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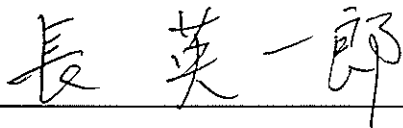
MINUTES OF MEETING BETWEEN
THE JAPANESE PREPARATORY STUDY TEAM
AND
THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
ON
JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT ON STRENGTHENING MANAGEMENT AND PERFORMANCE
STANDARDS IN POWER SECTOR OF BANGLADESH
THROUGH PROMOTION OF TQM

The Japanese Preparatory Study Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. Eiichiro CHO visited the People's Republic of Bangladesh from June 11 to June 22, 2006 for the purpose of preparatory study of the technical cooperation for "the Project on Strengthening Management and Performance Standards in Power Sector of Bangladesh through Promotion of TQM (hereinafter referred to as "the Project")".

During their stay in Bangladesh, the Team exchanged their views and had a series of meetings with concerned government officials (hereinafter referred to as "the Bangladeshi side").

As a result of the meetings, both sides agreed the matters referred to in the documents attached hereto.

Dhaka, June 22, 2006



Mr. Eiichiro Cho
Leader
The Japanese Preparatory Study Team
Japan International Cooperation Agency



Mr. M. Emadatul Haque
Deputy Secretary
Economic Relations Department
Ministry of Finance

ATTACHED DOCUMENT

I. Purposes of the Study

The study was conducted with a view to achieve the following purposes;

- To collect basic information and data on the situation of TQM activities in BPDB, PGCB and WZPDCL, especially in respective pilot offices.
- To collect basic information and data on the situation of management and performance of BPDB, PGCB and WZPDCL, especially in respective pilot offices.
- To confirm real needs of the Bangladeshi side through field visits and a participatory workshop.
- To agree on a basic framework of the Project including project purpose, implementation system and necessary measures both by Japanese side and Bangladeshi side.
- To evaluate the expected achievement of the Project

II. Framework of the Project

For the formulation of the master plan of the Project, both sides confirmed the followings as the major items of the plan. This plan was examined based on the "Application for Technical Cooperation from the Government of Japan regarding the project on Strengthening Management and Performance Standards in BPDB through Promotion of Total Quality Management" submitted by the Government of Bangladesh in July 2004.

1. The Title of the Project

Since target group of the Project has been expanded to cover PGCB and WZPDCL, besides BPDB, the title of the Project is modified as follows;

"Strengthening Management and Performance Standards in Power Sector of Bangladesh through Promotion of TQM"

2. Overall goal

The whole power entities will improve their operation and maintenance, and management performance by extending the outcomes of the pilot offices.

3. Project purpose

Operation and maintenance, and management capacity of the pilot offices involved in generation, transmission and distribution is improved through the organization-wide

promotion of TQM

4. Expected outputs

- 1) The Quality Assurance activities (such as Policy management, Daily management, Quality Control Circle, Suggestion Scheme, Monitoring and Evaluation, etc) are institutionalized in the pilot offices.
- 2) The structure of power entities to introduce and institutionalize Quality Assurance activities through TQM is strengthened.

5. Project target

1) Target area

(For Output 1)

Service areas of four (4) pilot offices in BPDB, PGCB and WZPDCL

*Pilot offices

Baghabari P/S, Mymensingh O&M Circle, GMD Dhaka-East, Khulna O&M Circle

(For Output 2)

All service areas of each entity, namely BPDB, PGCB and WZPDCL

2) Target groups

BPDB (Bangladesh Power Development Board)

- (1) TQM Promotion Office
- (2) Baghabari P/S
- (3) Mymensingh O&M Circle

PGCB (Power Grid Company of Bangladesh Ltd.)

- (1) TQM Promotion Officer*
- (2) GMD Dhaka-East

WZPDCL (West Zone Power Distribution Company Ltd.)

- (1) TQM Promotion Officer*
- (2) Khulna O&M Circle

*TQM Promotion Officer will be replaced by TQM Promotion Office before commencement of the Project.

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6. Duration of the Project

The duration of the Project will be three (3) years from 2006. The date of the Project's commencement will be clarified in the R/D to be agreed by the both sides.

7. Activities

1-1) Policy management (mainly implemented by top management)

- a) Collect baseline data and set target (management index) and plan
- b) Establish and operate Monitoring & Evaluation Group
- c) Upgrade existing regulation and standards with necessary amendments
- d) Introduce job description and ensure strict adherence to it

1-2) Daily management (mainly implemented by middle-class management)

- a) Draft management Index
- b) Develop and revise O&M manuals / standards and enforce O&M properly
- c) Supervise QC circle activities
- d) Facilitate suggestion scheme

1-3) QC circle and suggestion schemes (mainly implemented by staff / workers)

- a) Implement QC circle activities
- b) Implement suggestion scheme

2-1) Conduct an executive training for TQM

(Enforce management training before promoting to a higher post)

2-2) Introduce the Reward / Penalty system to institutionalize the TQM activities

2-3) Review the past experience of TQM activities and assessments of training needs

2-4) Develop curriculum and training materials for the group training and instruction manuals for OJT

2-5) Implement Trainers training in the field of TQM

2-6) Organize training courses for all employees by utilizing in-house trainers (and/or local consultants as resource)

III. PCM Workshop

For the purpose of identifying and clarifying the design of the Project, the Team and the Bangladeshi side held Project Cycle Management (hereinafter referred to as "PCM") workshops on June 18, 2006 in Dhaka. Through the workshops, the participants identified the target groups, the problems related to management and performance of each entity and each pilot office, and the tentative solutions.

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1. Findings from the Workshop

The participants analyzed the problems related to management and performance of each entity and each pilot office, identified the target groups and the tentative solutions, and created consensus on the outline of the Project. These findings were incorporated into the design of the Project.

2. Draft of the Project Design Matrix

The Team has shown a draft of the Project Design Matrix (hereinafter referred to as "PDM") as attached in Annex 1 to the Bangladeshi side at the joint meeting held in Dhaka on June 19, 2006. The PDM indicates the entire Project components, such as the project purpose, the outputs, the activities and the necessary inputs, as well as the important assumptions and the pre-conditions of the Project. The Bangladeshi side and the Japanese side agreed the draft of the PDM, although it will be finalized before signing the Record of Discussions (hereinafter referred to as "R/D").

