of cofinanciers grew naturally from its

chairmanship of these meetings and increased with the number of cofinanciers participating in the project. Moreover, given that the Bank was already a major contributor to the development of the energy sector in Pakistan, this role had an inherent rationale.

The Bank was also, quite naturally, cast in the role of confidante to the government of Pakistan. On occasion this role extended to being an "honest broker" to help resolve issues between the government and the project's sponsors and banks. Both roles were invaluable given that the project under development was pioneering and the whole sectoral initiative was new for the host government. Without the Bank's contribution as unofficial leader of the cofinanciers and confidante of the government, development of the project could have presented insurmountable problems to the government and the sponsors.

Such roles are, however, resource intensive and rapidly become full-time—which presents a problem given the other duties that managers in the relevant Bank regional department may have. The figure for Bank resources deployed on the Hub project—twenty-five person-years—makes the point forcefully. This is equivalent to five people working full-time for the duration of the active development period.

Without additional resources that can be dedicated to a project until it reaches financial close, it is possible that attempts to balance the management demands of a project with wider sectoral development will compromise both. Thus the Bank's leadership role would best be formalized, probably through its appointment as chairman of a cofinanciers steering committee. Although the Bank may be reluctant to assume leadership of the cofinancier and government liaison aspects of a project, it has a unique capacity to shoulder these responsibilities. Moreover, the Bank's suitability for this role is universally endorsed by the government of Pakistan, the cofinanciers, the banks, and the sponsors of the Hub Power Project. In situations where the Bank is proactive, the development time of projects will generally be shorter and, therefore, the flow of projects greater.

Project ownership

Though described as a private sector project, the Hub Power Project is to a large extent a partnership between the private and public sectors. After all, the principal input and

output contracts (the fuel supply and power purchase agreements) are with public entities whose performance is guaranteed by the government through the implementation agreement. Moreover, all forms of debt finance for the project are either provided by international or Pakistani public agencies or partly guaranteed by such. A similar pattern can be expected for such “private” infrastructure projects in many other countries with which the Bank has an active program. The Bank and others involved in such projects share a similar dilemma: “Whose project is this?” Host governments, project sponsors, and the Bank will each legitimately feel ownership over the enterprise, although joint ownership may reassure lenders and investors.

Mobilization finance

One of the Bank’s most important contributions to shortening the timetable to the start of construction was its support for and participation (through the PSEDF) in mobilization finance. In circumstances where institutional development forms an integral part of the project development effort, as in the Hub Power Project, or where other factors give rise to unacceptable delays in the start of construction, mobilization finance is one of the few mitigating measures available to the host government and the Bank. One constraint, however, is that in such circumstances important commercial issues must be settled prior to deployment of mobilization finance unless the host government is prepared to complete construction of the project in the public sector, if necessary. In the case of the Hub project, all major commercial agreements were signed prior to mobilization of the contractor.

Guidelines for Future Projects

The successful financial close of the Hub Power Project will help shorten the time needed to develop future independent power projects in which the Bank is involved for three reasons. First, much of the commercial, financial, and legal experience embodied in the project documentation is of a general, not project-specific, nature. Second, a large group of individuals spread across numerous institutions inside and outside Pakistan now have first-hand knowledge of the principles and practices of project development, project

financing, and implementation of an independent power project in a developing country. Finally, the project has demonstrated that, complex as they are, such deals can be done.

Furthermore, in light of the development experience of this and other independent power projects, it is possible to identify a number of specific recommendations that should help reduce the risk of future projects encountering delays or failing:

- Time spent by a host government prior to inviting private sector proposals in defining the legislative environment, clarifying what is required from the project technically and commercially, and framing its objectives within the context of what can be financed in the private sector will be more than saved by the time financial close is reached. If the power purchaser is a public entity then, at a minimum, the host government’s responsibilities should include specifying available sites, plant size, fuel type, mode of plant operation, and provision of grid interconnection facilities. The more such parameters are defined prior to invitation, the greater is the potential for meaningful competition between sponsor groups and the shorter should be subsequent project implementation periods.
- Efforts should be made to postpone as many nonessential activities as possible until after financial close. The logical extension of this point is to split the project into two or more phases, each with a separate finance plan and its own financial close. Any consequential reductions in the complexity of a given phase’s finance plan should yield time savings in reaching the initial financial close, albeit at the probable cost of a temporary loss of economies of scale in output tariff.
- Debt syndication is the most obvious financing activity that can usually be deferred until after financial close. Generally, financial close should be sought on the basis of an unconditional underwriting against which the project may begin loan draw-downs.
- Sponsor resources should be matched to the nature and scale of the project. Moreover, these resources must be focused on the project at hand by assembling a dedicated team whose primary responsibility is to bring the project to fruition. A dedicated team supported by strong project sponsors is best of all.

- The need to allocate dedicated personnel applies equally to the Bank, which must be prepared to free up or retain resources for this purpose. For planning purposes, the Bank should expect to assign the equivalent of two people more or less full-time to a project in which it proposes to participate, and the commitment should be for the duration of the development period.
- The fewer project participants the better, which applies as much to contract counterparties, contractors, and cofinanciers as to members of the sponsor group.
- The temptation to believe in “fast track” timetables should be resisted.
- To achieve the shortest development timetable, a project should, paradoxically, be configured to survive a long haul to financial close, whether delays are caused by force majeure or other factors. In particular, a project should determine the level of cross-party political support within the host country; test sponsors’ commitment to contribute to project financing; strive to achieve continuity in the key individuals responsible for developing the principal project agreements within the host government, sponsors, and Bank, and their respective advisers; and prepare commercial contracts so that they can survive unforeseen timetable slippages without requiring renegotiation.
- Invitations issued to turnkey contractors should favor bids that are from smaller rather than multiparty consortiums, are denominated in a single currency, include export credit agency cover in line with the requirements of the commercial banks that will fund the respective facilities (including, for example, political risk cover for 100 percent of the loan principal and interest), and are expected to require the least fragmented finance plan. The chosen single currency of bid should be one in which debt and equity funding for projects is commonly denominated and in which interest rates are readily hedged.
- The power purchase agreement tariff should ideally be denominated or determined in the same currency as the project funding, or in a currency that may be hedged against the currency of funding.
- A suitable host government institutional framework should be in place and sufficient administrative resources mobilized to expedite needed project agreements and approvals, prior to commencement of substantial project development work.
- All contract counterparties should strive for continuity in the advisers who provide specialized expertise, as and when required. This issue is particularly important if the project enters the long haul.
- Projects with fragmented finance plans would benefit from the creation of a formal cofinanciers steering committee during their development. The committee would be chaired by the Bank.
- Logically, smaller projects should have simpler finance plans, although this is not always the case. Where they do and an order of magnitude reduction in complexity is achievable (for example, through having a single PSEDF cofinancing facility or export credit agency), significant timetable savings should be realized. However, the number of agreements involved in such projects does not fall as rapidly with scale of financing as one would hope.