IV. Measures to be taken by the both sides

For the implementation of the Project, both sides agreed to take necessary measures mentioned below.

1. Japanese side

The Japanese side shall take the following measures within the budget allocated for the Project.

- 1) Dispatch of experts
A list of experts is attached in Annex 2.
- 2) Overseas training, if necessary
- 3) Provision of equipment
A tentative list of equipment is attached in Annex 3.
- 4) Expenses necessary for implementation of the Project

2. Bangladeshi side

The Bangladeshi side shall take the following measures at its expense.

- 1) Assignment of counterpart personnel
The Bangladeshi side shall ensure the counterpart personnel for the Project in Annex 4.
- 2) Working space with desk and chair for experts
The Bangladeshi side shall ensure that it would provide sufficient office space to

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the Project in each office listed in Annex 5.

3) Allocation of necessary budget

3-1) Remuneration and other allowances for the counterpart personnel

3-2) Bearing running expenses for the office space, including equipment, such as electricity and water

3-3) Custom Duties and Value Added Tax (CD-VAT), cost for custom clearance, storage and domestic transportation for the equipment provided by the Japanese side

V. Joint Coordination Committee

Both sides agreed to establish Joint Coordination Committee during the Project period so that it can give guidance on activities of the Project and coordinate activities among concerned stakeholders. A draft members list and other details are mentioned in Annex 6.

VI. Others

1. Administrative arrangement of the Project

In addition to the joint coordination committee, both sides agreed to establish following committee, meeting and arrangement for smooth implementation of the Project. Organization chart for administration of the Project is shown in Annex 7.

1) TQM Steering Committee

Both sides agreed to exploit existing TQM Steering Committee in each entities to report progress of the Project to management level of each entities and discuss problem arises from the Project, if any, for smooth and effective implementation of the Project. The TQM Steering Committee shall be held at least in quarterly basis in the respective entities. Representative of the counterpart of the Project, Japanese experts and representative of JICA Bangladesh office would attend the committee.

2) Working Group Meeting

In order to share information regarding progress and activities of the Project, and discuss on problems arise from the Project, Working Group Meeting shall be held monthly basis. Participants of the meeting are counterparts of the Project, Japanese experts and representative of JICA Bangladesh office.

3) Coordination of the Project

Since the Project consist of various participating entities and offices of power sector of Bangladesh, TQM promotion office of BPDB will play roll as a coordinator of the Project for the Bangladeshi side. Japanese experts and JICA Bangladesh office will acquire necessary arrangement for the Project through TQM promotion office of BPDB.

2. Project arrangement in relation to the power sector reform program

Both sides agreed to consult each other to adjust the Project design and administrative arrangement of the Project, when major reform of the power sector of Bangladesh took place. Ministry of Power, Energy and Mineral Resources will take full responsibility for implementation of the Project and ensure continuation of the Project.

3. Procedure before implementation of the Project

- 1) Further study and analysis on the design of the Project by the Japanese side based on the result of the preparatory study.
- 2) Discussion on detailed design of the Project between the JICA Bangladesh Office and the Bangladeshi side.
- 3) Finalize the design of the Project and signing the Record of Discussion (R/D).

Annex 1: Draft PDM

Annex 2: Tentative list of Japanese experts

Annex 3: Tentative list of equipment

Annex 4: List of Bangladeshi counterpart personnel

Annex 5: List of working space and facilities

Annex 6: Joint coordination committee

Annex 7: Organizational arrangement for administration of the Project

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**Project Design Matrix (PDM) or Logframe on
"Strengthening Management and Performance Standards in Power Sector of Bangladesh through promotion of Total Quality Management"**
Implementing Agency (Japanese side): JPDB, PGCB, WZPDCL

Implementing Agency (Japanese side): JICA
Duration : 2006 ~2008 (3 years)
Target Group: BPDB, PGCB, WZPDCL

Target Area: All over the Bangladesh, especially its operating area

Narrative Summary	Indicator	Means of Verification	Assumption
<p><u>Overall Goal</u> The whole power entities will improve their operation, maintenance and management performance by extending the outcomes of the pilot offices.</p>	<ul style="list-style-type: none"> The number of heads and management staff of the rest power entities who take intensive course or attend seminars on TQM. The number of power entities who implement TQM proactively by learning the outputs of the pilot power entities by year 2008. 	<ul style="list-style-type: none"> The records of workshop / seminar on TQM activities. (The evaluation sheets of the attendances of the workshops, which intended to describe their own future action towards TQM introduction, management policies, etc.) Performance records of respective power entities. 	<ul style="list-style-type: none"> Necessary financial and technical support for current Power System Master Plan should be implemented. Cost based tariff is set without delay. Internal and external arrears of power sector are wiped off to the acceptable level
<p><u>Project Purpose(Outcomes)</u> Operation and maintenance, and management capacity of the pilot offices involved in generation, transmission and distribution is improved through the organization-wide promotion of TQM</p>	<p>Management index such as operation factor and facility factors, system loss, etc. in each pilot office (BPDB)</p> <p>1-1 Stable power generation should be ensured.</p> <p>1-2(a) Interruption of the feeder failure decreases to 50 hours per annum.</p> <p>1-2(b) System loss is reduced to 15%.</p> <p>1-2(c) Revenue collection increases to 95% in C/I ratio and 100% in C/B ratio.</p> <p>(PGCB)</p> <p>2-1 Unreserved energy and interruption period</p> <p>2-2 Network stability</p> <p>2-3 O&M personnel more informed about TQM.</p> <p>2-4 C/Ps knowledge regarding quality management is enhanced so that C/Ps can monitor and execute their activities by themselves.</p> <p>(WZPDCL)</p> <p>3-1(a) Interruption by the failure of feeders decreases from 6 hours to 4 hours and from 2,100 times to 600 times p.a.</p> <p>3-1(b) System loss is reduced to 15%.</p> <p>3-1(c) Revenue collection increases to 95% in C/I ratio and 100% in C/B ratio.</p>	<p>1-1 Power generation records maintained and verified by the office of the Chief Engineers concerned.</p> <p>1-2 Operational records collected by General Manager commercial operation office.</p> <p>2-1 Operational data of the system.</p> <p>2-2 Network study report.</p> <p>2-3 Reports of QC circle activities in the respective offices and records on implementation of Quality Management System.</p> <p>2-4 Records on monitoring and evaluation.</p> <p>3-1 Operational records collected by General Manager, commercial operation, BPDB and WZPDCL records. (Monthly Commercial Operation Statistics)</p>	<ul style="list-style-type: none"> Trade unions of the respective power entities agree to introduce TQM into the company, and collaborate the projects.

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<p>Outputs</p> <p>1 The Quality Assurance activities (such as Policy management, Daily management, Quality Control Circle, Suggestion Scheme, Monitoring and Evaluation, etc) are institutionalized in the pilot offices.</p> <p>2 The structure of power entities to introduce and institutionalize Quality Assurance activities through TQM is strengthened.</p>	<p>1-1 Management by policy is developed by the year of 2008.</p> <p>(a) Mid-term management plan established in line with the existing 'Policy Statement' and 'Vision Statement' of the Government by 2006.</p> <p>(b) Management policies for the fiscal year established by 2006.</p> <p>(c) The targets defined by the chief of subordinated units</p> <p>1-2 Daily management is established by 2008.</p> <p>(a) Quality and number of the Job description and target of each office</p> <p>(b) Explicit job instruction given to workers and staff to achieve the target for the fiscal year in accordance with the policy.</p> <p>(c) Check sheets for quality control made for daily work.</p> <p>1-3 Number and quality of the activities taken by introducing Quality Assurance activities</p> <p>2-1 Contents of TQM promotion Plans for respective companies and BPDB</p> <p>2-2 Improved training module, training facility / equipments based on needs assessment</p> <p>2-3 Number of reviewed materials in the vernacular.</p> <p>2-4 Monitoring / feedback system of training courses</p> <p>2-5 Number of Trainer's training conducted</p> <p>2-6 Number of trained employees</p> <p>2-7 Number of offices organize QC circle activities by 2008.</p>	<p>1-1 Respective policies and targets reported to the taskforce meeting,, etc.</p> <p>1-2 Records of taskforce meeting, etc.</p> <p>1-3 Records of QC circle activities</p> <p>2-1, 2-2 Review of Japanese experts on TQM promotion plan and Monitoring report by respective companies and BPDB</p> <p>2-3, 2-4, 2-5 Revised Monthly Monitoring reports by TQM promotion offices. (Monitoring activities regularly conducted by respective TQM promotion offices), Revised regulations, standards /manuals and inventories of training materials</p>	<p>• Autonomy of each organization is enhanced and secured.</p>
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Inputs	
The Bangladeshi Side	The Japanese Side
<p>Activities</p> <p>1-1 Policy management (mainly implemented by top management)</p> <p>a) Collect baseline data and set target (management Index) and plan.</p> <p>b) Establish and operate M&E Group.</p> <p>c) Upgrade existing regulation and standards with necessary amendments.</p> <p>d) Introduce job description and ensure strict adherence to it.</p> <p>1-2 Daily management (mainly implemented by middle-class management)</p> <p>a) Draft management Index.</p> <p>b) Develop and revise O&M manuals / standards and enforce O&M properly.</p> <p>c) Supervise QC circle activities.</p> <p>d) Facilitate suggestion scheme.</p> <p>1-3 QC circle and suggestion schemes (mainly implemented by staff workers).</p> <p>a) Implement QC circle activities.</p> <p>b) Implement suggestion scheme.</p> <p>2-1 Conduct an executive training for TQM (Enforce management training before promoting a higher post)</p> <p>2-2 Introduce the rewarding / penalty system to institutionalize the TQM activities.</p> <p>2-3 Review the past experience of TQM activities and assessments of training needs.</p> <p>2-4 Develop curriculum and training materials for the group training and instruction manuals for OJT</p> <p>2-5 Implement Trainers training in the field of TQM</p> <p>2-6 Organize training courses for all employees by utilizing in-house trainers (and / or local consultants* as resource.)</p>	<p>1. Personnel</p> <p>Project Director</p> <p>Deputy Project Director</p> <p>Project Manager</p> <p>C/P</p> <p>2. Office/ Facilities</p> <p>Preparation of working space and facilities</p> <p>3. Local cost</p> <p>Operational Cost for the Project</p> <p>1. Expert</p> <p>Short-term experts</p> <ul style="list-style-type: none"> • TQM (Quality assurance) • O&M in generation • O&M in transmission • O&M in distribution <p>2. Provision of the Equipment</p> <p>3. Counterpart Training, if necessary</p>
	<p>• Core personnel remain in the company, or staff arrangement, handing over of ones' duties is smoothly implemented.</p> <p><u>Pre-condition</u></p> <ul style="list-style-type: none"> • Top management of BPDB, PGCB, WZPDCL are supportive for TQM promotion whoever managers are.

*The role of local consultants has to be deliberated. The preliminary tasks includes; project monitoring for the pilot power entities, training for trainers, etc. C/I Collection /Import, C/B Collection / Billing, M&E: Monitoring and Evaluation

TENTATIVE LIST OF JAPANESE EXPERTS

1. TQM (Quality Assurance) Expert
2. O&M (Generation) Expert
3. O&M (Transmission) Expert
4. O&M (Distribution) Expert
5. Local consultant will be assigned when necessary for smooth and effective implementation of the Project

* Power sector advisor for MoPEMR will supervise the Project.



TENTATIVE LIST OF EQUIPMENT

1. The necessary equipment to achieve the project purpose by the Japanese experts will be provided.

Notes: The contents, specifications and quantity of equipment to be provided each year will be discussed in principle every year between the JICA Bangladesh office and the Bangladeshi counterpart personnel based on the annual plan of the Project, within the allocated budget of the Japanese fiscal year.