Institutional Development

The institutional framework to support private participation in Pakistan's energy sector evolved as a major component of the work carried out for the development of the Hub Power Project. In 1988 the government of Pakistan initiated a program to address macroeconomic constraints and liberalize the economy. The program, among other actions, required rationalization of public expenditures. Budgetary allocations for revenue-earning public entities were reduced. Investment financing for these enterprises was, in the future, to be mobilized through internally generated funds and borrowings from the domestic and international capital markets. This program had a profound impact on the energy sector, which historically had accounted for more than 33 percent of annual development allocations, since internally generated funds and projected borrowings fell short of the investments needed to meet the forecast demand. In response, the government outlined a strategy for rationalizing the consumption of energy and increasing the role of the private sector in energy to fill the gap left by the reduction in public investments.

The government identified three key constraints to mobilizing private capital: the absence of a policy framework for the private sector—that is, incentives, fiscal treatment, repatriation of profits and capital, availability of foreign exchange, pricing, and so on; the lack of long-term finance for projects with relatively long gestation periods and economic life; and the inadequacy of the institutional structure for the review, negotiation, and approval of private sector projects.

An initial framework of incentives to attract private investment into the energy sector was put in place in 1988. During the negotiations for the Hub project the government recognized the need to fine-tune the framework to take into

account the feedback received from private investors and the international financial community. Refinement of the framework of incentives was also needed to make Pakistan internationally competitive in attracting financial resources and to integrate with these measures the actions taken by governments to deregulate the economy and increase reliance on the private sector. A new policy for private energy that integrated all these measures, amendments, and refinements was promulgated in March 1994. The policy incorporates the original policies introduced in 1988 together with the amendments made since.

The policies for the creation of an enabling environment for the private sector have four components: criteria for the consideration of private sector projects by the government, fiscal and financial treatment of private energy projects, incentives for investors and lenders, and a structure for the agreements, provisions, and facilities needed to safeguard the interests of the government, lenders, and investors.

The PSEDF and the ECO Guarantee Facility

The PSEDF was established in 1988 to provide financing support to long-gestation energy projects. The PSEDF was to provide partial, long-term subordinated debt financing for energy investments. The NDFC manages the PSEDF for the government of Pakistan. The PSEDF was structured to allow for its possible detachment from the NDFC when its staff are fully trained and when projects that it has already financed provide sufficient revenue to cover the cost of its operations. As the development of projects (including the Hub Power Project) progressed, it became apparent that subordinated financing would not be adequate to mobilize the balance of loan finance required, since lenders

generally were unwilling to provide sufficient long-term financing without suitable protection from the political risks that they perceived to be inherent in the transactions.

In 1990 the ECO guarantee program was considered by the Bank's Board of Directors. The program built on the guarantee aspects of the Bank's B loan program and aimed at using the Bank's partial guarantees to mobilize private finance for public or public-private projects in the Bank's lending program. Many private infrastructure projects are being developed and financed on a project finance (that is, limited recourse) basis, whereby a private investor mobilizes debt financing secured primarily or solely on the revenues generated by the project and a legal charge over the project's assets. Project revenues, in turn, are often based on long-term sales contracts. This concept underlies most build-own-operate (BOO) and build-own-operate-transfer (BOOT) projects. Based on the emerging trends in private infrastructure projects, in 1991 the Bank broadened the concept to enable guarantees to support private commercial financing for private sector projects. The Hub Power Project was the first application of the guarantee to a private infrastructure project.

The ECO guarantee program was reviewed in 1990 and 1992, with certain procedural modifications introduced in the second review based primarily on experience gained with the Hub project. In 1994 the Bank replaced the ECO program with a more generalized use of guarantees as a mainstream instrument in Bank operations. The mainstreaming of guarantees built on the successful features of the ECO program, but at the same time proposed modifications to some governing rules no longer considered necessary, primarily to facilitate a broader use of guarantees for limited recourse-financed projects.

Institutions in Pakistan

The third set of measures for the promotion of private energy involved the creation of institutions for the review, negotiation, and approval of private project proposals. Under PSEDF I the Ministry of Water and Power was assigned responsibility for reviewing and approving power proposals and the Ministry of Petroleum and Natural Resources for reviewing oil and gas and coal development proposals. The Water and Power Development Authority

was assigned responsibility for negotiating and administering power purchase agreements and integrating the operations of private power plants within its system. Each of these agencies set up new units specifically charged with supporting private energy investments. The Ministry of Water and Power set up the Private Power Cell, the NDFC created the Private Energy Division, and the Water and Power Development Authority established the Private Power Organization.

The Private Power Cell was created in 1988 to provide an institution that would evaluate and negotiate private power projects on behalf of the government. In an effort to streamline the institutional structure for private power, the revised energy policy of 1994 called for the Private Power Cell to be designated as the Private Power and Infrastructure Board to function as a single-stop investment window and assume full responsibility, on behalf of the government, for negotiating all private power investments. The board was so designated in June 1994.

Under PSEDF I the NDFC was designated as the administrator of the PSEDF and created the Private Energy Division specifically for this purpose. The division is structured to allow for its future detachment from the NDFC. The division now has a suitable complement of staff comprising young professionals who have undergone extensive and specialized training, some of it abroad. The division was set up as a self-contained unit responsible for its own decisions on the technical and financial viability of projects presented to it for financing, after they have been approved by the Private Power Cell. The Private Energy Division has successfully undertaken all the pre-construction activities in connection with the appraisal of the Hub project.

The Water and Power Development Authority organized the Private Power Organization under a managing director supported by a general manager, four directors, and six assistant directors, and with additional specialized support from consultants. The organization's original function was to coordinate all the Water and Power Development Authority units involved in load dispatch, system operation, finance, system planning, and so on, to handle the complex issues of negotiating tariffs and power purchase agreements, and to outline contractual and technical aspects for the integration of private sector supplies into the Water and

Power Development Authority's system. The new policy has transferred these functions from the Private Power Organization to the Private Power and Infrastructure Board, which now has sole responsibility for them.