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LIST OF BANGLADESHI COUNTERPART PERSONNEL

I . Ministry of Power Energy and Mineral Resources

1. Joint Secretary, Power Division, MoPEMR

II . BPDB (Bangladesh Power Development Board)

1. Chairman and / or Member (Administration), BPDB
2. Director, TQM Promotion Office
3. Deputy Director, TQM Promotion Office
4. Manager, Baghabari P/S
5. Assistant Manager, Baghabari P/S
6. Superintending Engineer, Mymensingh O&M Circle
7. All Executive Engineer/ Sub-Div. Engineer under Mymensingh O&M Circle

III . PGCB (Power Grid Company of Bangladesh Ltd.)

1. Managing Director, PGCB
2. General Manager, System Operation, PGCB
3. Manager, Attached to Managing Director
4. Manager, Grid Maintenance Division, Dhaka-East
5. All Assistant Manager under Grid Maintenance Division, Dhaka-East

IV . WZPDCL (West Zone Power Distribution Company Ltd.)

1. Managing Director, WZPDCL
2. Additional Director, TQM Promotion officer
3. Assistant Director, TQM Promotion officer
4. Superintending Engineer, Khulna O&M Circle
5. All Executive Engineer/ Sub-Div. Engineer under Khulna O&M Circle
6. Executive Engineer/ Sub-Div. Engineer/ Deputy Director, Headquarters

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LIST OF WORKING SPACE AND FACILITIES

1. Project offices and facilities at TQM promotion office, Regional training centers, Baghabari P/S and Mymensingh O&M Circle, BPDB
2. Project offices and facilities at TQM promotion office and GMD Dhaka-East, PGCB
3. Project offices and facilities at TQM promotion office, Khulna training center and Khulna O&M Circle, WZPDCL
4. Other facilities mutually agreed upon as necessary for the implementation of the Project

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JOINT COORDINATION COMMITTEE

The Joint Coordination Committee, which consists of both the Japanese side and the Bangladeshi side, will be established for the smooth and effective implementation of the Project.

1. Functions

The Joint Coordination Committee will meet at least twice a year according to the dispatch of Japanese experts or whenever necessity arises in order to fulfill the following functions;

- 1) To formulate the Annual Plan of Operation of the Project
- 2) To review the overall progress and achievement of the Project
- 3) To exchange views on major issues arising from or in connection with implementation of the Project, and to give guidance to the Project and the Bangladeshi counterparts, if necessary

2. Composition

1) Chairperson

Joint Secretary, Power Division, Ministry of Power, Energy and Mineral Resources

2) Co-chairperson

Resident Representative, JICA Bangladesh Office

3) Members

- Bangladeshi side

Deputy Secretary, Japan Branch, Economic Relations Division

Member (Administration), BPDB

Managing Director, PGCB

Managing Director, WZPDCL

Representative of counterpart personnel of the Project

- Japanese side

Official(s) in charge, JICA Bangladesh Office

Experts of the Project

Expert for MoPEMR

Note: Official(s) of Embassy of Japan to Bangladesh may attend the Joint Coordination Committee as observer(s).

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ORGANIZATION CHART FOR ADMINISTRATION OF THE PROJECT

■Ministry level

Joint Coordination Committee (Twice a year)
Chairperson: Joint Secretary, Power Division, MoPEMR Members: Member (Administration) of BPDB, Managing Director of PGCB, WZPDCL Resident representative of JICA, Japanese experts, JICA expert for MoPEMR, etc.



■Entity level

TQM Steering Committee (Quarterly basis)		
Chairperson: Chairman or Managing Director Members: Board's members, etc.		
BPDB	PGCB	WZPDCL



■Counterpart level

Working Group Meeting (Monthly basis)
Members: Counterpart of the Project JICA expert for the project, JICA expert for MoPEMR, JICA Bangladesh office



■Pilot office level

Monitoring and Evaluation Group			
Chairman: Manager Member: Top management, middle-class management			
Baghabari P/S	Mymensingh O&M Circle	GMD Dhaka-East	Khulna O&M Circle

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2. 事業事前評価表（案）

事業事前評価表（技術協力プロジェクト）（案）

作成日：平成 2006 年 7 月 4 日

担当部：経済開発部

1. 案件名 バングラデシュ国 TQM の導入による電力セクターマネジメント強化プロジェクト												
2. 協力概要 (1) プロジェクト目標とアウトプットを中心とした概要の記述 本プロジェクトは、電力事業所全体が運転、維持管理能力を改善することを上位目標として、発電、送電、配電各部門におけるモデル事業所の運転・維持管理、マネジメント能力が全社的な Total Quality Management (TQM) の推進により改善することをプロジェクト目標とする。モデル事業所において品質管理活動（方針管理、日常管理、QC 活動、改善提案活動及び監査・考査機能等）が定着するとともに、各協力対象機関において TQM による品質管理活動を定着させるための体制が強化されることがアウトプットとして定められている。 (2) 協力期間 2006 年 11 月～2008 年 10 月（3 年間）（予定） (3) 協力総額（日本側） 約 1.5 億円 (4) 協力相手先機関 BPDB（バングラデシュ電力開発庁）、PGCB（電力送電会社）、WZPDCL（西部配電会社）、MPEMR（電力エネルギー鉱物資源省） (5) 国内協力機関 N. A (6) 裨益対象者及び規模、等 ・直接裨益対象者 BPDB、PGCB、WZPDCL のカウンターパート 裨益対象とする事業所としては、TQM 活動の導入状況、及び事業部制化・分社化が他と比べて進んでいることを条件とし、全社展開のモデルとなりうる以下の 4 つをモデル事業所と選定した。 <table border="1"> <tr> <td>BPDB</td> <td>発電部門</td> <td>Baghabari 発電所</td> </tr> <tr> <td>BPDB</td> <td>配電部門</td> <td>Mymensingh 配電事業所</td> </tr> <tr> <td>PGCBL</td> <td>送電部門</td> <td>Dhaka-East 送電事業所</td> </tr> <tr> <td>WZPDCL</td> <td>配電部門</td> <td>Khulna 配電事業所</td> </tr> </table> ・間接裨益対象者 電力関係機関の操業が改善されることによってその裨益を受けている地域における電力の需要家である一般家庭、産業界。 3. 協力の必要性・位置付け (1) 現状及び問題点 バングラデシュ国（以下、「バ」国と記す）の電化率は 38% で、一人当たり電気消費量 133kWh ¹	BPDB	発電部門	Baghabari 発電所	BPDB	配電部門	Mymensingh 配電事業所	PGCBL	送電部門	Dhaka-East 送電事業所	WZPDCL	配電部門	Khulna 配電事業所
BPDB	発電部門	Baghabari 発電所										
BPDB	配電部門	Mymensingh 配電事業所										
PGCBL	送電部門	Dhaka-East 送電事業所										
WZPDCL	配電部門	Khulna 配電事業所										

¹ 日本の一人当たり電力使用量：6,782kWh（2004 年度末）

という低い水準にある²。また、年間8%程度の電力需要の伸びが想定されるなか、新規電源開発の遅れや既設発電設備の長期停止などにより、電力需給状況はさらに悪化している。年間232日、951時間の計画停電が強いられるほかに、電力設備の故障等により、年間75時間の供給支障があり³、信頼性の低い電力供給が、経済成長を妨げる一つの要因となっている。これらの電力供給の問題には電力施設の拡充・整備が不可欠なほか、政策・組織・ガバナンスの問題が大きな障害となっている。

このような不安定かつ絶対的に不足している電力供給状況、高いシステムロス率、電力関連公社の劣悪な経営状況等を改善するため、主要ドナーの支援を受けて1994年にPSRB (Power Sector Reforms in Bangladesh) が策定された。BPDBのもと、垂直的に統合されていた電力セクターを、発電・送電・配電の各部門について分離し、民間資金を活用した発電所の建設が進められることになったのである。

このセクター改革の方針に伴い、現在まで電力送電会社 (PGCB)、ダッカ電力供給会社 (DESCO)、WZPDCL (西部配電会社) などの企業体が電力関連公社から分離されているが、組織の改編にとどまり、送電ロスを軽減した実績をもつPGCBを除いては、これまでのところ経営、設備運転・維持管理について満足できる改善が進んでいないと評価されている。公的セクターの全発電及び分社化されていない残りの地方都市部の配電を担当し、「バ」国最大の電力公社であるバングラデシュ電力開発庁 (BPDB) についても、発電・配電の各部門を分離し、持ち株会社化されることが、2004年1月に閣議決定されているが、この持ち株会社化も同様の問題が懸念されている。

(2) 相手国政府国家政策上の位置付け

2000年に「バ」国は2020年には全国民に電力を供給することを目標として掲げており、そのための政策文書“Vision Statement/Policy Statement on Power Sector Reforms”が発表されている。引き続き、セクター改革の年次達成目標や推進方法を具体化した「電力セクター改革3ヵ年ロードマップ」(3-Year Road Map for Power Sector Reform) が採択されて、2006-2008年へ向けて改定作業が続けられている。それには発電・送電・配電の各部門について人的資源開発について注力することが目標に含まれているのに加え、発電部門については技術面、管理面での能力を改善し、説明責任を果たすために、具体的にTQMのような組織的な活動が導入されることが明記されている。当プロジェクトは、モデル事業所の運転・維持管理、マネジメント能力を全社的なTQM活動の推進により改善することを目標としており、セクター改革の具体的な目標であるセクター全体の効率化、信頼性向上、民営化による競争の導入を下支えする活動と位置付けられる。

(3) 我が国援助政策との関連、JICA 国別事業実施計画上の位置付け (プログラムにおける位置付け)

我が国の国別援助計画 (2005年) において、電力セクターは重点目標の一つである経済成長に資する開発課題4つの中の一つとして位置付けられている。さらに、電力セクターの目標として①電力セクター全体の政策・経営・運営・財務改善、②発電設備の増強、③送配電部門の改革の3つを明示している。JICA 国別事業実施計画では電力セクターを抱える問題はソフトとハード両面からのアプローチが重要であると示している。円借款による発電所、送電線、農村電化などへの施設建設への協力に対し、ソフト面の中でも経営体質改善と維持管理に係る技術力の向上といったBPDB及び各事業所へのアプローチが必要であることから、1999年より技術協力としてBPDBを中心にTQM及び保守管理技術の支援を、短期専門家派遣及び国別研

² 3-Year Road Map for Power Sector Reform (year 2006-2008)、May 2006, Power Division, MPEMR

³ 「バングラデシュ国電力セクタープログラム」、2006年5月、在バングラデシュ日本大使館、JICA バングラデシュ事務所、JBIC 駐在員事務所

修を通じて行ってきた。この結果、BPDB 側においては徐々に TQM が導入され、2002 年には TQM 推進室を立ち上げ、全社的な TQM 展開を図るべく尽力している。しかしながら、BPDB 独自で TQM 展開を図るには現在の体制、人材では困難であり、更なる能力向上が必要である。当プロジェクトは、電力セクター全体の経営・運営改善に資するもので、国別事業実施計画の実施に沿ったものと位置付けることができる。

4. 協力の枠組み

[主な項目]

(1) 協力の目標 (アウトカム)

1. 協力終了時の達成目標 (プロジェクト目標) と指標・目標値

[目標]

発電、送電、配電各部門におけるモデル事業所の運転・維持管理、マネジメント能力が全社的な TQM の推進により改善される。

[指標・目標値]

各モデル事業所において主な経営指標、設備稼働および利用率、システムロスなど。

(BPDB)

1-1 安定した発電の確保。

1-2(a) 供給支障時間が年間 50 時間へ減少する。

1-2(b) システムロスが 15%まで削減される。

1-2(c) 料金徴収が C/I 比率 (買入電力量に対する料金徴収率) で 95%、C/B 比率 (請求量に対する料金徴収率) で 100%にまで増加する。

(PGCB)

2-1 送電ロスと停電時間。

2-2 送電ネットワークの安定性 (電圧・周波数)。

2-3 O&M 人材の TQM に対する知識を増やすこと。

2-4 カウンターパートの品質管理に対する知識が、自らモニターし、実施できるレベルにまで増加すること。

(WZPDCL)