In 1993 the Water and Power Development Authority assigned the Private Power Organization the additional responsibility of planning the privatization of its assets. The

organization now plays a major role in the implementation of the recently approved Power Sector Development Project, particularly with regard to the reorganization and corporatization of the Water and Power Development Authority into a holding company with decentralized generation, transmission, and distribution subsidiaries operating as discrete autonomous profit centers.

Postscript

The fourth unit of the Hub Power Project was completed three weeks ahead of schedule on 7 March 1997, and formal completion of the entire station complex was announced, on schedule, on 31 March 1997.

The output capacities and efficiencies of all the units has proven to be at or above guaranteed levels, and throughout their first winter period of operation (1996/97) the commissioned units operated at almost full output. The station's contribution to the reduction of load shedding in Pakistan has already been widely and publicly acknowledged.

The pipeline connecting the station to the Pipri oil terminal was commissioned in October 1996 and has an installed capacity sufficient for a 2,000 megawatt power station. The first of two export power lines was commissioned in December 1995, the second in September 1996.

The actual capital cost of completing the project has been slightly below budget—in fact, savings of about 1 percent on budget has been achieved, equivalent to \$13 million. At the same time, cross-currency movements have caused the dollar value of all loan facilities available to the project to increase by about \$50 million relative to the original finance plan. Much of this apparent increase in loan availability has been within the PSEDF's JEXIM facilities and gives rise to a reported underusage of the PSEDF: 85 percent drawn compared with 100 percent in the finance plan.

Currency movements aside, all base loan facilities have been drawn substantially as envisaged in the finance plan, although considerable difficulty was experienced in fully using the World Bank's contribution to the PSEDF due to restrictions that apply to the application of drawings (see the section of project development, above). The standby loan facilities have not been drawn, by virtue of the project being completed under budget.

The most significant underusage of a senior loan facility has been the base ECO guarantee facility which, being a flexible "sweeper" of costs and currency mismatches, has ended up being only 75 percent drawn (compared with a forecast usage of 90 percent in the finance plan). The export credit-insured and other senior facilities have been fully drawn. Revenues generated from plant operations prior to completion have been ahead of the forecasts made in the finance plan, to the extent that some twenty-seven additional unit-weeks of generation were made available by the early completion of the second, third, and fourth units.

The broadly smooth experience of managing monthly drawdowns of the fifteen loan facilities that comprise the Hub project financing has been greatly assisted by the investment that Hubco and the intercreditor agent (Citibank) made in assigning qualified financial analysts and managers, at the outset, to design and implement a computer-based loan management and reporting system.

Appendixes

Appendix I Offshore commercial bank facilities syndicate profiles

Facility	ECO	JEXIM	COFACE	MITI	SACE
ABN AMRO Bank NV	✓		✓		✓
ANZ Grindlays Bank plc	✓		✓		
Banca Nazionale del Lavoro Spa—London Branch					✓
Banco di Napoli International SA (Luxembourg) ^a					✓
Banco di Napoli Spa—Hong Kong Branch					✓
Bank of Scotland	✓				✓
Bank of Tokyo, Ltd.	✓	✓		✓	
Banque Francaise du Commerce Exterieur	✓		✓		
Bayerische Landesbank Girozentrale	✓				
Centrobanca—Banca Centrale di Credito Popolare Spa					✓
Citibank NA	✓	✓			✓
Cooperatieve Centrale Raiffeisen—Boerenleenbank BA (Rabobank)	✓		✓		✓
Crediop-Credito per le imprese e le opere pubbliche Spa					✓
Credit Foncier de France and Auxilaire du Credit Foncier de France (jointly and severally) ^a	✓		✓		
Credit Lyonnais SA	✓		✓		
Dai-Ichi Kangyo Bank, Limited	✓	✓		✓	
Daiwa Bank, Limited		✓		✓	
Deutsche Bank	✓	✓		✓	
Dresdner Bank AG	✓	✓		✓	
Fuji Bank, Limited	✓	✓		✓	
GiroCredit Bank Aktiengesellschaft der Sparkassen	✓				✓
Industrial Bank of Japan, Limited	✓	✓		✓	
Internationale Nederlanden Bank NV	✓				✓
Kredietbank NV	✓				✓
Long Term Credit Bank of Japan, Limited	✓	✓		✓	
Mediocredito Centrale Spa			✓		✓
Mediocredito Toscano Spa					✓
MeesPierson NV	✓				✓
Mitsubishi Bank, Limited	✓	✓		✓	
Mitsubishi Trust and Banking Corporation	✓	✓		✓	
Mitsui Trust and Banking Co., Ltd.	✓	✓		✓	
National Westminster Bank PLC	✓	✓			✓
Norinchukin Bank	✓	✓		✓	
Orix Corporation	✓				
Royal Bank of Scotland plc	✓				✓
Sakura Bank Limited	✓	✓		✓	
Sanwa Bank, Limited	✓	✓		✓	
SB General Leasing (UK) Limited	✓				
Standard Chartered Bank	✓				✓
Sumitomo Bank Limited	✓	✓		✓	
Tokai Bank, Limited	✓	✓		✓	
Yasuda Trust & Banking Co. Ltd.		✓		✓	
Westdeutsche Landesbank Girozentrale	✓				✓
Banks per facility	34	19	7	17	18

a. Appears as a single bank on the tombstone for the facilities.