3-1(a) 停電が 1 日あたり 6 時間から 4 時間程度にまで減少し、停電する回数が年間 2,100 回から、600 回にまで減少すること。

3-1(b) システムロスが 15%まで削減される。

3-1(c) 料金徴収が C/I 比率 (買入電力量に対する料金徴収率) で 95%、C/B 比率 (請求量に対する料金徴収率) で 100% にまで増加する。

2. 協力終了後に達成が期待される目標 (上位目標) と指標・目標値

[達成目標]

モデル事業所の活動が拡大され、電力事業所全体が運転、維持管理能力を改善する。

[指標・目標値]

- ・ TQM に関するセミナーや集中研修を受講した事業所のマネジメントの数。
- ・ 2008 年までにモデル事業所での成果を学び、TQM を積極的に取り入れた事業所の数。

(2) 成果 (アウトプット) と活動

[成果 1]

モデル事業所において品質管理活動 (方針管理、日常管理、QC 活動、改善提案活動及び監査・考査機能等) が定着する。

[指標]

1-1 2008 年までに方針管理が醸成される。

(a) 2006 年までに中期管理計画が政府の現存する政策に沿った形で確立される。

(b) 2006年までに当該予算年度内における方針管理が確立される。

(c) 目標が各部署の責任者によって明確化される。

1-2 2008年までに日常管理が確立する。

(a) 各事業所において明確化された業務区分と目標の内容とその数。

(b) 方針に沿った目標に達成するための明確化された業務指示。

(c) 日常業務のために作成された品質管理のチェックシート。

1-3 品質管理活動の導入後、開始された活動の数とその質。

[活動]

1-1 方針管理活動、管理・考査機能の確立

1-2 日常管理活動

1-3 QC（品質管理）活動、改善提案活動

[成果2]

BPDB, PGCB, WZPDCL において TQM による品質管理活動を定着させるための体制が強化される。

[指標]

2-1 BPDB と各社における TQM 推進計画の内容

2-2 ニーズ・アセスメントに基づいて改善された研修コースや施設、機材

2-3 現地語で改善した研修教材の数

2-4 研修コースのモニタリング状況、フィードバックシステム

2-5 トレーナー育成研修を実施した数

2-6 研修を受けた職員数

2-7 QC サークル活動を組織化した事業所の数。

[活動]

2-1 経営層への TQM 研修の実施。

2-2 報奨・処罰制度の構築。

2-3 TQM 活動のレビューと研修ニーズ調査。

2-4 研修カリキュラム、教材、OJT マニュアルの開発。

2-5 トレーナー育成研修の実施。

2-6 社内トレーナー（およびローカルコンサルタント）を活用した全従業員を対象とする研修の体系化。

(3) 投入（インプット）

1) 日本側（総額 約 1.5 億円）

・ 専門家派遣：〔短期専門家 4 名（TQM、発電、送電、配電の維持管理）〕

・ 機材供与： 等

・ 研修員派遣：C/P を対象とした本邦（または第三国）での研修

2) バングラデシュ側（総額 約 万円）

(4) 外部要因（満たされるべき外部条件）

1) 前提条件

BPDB、PGCB、WZPDCL の各代表責任者が誰になろうと、TQM 推進について支持すること。

2) 成果達成のための外部条件

中核人材が会社に残留するか、もしくは引き継ぎがしっかりと行われること。

3) プロジェクト目標達成のための外部条件

各組織の自主的な運営権が増し、確実なものとなる。

4) 上位目標達成のための外部条件

各電力事業所の労働組合が TQM 導入について合意し、プロジェクトに協力する。

5. 評価5項目による評価結果

(1) 妥当性：以下の点により、本協力の妥当性は高いと判断される。

- ・縫製業に代表される輸出産業を発展させ、バランスのとれた経済成長を持続するために、電力供給の信頼性の改善が急務である。電力セクターの各事業所における、運転・維持管理、マネジメント能力の改善は、「バ」国が進めているセクター改革の主旨に沿っている。特に1999年からの日本による TQM の推進協力により、一定の改善成果に達していることから、「バ」国の TQM の更なる推進への期待は高い。
- ・JICA は ODA タスクフォースの一員として、電力についても円借款、その他のスキームとの連携を図り、相乗効果を生むような協力を検討してきた。円借款等によって建設された発電、送電、配電部門での施設の維持管理は重要な課題となっている。各部門のモデル事業所において、専門家、研修などの投入によって更なる維持管理の改善、課題の明確化の活動を行うことは、直接開発効果の向上に資するのみならず、電力事業所全体へ影響も与えることが可能である。
- ・電力セクター改革に沿って、他ドナーも、電源開発、分社化促進、民間部門への融資、農村電化プログラムの継続支援、再生可能エネルギー開発などの分野を支援してきている。当プロジェクトは個別の事業所に対して技術水準の向上、経営の効率と透明性を直接支援し、そのモデルを電力セクター全体に普及させることを目的としており、補完関係をもっていると位置付けられる。

(2) 有効性：以下の理由より有効性が高いと判断される。

- ・事前評価ワークショップでは、導入された TQM の活動の定着化の困難さについて問題を分析した。それによってトップマネジメントの TQM に対する無理解、得られた TQM の知識を現場で活かす実施能力の低さなどが明確になった。本プロジェクトでは、TQM の普及体制の強化と、各事業所での具体的な技術、管理能力強化の2つを成果の柱とし、それらの対策を盛り込んだ活動内容を想定しており、有効性は高い。
- ・コアとなる責任者の度重なる異動や分社化に伴う組織の改変などが TQM 活動推進によるマネジメント強化への懸案事項とあげられた。本プロジェクトでは、モデル事業所から監督官庁である MPEMR、各マネジメントトップレベル間でのモニタリング会合を開き、進捗を確認することになっており、プロジェクトの運営についての問題は速やかにこのような会合で解決を進めることが見通される。

(3) 効率性：以下の理由から、本協力の効率性が高いと判断される。

- ・プロジェクト専任ではないが、電力セクターのアドバイザーである長期専門家がすでに投入されており、事前評価調査にも参画している。よって事前のプロジェクト関係各者との協議が進められ、円滑な開始が見込まれる。
- ・3組織を対象に行う技術プロジェクトであるが、専門家が複数の機関に投入され、協力を進め、各機関が共通の課題に向けて議論する場をステアリングコミティーなどで提供することが可能になる。各機関の課題を包括的に捕らえ、情報を共有できることから、電力セクターの改革に資する施策につながる可能性が高い。

(4) インパクト：以下の理由から、本協力によるインパクトの発現が期待できる。

- ・発電、送電、配電各部門におけるモデル事業所において、TQM の推進の成果によって、運転・維持管理、マネジメント能力が進み、具体的な指標を改善すれば、同様に目標数値をも

<p>つ他の事業所も、活動の改善に望むインセンティブをもつ。その際に、モデル事業所における活動をモニタリングしながら、具体的にどのように実施するかというノウハウも共有できることから、全社的な改善につながることを期待される。</p> <ul style="list-style-type: none"> • TQM による品質管理活動を定着させるための体制については、効果的な研修、マニュアル作成、実地訓練方法の改善など様々な活動を必要とするが、これらが、本プロジェクトによってカバーされ、BPDB、PGCB、WZPDCL の各社の電力供給能力が高まることが想定される。全社的な展開には外部条件である労働組合との合意などの課題もあるが、モデル事業所においての実績により、これらを克服するノウハウも検討されよう。 <p>(5) 自立発展性：以下の理由から、本協力の自立発展性の確保が期待される。</p> <ul style="list-style-type: none"> • 本プロジェクトではトップマネジメントからワーカーまでを対象にした活動が想定されている。成果として TQM を推進する活動が整い、品質管理活動が定着することをあげている。トップマネジメントへの研修強化、現地に即したマニュアル作りなどを通じ、事業体全体が TQM 活動のメリットを享受できるシステム作りを目指していることから、プロジェクト終了後の成果の持続が期待される。
<p>6. 貧困・ジェンダー・環境等への配慮</p> <p>本プロジェクトは、電力供給部門のマネジメント改善の実現により、一般家庭への電力供給状況が改善し、生活水準向上へとつながることから貧困削減への波及効果も期待される。また、本案件は、電力分野のプロジェクトであるが、自然及び社会環境の大規模な改変を伴うものではなく、環境に対する負の影響はほとんど生じないといえる。</p>
<p>7. 過去の類似案件からの教訓の活用</p> <p>本プロジェクトと関連する先行プロジェクトとしては、以下があげられる。</p> <ul style="list-style-type: none"> • TQM、配電維持管理部門における 2001、2002、2003 年にわたる短期専門家派遣 • 国別特設研修（2000-2003 年） • 技術プロジェクトとして TQM、配電維持管理部門の 2 名の専門家派遣（2004 年） <p>上記に加え、電力セクター全体のアドバイザー機能をもつ長期専門家派遣、発電所に派遣されていたシニアボランティアなどの経験は各種報告書にまとめられており、それらの過去の蓄積から、カウンターパートの状況を的確に判断し、当プロジェクトに参考にすることができる。</p> <p>なお、JBIC が円借款を供与したハリプール発電所において 1999-2001 年にわたり、三度にわたる案件実施支援調査（SAPI）を実施しており、これが「バ」国の発電所における TQM 活動導入の最初の成果とみられることから、当時の導入方法、課題なども整理しておくことが肝要である。</p> <p>なお、「バ」国では配電部門において、協同組合組織を通じて農村電化を進める農村電化公社（REB）が 20 数年以来 USAID の支援を受け、経営管理、運営手法にも一定の評価がされている。都市部との区分けが明確でない地域については、REB に移管されることがセクター改革でも明記されている。配電部門の経営、運営手法については当プロジェクトにも参考になる部分があると思われ、検討に値する。</p>
<p>8. 今後の評価計画</p> <ul style="list-style-type: none"> • 中間評価：プロジェクト開始後 1.5 年後 • 終了時評価：プロジェクト終了の半年前 • 事後評価：プロジェクト終了後 3 年を目途に実施

(2) ローカルコンサルタントへの再委託業務事項 (案)

本プロジェクトでは、ローカルコンサルタントを活用した効率的な協力を志向している。事前評価調査段階に想定されたローカルコンサルタントに再委託する業務内容(案)として以下が挙げられる。

1. 投入期間

2006 年後半のプロジェクト開始時から 2009 年後半の終了時の間

2. 投入人数

ローカルコンサルタント 2 名

- 1) 運転維持・管理専門家に係る活動として、モデル事業所 4 箇所に対し 2 ヶ月に一度 1 週間程度の作業、1 年間で 6 M/M、3 年間で 18M/M 程度を想定。
- 2) TQM 専門家に係る活動として、各 C/P (BPDB、PGCB、WZPDCL) に対し 3 年間で 21M/M 程度を想定。

3. 再委託業務内容 (案)

1) ベースライン調査

- 1)-1 現状の問題点のレビューとそれに基づく評価指標再検討の支援
- 1)-2 評価指標のベースライン調査
- 1)-3 比較対照とする事業所のベースライン調査
- 1)-4 規定・基準およびマニュアル類のインベントリ調査
- 1)-5 報償賞罰等の制度の運用実態調査
- 1)-6 上記業務に関する報告および報告書類の作成

2) モニタリングに関する業務

- 2)-1 QC サークル活動における計画管理および進捗記録
- 2)-2 O&M マニュアル/基準等の整備における監督およびモニタリング
- 2)-3 QC サークル活動の内容の確認および方向性の調整
- 2)-4 TQM 体制強化に係るモニタリングと調査補助
- 2)-5 水平展開の為の準備作業における監督およびモニタリング
- 2)-6 比較対照とする事業所のモニタリング
- 2)-7 作成マニュアルに基づく日常管理の実施状況
- 2)-8 事業所の管理層および常時モニタリング/評価を実施するグループに対するモニタリング
- 2)-9 上記業務に関する報告および報告書類の作成