Appendix 2 Project chronology

	1987	1988	1989	1990
Government of Pakistan	<i>July:</i> Initial proposal submitted to government of Pakistan	<i>April:</i> Letter of intent issued	<i>January–December:</i> Implementation agreement negotiations <i>December:</i> Implementation agreement initialed	
Commercial contracts and corporate development	<i>May:</i> Initial invitation to bid for turnkey consortium leader	<i>May–August:</i> Tender and appointment of turnkey consortium Tender and appointment of plant operator <i>May–June:</i> Project offices opened in Islamabad, Washington, and London	<i>January–December:</i> Power purchase agreement negotiations <i>December:</i> Power purchase agreement initialed <i>December:</i> Interim tariff agreement signed	<i>January–December:</i> Fuel supply agreement negotiations
Engineering and construction	<i>October:</i> Initial site selection	<i>May–November:</i> Feasibility study	<i>May–October:</i> Construction contract negotiations <i>December:</i> Turnkey price validity expires	<i>June–December:</i> International competitive bidding for turbine island <i>December:</i> New turnkey consortium
Institutional development		<i>November:</i> Ministry of Power and Water's Private Purchase Cell formed Water and Power Development Authority (WAPDA) private power organization formed	<i>April:</i> National Development Finance Corporation's Private Energy Division formed	
Other				<i>August:</i> Gulf war starts
Finance	<i>April:</i> Initial financial review	<i>November:</i> First cofinanciers meeting Preliminary information memorandum issued to cofinanciers <i>December:</i> World Bank approves the Private Sector Energy Development Fund (PSEDF)	<i>March:</i> Second cofinanciers meeting <i>January–December:</i> Discussions with cofinanciers	<i>March:</i> Mobilization finance review World Bank considers Expanded Cofinancing Operation (ECO) program

1991	1992	1993	1994
April–November: Implementation agreement development	April–August: Implementation agreement negotiations August: Implementation agreement signed November: Mobilization agreement signed	January–September: Bank due diligence on implementation agreement November: Supplementary implementation agreement signed	
April–November: Power purchase agreement development May: Fuel supply agreement initialed May: Revised tariff agreement signed October: Project site acquired June: Offices in London and Washington enlarged August: Hubco formed with technical listing on Karachi stock exchange	February–September: Operations and maintenance agreement negotiations April–August: Power purchase agreement and fuel supply agreement negotiations August: Power purchase agreement and fuel supply agreement signed Shareholders agreement signed September: Operations and maintenance agreement signed	January–September: Bank technical and commercial contract due diligence October: Indicative tariff agreement signed November: Supplementary contracts signed	September: Reference tariff agreement signed
January–June: Construction contract negotiations July: Construction contract signed	September: Groundbreaking December: Contractor mobilization	September: Site clearance November: Foundation laying commences	June: Private Power and Infrastructure Board formed
February: Gulf war ends November: Federal Shariat court ruling	December 1991–May: Appeals lodged against Federal Shariat court ruling		
March: First application to the PSEDF May: Export credit agency meeting August: Arranger banks mandated December: ECO program approved by the Bank	September–December: Mobilization finance arranged July: Arrangers remanded December: Mobilization finance—Istisna facility agreement signed and drawn down	January–June: Mobilization information memorandum prepared February: Senior debt term sheet signed April: PSEDF loan agreement signed; first disbursement May: ECO guarantee term sheet agreed July: Third cofinanciers meeting Briefing information memorandum issued October: Project coordination agreement finalized November: Fourth cofinanciers meeting December: Commonwealth Development Corporation loan agreement signed Ruppee mobilization finance loan agreement signed COFACE and MITI commitments	February: Fifth cofinanciers meeting ECO guarantee finalized SACE commitment May: Information memorandum issued July: COFACE and SACE loans signed September: Senior debt and equity underwritten Ruppee term loan signed ECO, JEXIM, and MITI loans signed Project coordination agreement signed Syndication closed October: Global depository receipts and share issues launched November: World Bank and JEXIM approve guarantee facilities and further PSEDF facilities December: Restated PSEDF loan agreement signed January 1995: Financial close

Appendix 3 Principal project agreements

1. Project coordination agreement
2. Definitions agreement
3. ECO facility agreement
4. JEXIM facility agreement
5. COFACE facility agreement and amending letter
6. SACE facility agreement and amending letter
7. SACE reserve account agreement and SACE reserve account letter and related letters
8. MITI facility agreement
9. CDC amending agreement and amended and restated CDC facility agreement
10. Senior rupee facility agreement
11. PSEDF facility agreement
12. ECO guarantee agreement
13. JEXIM guarantee agreement
14. Guarantee coordination agreement
15. Security trust deed
16. Composite security agreement
17. Assignment of insurances
18. Mortgage deed
19. Escrow agreement
20. Implementation agreement
21. Government of Pakistan guarantee
22. Government of Pakistan approval letter
23. Construction contract
24. Fuel supply agreement
25. Power purchase agreement
26. Operations and maintenance agreement
27. National Power guarantee
28. Consultancy services agreement and supplemental agreement
29. Raytheon guarantee
30. Consultant's agreement of warranty and undertaking
31. Support services agreement
32. Appointment letters
 - a. Technical advisers
 - b. Insurance advisers
33. Exchange risk insurance letters from State Bank of Pakistan:
 - a. confirmation letter
 - b. in relation to the ECO facility
 - c. in relation to the JEXIM facility
 - d. in relation to the MITI facility
 - e. in relation to the CDC facility
 - f. in relation to the COFACE facility
 - g. in relation to the SACE facility
34. Government of Balochistan agreement
35. Ansaldo hedging agreement
36. Shareholders agreement (1992) and novation agreement
37. Shareholders agreement (1994)
38. Sponsors equity agreement
39. Memorandum and articles of association of the Hub Power Company Limited

Appendix 4 Project participants

Pakistan ministries and agencies

Ministry of Water and Power
Ministry of Finance
Water and Power Development Authority
Pakistan State Oil
State Bank of Pakistan
Government of Balochistan
National Development Finance Corporation
Private Power Infrastructure Board

Sponsors

National Power
Xenel Industries
Mitsui
Ishikawajima-Harima Heavy Industries
K&M Engineering & Consulting Corp.

Cofinanciers

World Bank
JEXIM
CDC
COFACE
MITI
SACE
U.S. Agency for International Development
Government of France
Government of Italy

Construction consortium

Mitsui
Ishikawajima-Harima Heavy Industries
Ansaldo
Campeon Bernard

Plant operator

National Power

Principal international banks

Citibank	Arranger
Credit Lyonnais	Arranger
Bank of Tokyo	Arranger
NatWest	Arranger
Sakura Bank	Arranger
Mediocredito Centrale	SACE joint coordinator

Local banks

National Development Finance Corporation
Habib Bank Limited
Muslim Commercial Bank Limited
National Bank of Pakistan
Industrial Development Bank of Pakistan
Allied Bank Limited
Pakistan Industrial Credit & Investment Company
Saudi Pak Industrial & Agricultural Investment Company (pvt) Limited
United Bank Limited

Arrangers of mobilization finance

Al Rajhi
Islamic Investment Company of the Gulf
ANZ Grindlays

Equity brokers

Deutsche Morgan Grenfell	Global coordinator of GDR and share issue
Deutsche Bank	GDR underwriter
West Merchant Bank	
Crosby Securities	
Jardine Fleming	
Bear, Stearns International Limited	
Bear Stearns Jahangir Siddiqui Ltd.	Consultants to local equity offer

Advisers to government of Pakistan and public bodies

Latham & Watkins	Legal advisers to government of Pakistan, Water and Power Development Authority, Pakistan State Oil, and National Development Finance Corporation
Price Waterhouse	Accounting advisers to government of Pakistan
Fatehali W. Vellani & Co.	Legal advisers to National Development Finance Corporation

Advisers to sponsors

Morgan Grenfell & Co. Limited	Financial advisers
Linklaters & Paines	Legal advisers in United Kingdom
Hogg Insurance Brokers	Insurance brokers
K&M Engineering & Consulting Corp.	Technical advisers
K&M/Ebasco	Owner's engineer during construction
Ford, Rhodes, Robson, Morrow	Auditors to Hubco
Arthur Andersen	Accountants in United Kingdom
Rawlence & Brown	Accountants in United Kingdom (for HRPD)
Surridge & Beecheno	Legal advisers in Pakistan
Ughi e Nunzianti	Legal advisers in Italy
Slaughter and May	U.K. legal advisers to GDR issue
Cleary, Gottlieb, Steen & Hamilton	U.S. legal advisers to GDR issue
Elvinger, Hos & Prussen	Legal advisers to Hubco and arrangers in Luxembourg

Advisers to arrangers

Clifford Chance	Legal advisers in United Kingdom
Coopers & Lybrand	Accounting advisers (financial model) in United Kingdom
Stone & Webster	Technical advisers
Richard Barton Consulting Limited	Insurance advisers
Arthur D. Little	Hazop consultants
Rizvi, Isa & Company	Legal advisers in Pakistan
Chiomenti e Associati	Legal advisers in Italy

Advisers to cofinanciers

Mitsui, Yasuda, Wani & Maeda	Legal advisers to MITI
Allen & Overy	Legal advisers to JEXIM

Appendix 5 Overview of insurance arrangements during construction and operation

In limited recourse transactions the insurance cover put in place by the project is an important part of the security taken by the project lenders over the physical assets of the transaction and over the revenue stream generated by those assets under various project agreements. Accordingly, and in order to control this part of the collateral in priority to any other project party, the lenders take a security interest in the insurance cover that the project has put in place on behalf of itself and all other transaction parties.

Since lenders in limited recourse transactions rely on the revenue generated by the transaction assets to service their debt, and to cover the project's fixed and variable operating costs and its profit, it follows that the lenders will require wide-ranging insurance cover to be a source of cash that is external to the transaction in the event that there is an insured incident which results in a loss of or damage to the transaction assets, a reduction in or deferment of their revenue-earning ability, or the generation of a liability to third parties.

Limited Recourse–Financed Projects

In the construction phase of a limited recourse onshore transaction the principal insurances effected by the project-owning company ("the Project Company") on behalf of itself and the relevant construction phase project parties generally comprise:

- Marine Cargo insurance
- Marine Cargo Delay in Start-up insurance
- Construction "All Risks" insurance
- Construction "All Risks" Delay in Start-up insurance
- Third Party Liability insurance
- Insurances required by law

The cover provided by these insurances can be outlined as follows:

- Marine Cargo insurance customarily covers the imported equipment on an "All Risks" replacement cost basis from place of manufacture to the project site.
- Marine Cargo Delay in Start-up insurance provides cover for the Project Company and the lenders for the loss of revenue that the Project Company may incur as a result

of the start-up date of the project being deferred on account of loss of or damage to imported equipment during the transit to the project site, provided such loss or damage is covered (or would have been covered but for the existence of a deductible) by the Marine Cargo insurance.

- Construction "All Risks" insurance covers the works under construction on a replacement cost basis until handover to the Project Company, and any temporary works and, if the parties so agree, the contractor's plant and equipment. Cover continues after handover for the construction contractor until the end of the defects liability period specified in the construction contract.
- Construction "All Risks" Delay in Start-up insurance provides cover for the Project Company and the lenders for the loss of revenue that the Project Company may incur as a result of the start-up date of the Project being deferred on account of loss of or damage to the works under construction, provided such loss or damage is covered (or would have been covered but for the existence of a deductible) by the Construction "All Risks" insurance.
- Third Party Liability insurance covers the liability of the project parties to third parties with respect to loss of or damage to the property of third parties and injury to or death of third parties.
- During the operation phase of a limited recourse onshore transaction the principal insurances effected annually by the Project Company on behalf of itself and the relevant operation phase parties generally comprise physical damage insurance, physical damage business interruption insurance, machinery breakdown insurance, machinery breakdown business interruption insurance, third party liability insurance, and insurances required by law.
- Physical Damage insurance provides cover on a replacement cost basis for loss of or damage to the project assets that have been handed over to the Project Company.
- Physical Damage Business Interruption insurance provides cover for the Project Company's loss of revenue following an incident covered by the Physical Damage insurance.
- Machinery Breakdown insurance provides cover on a replacement cost basis for the Project Company for loss or damage to machinery, plant, boilers, and the like resulting from mechanical and electrical breakdown or derangement.
- Machinery Breakdown Business Interruption insurance provides cover for the Project Company's loss of rev-

enue following an incident covered under the Machinery Breakdown insurance.

The construction and operation phase insurances are contracts of utmost good faith; they are expressed for specific limits of liability and contain self-insurance provisions (deductibles); and their terms and conditions define the nature and scope of the cover that they provide.

Public Sector–Financed Projects

When state entities (or major private corporations) finance their capital investments “On Balance Sheet,” they frequently make different and less wide-ranging insurance arrangements for such investments. For example, the Construction “All Risks” and Third Party Liability insurances are often arranged by the construction contractor, and the Delay in Start-up and Business Interruption risks are often self-insured.

The reasons given by state entities and major private corporations for adopting, or continuing, such a fundamentally different insurance strategy vary considerably, but there are increasing signs that state entities have discerned merit in insuring more of their risks with commercial insurers than with their taxpayers, whereas major corporations are self-insuring more risk because they are improving their ability to identify and manage the risks to which their substantial balance sheets are exposed.

In the Hub Power Project the Project Company (Hubco) effected, on behalf of itself and all project parties, the full range of construction phase insurances that are customarily required in a limited recourse independent power producer transaction. The Project Company will be effecting comparable operation phase insurance cover in due course.

Structure of the Principal Construction Phase Insurances

Under the National Insurance Corporation Act No. XXIII of 1976 (the NIC Act), Hubco was required to insure with the National Insurance Corporation (NIC) because the Hub Power Project is defined as “public property,” being a project financed out of external loans and aid. Section 10 of the NIC Act did, however, give Hubco the ability to effect the Marine Cargo and the Marine Cargo Delay in Start-up insurances directly offshore, provided these insur-

ances were placed with an insurer in the country or countries providing the external loans or aid. Section 13 of the NIC Act requires the NIC to reinsure with the Pakistan Insurance Corporation (PIC) the proportion of insurance that it cannot retain for its own account.

To help minimize the lenders’ exposure to Pakistan country risk, the government of Pakistan agreed to provisions in the implementation agreement whereby Hubco would be exempted from certain of the regulatory requirements referable to the construction phase insurances. Thus Hubco was given permission:

- to insure the Marine Cargo and Marine Cargo Delay in Start-up insurances outside Pakistan.
- to procure reinsurance in the international markets for 100 percent of the Construction Risk, Construction Risk Delay in Start-up, and Third Party Liability insurances, less only the small participations underwritten by the NIC and the PIC by agreement with the lenders.
- for direct contractual arrangements, giving Hubco (and the lenders by means of the provisions of an assignment of insurances agreement) rights to:
 - invest the control of claims under the insurances with the offshore reinsurers.
 - pay in currency directly to the NIC, the PIC, and the offshore reinsurers their respective proportionate shares of the premiums referable to the insurances.
 - receive directly in an offshore insurance account the respective proportionate shares of claims paid by the NIC, the PIC, and the offshore reinsurers.
 - resolve any disputes under the insurances, or the reinsurances, under a third-party law (English).

The combined effect of the consents given by the government of Pakistan and the agreements with the NIC and the PIC gave the lenders a direct contractual relationship with the offshore reinsurers. Thus the lenders were put in substantially the same position as they would have been if the insurances had been placed directly offshore, and Hubco was able to comply with Pakistan law and practice.

Special Temporary Funding

One of the responsibilities of the government of Pakistan pursuant to the terms of the implementation agreement is the provision of special temporary funding under a speci-

fied range of force majeure events that may be grouped broadly as follows:

- Pakistan political events—for example, war, terrorism, civil commotion, national strikes, changes in law, expropriation, changes in consents, and so on.
- Political events not directly connected with Pakistan but affecting, among other things, oil deliveries.
- Natural events causing damage to the plant that cannot be covered by insurance.
- Natural events causing damage away from the plant, but affecting the plant indirectly.
- Acts or omissions of the Water and Power Development Authority or Pakistan State Oil that affect the construction contract price or the completion date.

Two types of special temporary funding are provided: first, to meet the cost of restoring the project to the state

it was in immediately prior to the relevant event, if feasible; and second, to meet the fixed costs of the project that fall due during restoration of the project or during an interruption to the project that is caused by a relevant event.

Where special temporary funding is provided, the government of Pakistan will cause the Water and Power Development Authority to pay a supplemental tariff sufficient to cover interest and principal payments, due on the special temporary funding, which is treated as a loan from the government to Hubco for those purposes. Even where the government disputes a claim for special temporary funding, it must still pay the debt service and fixed operating costs elements of the tariff payable under the power purchase agreement while arbitration is taking place.

Appendix 6 Expanded Cofinancing Operation (ECO): Summary of terms of the guarantee

Borrower

The Hub Power Company Limited (Hubco).

Guarantor

International Bank for Reconstruction and Development (World Bank).

Arrangers

The Bank of Tokyo, Ltd., The Sakura Bank, Citibank International Plc., Credit Lyonnais, S.A., National Westminster Bank Plc.

Lenders

A syndicate of commercial banks.

Amount

US\$240 million equivalent, consisting of two facilities:

- a. ECO-guaranteed base credit facility of US\$200 million equivalent; and
- b. ECO-guaranteed standby credit facility of US\$40 million.

Currencies

ECO base credit facility: U.S. Dollars, Japanese Yen, French Francs, and ECU, of which:

- a. ECU 29 million;
- b. French Francs 157 million;
- c. Japanese Yen 2,000 million; and
- d. U.S. Dollars 123 million.

ECO standby credit facility: U.S. Dollars

Use of Proceeds

To finance part of the overall cost of the power plant, including design and construction costs, financing costs, and interest during construction. The balance of the costs will be financed by four syndicates of commercial banks covered by the Export-Import Bank of Japan and the Export Credit Agencies of Italy (SACE), France (COFACE), and Japan (MITI); other senior debt; and subordinated equity. Subordinated debt is to be provided by the Fund under

PSEDFI (Ln. 2982-PAK) and the replenishment loan under the proposed PSEDF II loan to be presented to the Executive Directors in concurrence with this ECO. The amounts allocated to Hub would be US\$377 million and US\$195 million, respectively.

Procurement

The equipment, materials, and services under the Turnkey Construction Contract for the power plant which have been or will be awarded through a competitive process meeting the requirements of economy and efficiency.

Drawdown

Disbursements under the Loan will be for eligible expenditures for the power plant. Hubco will maintain special disbursement accounts with Citibank N.A. or The Bank of Tokyo, Ltd., in Pakistan, denominated in the currencies of the Loan, into which the proceeds of the Loan (other than disbursements to be paid directly to third parties and disbursements needed to maintain the required balance on reserve accounts) will be deposited monthly, based on the projected expenditure requirement. Hubco will provide the World Bank with periodic reports on the use of funds for expenditures for the power plant, including yearly audited financial statements, accompanied by a separate opinion of auditors on whether the expenditure statement supports the withdrawals from the special disbursement account.

Availability Period

The earlier of March 31, 1998, or six months after the project completion date.

Repayment

The Loan will be repayable in sixteen equal semiannual installments falling due on January 10 and July 10 in each year, commencing on the first interest payment date after the end of the Availability Period, provided that the final maturity date will be no later than January 10, 2006.

Interest Rate

ECO base credit facility

- a. Six-month London Interbank Overnight Lending Rate (LIBOR) for the relevant currency plus 2% per annum

until the eighth anniversary of the date of the loan agreement; and thereafter.

- b. Six-month LIBOR plus 2.25%.

ECO standby facility

- a. Six-month LIBOR plus 2.5% until the eighth anniversary of the date of the loan agreement, and thereafter six-month LIBOR plus 2.75%.
- b. The interest rate per annum on the ECO Facilities will be reduced by 0.25% when Hubco's annual debt service coverage ratio is 2:1 or greater.

Conditions Precedent to Effectiveness

The ECO Facility Agreement and the ECO Guarantee will be effective only when, *inter alia*:

- a. the other debt financing for the Plant is underwritten and all conditions precedent for the utilization thereof have been fulfilled;
- b. the equity standby financing for the Plant has been fully subscribed and paid for (or where standby equity is to be subscribed or paid for subsequently, letters of credit or guarantees satisfactory to the Lenders are in place to assure that such equity will be subscribed for when required);
- c. all agreements required in connection with the construction and operation of the Plant (including but not limited to the Implementation Agreement, the Power Purchase Agreement, the Fuel Supply Agreement, the Construction Contract, the Operations and Maintenance Agreement, Security Trust Deed, the Government of Pakistan Guarantee, and the Exchange Risk Insurance Letters) have been executed and are effective; and
- d. Hubco has been capitalized and staffed in a manner satisfactory to the Lenders.

Guarantee Provisions

Scope

- a. The ECO Guarantee will be provided by the World Bank in parallel with the JEXIM Guarantee by JEXIM in the initial ratio of 2:1. The ECO Guarantee and the JEXIM Guarantee will be callable on a *pari passu* basis.
- b. The ECO Guarantee will cover the principal payments due under the Loan and remaining unpaid. Interest due to the Lenders on the occurrence of risks covered by

the ECO Guarantee is covered by the ECO Guarantee Reserve Accounts (summarized below).

- c. The ECO Lenders' Agent Bank may (and, if so instructed by the Majority Lenders, shall) call the ECO Guarantee upon the occurrence of the following specified events:
 - Hubco has failed to make a principal payment or a portion thereof when due and payable to the ECO Lenders either on a scheduled payment date or on acceleration or on voluntary or mandatory prepayment; and
 - Hubco has failed to make such payments for reasons which include (directly or indirectly) a Guarantee Event (as described below).

Guarantee Events

A claim may be made under the ECO Guarantee in the following circumstances, if they result in a failure by Hubco to make a payment of principal under the Loan:

- a. the Government has failed to pay Hubco any amount due under the Implementation Agreement or under the Government's guarantee issued thereunder of the obligations of Pakistan State Oil (PSO) under the Fuel Supply Agreement, Water and Power Development Authority (WAPDA) under the Power Purchase Agreement, and the State Bank of Pakistan under the Foreign Exchange Risk Insurance Scheme (other than any amount payable by the Government as the result of the failure of PSO to deliver fuel oil to Hubco due to certain oil-related foreign political events). Such payment obligations are summarized below;
- b. the Government through the State Bank of Pakistan has failed to make available the necessary foreign exchange in accordance with its agreement under the Foreign Exchange Risk Insurance Scheme;
- c. any restriction has been imposed under the laws of Pakistan on the free transfer of foreign currency funds held by, or on behalf of, Hubco out of Pakistan;
- d. any restriction has been imposed under the laws of Pakistan on the free transfer of rupees held by, or on behalf of, Hubco from a project account for the purposes of the Foreign Exchange Risk Insurance Scheme;
- e. there has been a change in Shariah law (or such a change is due to occur within six months) which causes the

- following to become unlawful, unenforceable, or invalid: Hubco's obligation to make a payment or perform an obligation under any of the project or financing agreements; Hubco's enjoyment of its rights under any such agreement, or enforcement, or rights to enforcement in Pakistan, by Hubco or the Lenders of any obligation of the parties to such agreements; provided that such unlawfulness, unenforceability, or invalidity affects a payment obligation in excess of \$100,000 in respect of interest or fees or in excess of \$1 million in respect of principal or any security or right constituted by the security which is material to the Lenders or Hubco (a "Shariah Event"). The ECO Guarantee specifically excludes from coverage the existing Federal Shariah court decision on interest, which has been appealed to the Supreme Court of Pakistan. If such a decision is upheld by the Supreme Court, such a decision would be a Shariah Event from that time; or
- f. the performance by the Government of any of its obligations, or the exercise by Hubco of any of its rights, under the Implementation Agreement, or the performance by Hubco of any of its obligations, or the exercise by the Lenders or the Lenders' Agent of any of their rights, under the ECO Facility Agreement has become void, illegal, invalid, or unenforceable as a result of any change in Pakistan law or any court decision which renders inaccurate the legal opinions obtained by the Lenders at financial closing (an "Indemnified Event").

Payment Obligations of the Government under the Implementation Agreement and the Government's Guarantee which are Covered by the ECO Guarantee

Under the Government's guarantee, the Government is responsible for guaranteeing the payment obligations of PSO under the Fuel Supply Agreement and WAPDA under the Power Purchase Agreement and for guaranteeing the obligations of the State Bank of Pakistan under the Foreign Exchange Risk Insurance Scheme.

Termination Amounts

The Implementation Agreement provides that either Hubco or the Government may terminate the Implementation Agreement in certain specified events. In certain of these cases the Government is obligated to pay Hubco a termi-

nation amount, the level of which depends on the reason for termination but which in all cases would include the Loan amount due the Lenders. The Government is obligated to pay a termination amount where the Implementation Agreement is terminated because of:

- a Government default thereunder;
- the occurrence of a Shariah Event;
- the occurrence of a natural force majeure event which affects the WAPDA grid or the PSO system (but not the Plant) where Hubco and the Government agree to terminate or an expert determines that the Project is no longer viable;
- the occurrence of a Pakistan political force majeure event where Hubco and the Government agree to terminate or an expert determines the Project is no longer viable; or
- the occurrence of an uninsured natural event causing damage to the Plant.

Claim on ECO Guarantee Where There is a Commercial Default and a Guaranteed Default

Whether or not the occurrence of the Guarantee Event was the sole cause of Hubco's failure to pay such principal amount will not affect the ability of the ECO Lenders' Agent to make a claim under the ECO Guarantee. However, where notwithstanding the occurrence of the Guarantee Event, Hubco would still have been unable to perform in full its payment obligations because of a commercial default, the amount payable under the ECO Guarantee will be reduced by that portion of the payment not paid by Hubco because of the commercial default.

Claim on ECO Guarantee Where There is a Commercial Default Followed by a Guaranteed Default

The ECO Lenders' Agent may claim under the ECO Guarantee in the case where the Loan has been accelerated solely because of a commercial default and the ECO Lenders are attempting to enforce their security but are unable to do so because of a change in Pakistan law, expropriation or certain force majeure events. In such circumstances, the amount payable under the ECO Guarantee will in essence be the lesser of (i) the amount of the Loan remaining unpaid and (ii) the difference between the amount the ECO Lenders would have recovered had they been able

to freely enforce their security and the amounts they actually recovered upon enforcement.

Limitations on Enforcement

If Hubco fails to make a principal payment on the Loan as a result of a Shariah Event or an Indemnified Event, or because the Government has failed to make Capacity Purchase Price or Special Temporary Funding payments under the Implementation Agreement solely as a result of a dispute as to whether such amounts are payable, the Lenders may call on the ECO Guarantee for any unpaid scheduled installment of principal but may not accelerate the Loan and take enforcement action unless the default has not been remedied by certain specified dates, thus giving the Government the opportunity to remedy the situation before a claim may be made under the ECO Guarantee for the full unpaid principal amount of the Loan. The cure periods are six months for disputes regarding Capacity Purchase Price and Special Temporary Funding payments, nine months for a Shariah Event, and twelve months for an Indemnified Event. In all cases, however, the cure period will be reduced, if necessary, so as not to exceed the period of time for which interest payments on the Loan are covered by the amount in the Guarantee Reserve Account.

Guarantee Reserve Account

As the ECO Guarantee does not guarantee interest payments on the Loan, an offshore Guarantee Reserve Account will be established to provide the Lenders with interest coverage during the cure periods when the Lenders are prevented from accelerating the Loan and claiming under the ECO Guarantee for the full principal amount in the circumstances described above. The Guarantee Reserve Account is required to be funded in an amount equal to 13 months' and 7 days' interest on the Loan. The Lenders may draw on the Guarantee Reserve Account for interest payments on the Loan in those cases where Hubco has failed to make a scheduled principal payment installment and the Lenders are entitled to call on the ECO Guarantee for such payment.

Claims

Unless the ECO Lenders have notified the World Bank of a payment default within 60 days thereof, claims under the

ECO Guarantee must be made within 60 days of the latter of (i) the due date in respect of which a failure to pay has occurred and (ii) the expiry of any applicable grace or cure period relating to the relevant Guarantee Event.

Calls on the Guarantees will be permitted for up to 60 days after the scheduled final maturity date of the Facilities. However, the Lenders have the option to extend the guarantee, on an annual basis, for a further five years upon payment of an annual guarantee fee. The purpose of the extension is to provide coverage in respect of the Government's continuing obligations under the Implementation Agreement following a commercial default during the time when the Lenders are seeking to enforce their security interests as described above.

Exclusion of Liability

The World Bank's liability under the ECO Guarantee will be reduced to the extent a claim arises out of or as a result of: (a) Hubco, the Lenders, the Lenders' Agent, the security trustee, or the intercreditor agent voluntarily entering into an agreement with the Government regarding such claim which materially reduces the claim against the Government; (b) the insolvency (except where contributed to by the action of the Government) of the Lenders' Agent, any of the banks holding the project accounts, or any of the banks responsible for remitting funds to the State Bank of Pakistan for the Foreign Exchange Risk Insurance Scheme; or (c) a failure by such an account or remittance bank to transmit necessary funds (except where such failure is due to a Pakistan political event).

The ECO Guarantee will lapse if the Lenders amend or waive certain material provisions of the ECO Facility Agreement or the intercreditor agreement without the World Bank's consent or if the Lenders' Agent fails to request the intercreditor agent to issue a drawstop notice following the World Bank's demand to do so (as described below.)

Guarantee Fees

The guarantee fee will be payable in the respective currency guaranteed by Hubco to the World Bank in installments. The first installment of approximately two years' guarantee fee will be payable on the date of the first drawdown under the Loan. Thereafter, an annual guarantee fee will be payable, commencing on the first anniversary of the Loan

and on each subsequent anniversary date (until but excluding the anniversary date preceding the final maturity of the Loan). The fee will equal one quarter of one percent of (a) the Loan commitments during the Availability Period, and (b) the maximum Loan Amount thereafter. The ECO Guarantee will lapse if the guarantee fees are not paid when due.

Drawstop Notices

During the Availability Period, if Hubco has issued a preliminary termination notice under the Implementation Agreement due to a default by the Government, the World Bank has the right to require the Lenders' Agent to request the intercreditor agent to issue a drawstop notice to prevent Hubco from making any further drawings under the ECO Facility Agreement. At any time while such a drawstop notice is in effect, the Lenders may claim under the ECO Guarantee for all amounts of principal which Hubco fails to pay for any reason whatsoever.

Subrogation

Following a payment by the World Bank under the ECO Guarantee, the World Bank will be immediately subrogated to the rights of the Lenders (except for any such rights which relate to amounts in the Guarantee Reserve Account or in respect of any amounts due from the Government under the Implementation Agreement or in respect of amounts attributable to commercial default). However, until the Lenders have been repaid in full, the World Bank will not be subrogated to any voting entitlements held by the Lenders or be entitled to direct the Lenders as to how to exercise such rights. Under the terms of the ECO Guarantee, the World Bank has the right to waive its subrogation rights and rely exclusively on its rights against the Government under the Indemnity Agreement.

Commitment Fee

Three quarters of one percent per annum on undrawn commitments.

Pre-payment

Hubco may voluntarily prepay the Loan in full or in part (in agreed minimum amount and multiples thereof) on any repayment date. On project completion, any surplus funds must be used to prepay the ECO/JEXIM Facilities. After project completion, 45% of surplus operating revenues must be used to prepay the senior debt pro rata, after permitted shareholder distributions.

Indemnity by Pakistan

The Islamic Republic of Pakistan (Pakistan) will enter into an Indemnity Agreement with the World Bank in respect of its Guarantee. Under such Indemnity Agreement, Pakistan would undertake to reimburse and indemnify the World Bank on demand, or as the World Bank may otherwise determine, for any payment made by the World Bank under the ECO Guarantee and for all liabilities and expenses incurred by the Bank with respect to the ECO Guarantee.

Governing Law and Jurisdiction

The ECO Facility and the ECO Guarantee will be governed by English law and provide for the non-exclusive jurisdiction against the World Bank of the English courts. The Indemnity Agreement will follow the legal regime, and include dispute settlement provisions, which are customary in agreements between member countries and the World Bank.

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