3) 研修実施に係る業務

- 3)-1 各モデル事業所に対する日本人専門家による研修実施の支援と一部研修実施
- 3)-2 本社幹部及び事業所管理層への TQM に係る研修コースの支援と一部研修実施
- 3)-3 トレーナー育成研修に係る支援と一部研修実施
- 3)-4 研修カリキュラムの見直し、開発に係る支援と一部業務実施
- 3)-5 上記業務に関する報告および報告書類の作成

4) その他

4)-1 プロジェクトの目標達成の為に計画している活動への協力

4)-2 プロジェクトにおける各進捗段階での報告書等作成・取りまとめに関する協力

4)-3 その他

4. 概算費用

- ・ローカルコンサルタント1名につき、2,500\$/Month（諸費用含まず）（バ国での中堅エンジニアクラス）
- ・ローカルコンサルタント（1名×18.0M）＋（1名×21.0M）×2500\$/Month=97,500\$

BPDB 2006年度 年次研修計画(研修コース)

研修所	研修コース	プログラム		対象者
コンピュータ研修センター (1999)	Word Excel Power Point ハート,トランプシューティング,ネットワーク	全7コース, 10名 8日, 5日	全23回	中間管理職レベル スタッフレベル
Kaptai エンジニアリング アカデミー (1964)	コンピュータ基礎 導入研修 発電所の運転維持管理 変電所の転維持管理 トレーナー研修 プロジェクトマネジメント 調達規定関係 経理, 商業, 人事関係	2コース, 12名, 10日 2コース, 15~12名, 12 各1コース, 12名, 12日 各1コース, 12名, 10日 1コース, 15名, 5日 4コース, 12~15名, 5~ 12日	全12回 全2回 全4回 1回 全2回 全6回	中間管理職レベル スタッフレベル " 中間管理職レベル 中間管理職レベル 中間管理職 スタッフ
Tongi 研修センター (1975)	TQM研修 変電所の運転維持管理 電気基礎 メータ設置 配電線の維持管理 システムロス低減 メータ検査・検針 架線 リレー・保護 在庫管理 安全, 救急, 消火関係	4コース, 20名, 8~9日 2コース, 10名, 12日 各1コース, 10名, 6日 1コース, 10名, 6日 1コース, 10名, 6日 1コース, 10名, 12日 各1コース, 10名, 12日 1コース, 10名, 5日 4コース, 10名, 5~7日	8回 14回 全2回 全3回 1回 1回 2回 2回 1回 4回	中間管理職レベル スタッフレベル 中間管理職レベル スタッフレベル 電気技師 中間管理職レベル メータ検査員, 検針員 架線作業員 中間管理職レベル スタッフレベル 中間管理職
Ghorashal 研修センター (1977)	TQM研修 変圧器の運転維持管理 メータ設置 配電線の維持管理 メータ検査・検針 リレー・保護 架線 講師トレーニング 電気法 安全, 消火関係 文書管理, 事務, 経理, 接遇関	1コース, 20名, 9日 2コース, 20名, 5日 1コース, 10名, 6日 1コース, 10名, 5日 1コース, 10名, 6日 1コース, 10名, 5日 4コース, 8~10名, 14日 1コース, 10名, 10日 1コース, 10名, 4日 3コース, 8~10名, 5日 3コース, 8~10名, 10日	12回 全2回 全2回 全2回 1回 1回 全11回 全2回 全2回 全5回 全4回	スタッフレベル 中間管理職レベル スタッフレベル 架線作業員/電気技師 スタッフ/架線作業員 メータ検査員, 検針員 スタッフレベル 架線作業員 講師補 中間管理職レベル スタッフレベル オペレータ, 警備員 計理士ほか
Chittagong 研修センター (1976)	TQM研修 変電所の運転維持管理 電気基礎 メータ設置 配電線の維持管理 システムロス低減 メータ検査・検針 文書管理, 事務, 経理, 接遇関 消防関係	3コース, 10名, 7日 1コース, 8名, 6日 各1コース, 10名, 6日 1コース, 8名, 6日 1コース, 8名, 6日 3コース, 8名, 10日 1コース, 10名, 6日	20回 1回 全7回 1回 1回 全4回 1回	電気技師, 架線員, 警備員 スタッフレベル 電気技師, 架線作業員 中間管理職レベル メータ検査員, 検針員 計理士ほか
Rajshahj 研修センター (1976)	TQM研修 ボイラーオペレータ タービンオペレータ ボイラー, タービン補助 電気作業訓練 機械作業訓練 機器・自動化 水処理 安全, 救急	1コース, 25名, 9日 各1コース, 10名, 5週 1コース, 10名, 5週 2コース, 10名, 5~3週 2コース, 10名, 5~3週 2コース, 10名, 5週 1コース, 10名, 5週 2コース, 10名, 2週	全12回 全4回 全2回 全2回 全2回 全2回 全2回 全2回	スタッフレベル, 講師 ボイラーオペレータ タービンオペレータ 補助係 電気技師, 技師長 機械技師, 技師長 機械工, 技師長 実験補助員, 運転員ほか 中間管理職, スタッフ レベル, 講師

3) 年次別分野別研修回数(計画を含む)

BPDB

Summary of Training Courses Achieved/Planned FY 2004–2006

Achieved for FY2004

	Name of Courses (Categorized)	No of Courses						Subtotal	Ratio(%)
		Engg. Academy	RTC, Tongi	RTC, Chittagon	RTC, Rajshahi	RTC, Gorashal	DTCD Dhaka		
Achieved for FY2004	1 Generation	2				18		20	10%
	2 Transimission		2					2	1%
	3 Distribution	5	23	19	16			63	31%
	4 TQM		12	9	19	8		48	23%
	5 Admin	5	2	10	7			24	12%
	6 Management (Acc. & Fin.)	8	1	5	4			18	9%
	7 Others	1						1	0%
	8 Computer	4					26	30	15%
	9 Induction							0	0%
	Total	25	40	43	46	26	26	206	100%
Ratio(%)	12%	19%	21%	22%	13%	13%	100%		

Planned for FY2005	1 Generation	4				18		22	10%
	2 Transimission		2					2	1%
	3 Distribution	3	18	26	28			75	34%
	4 TQM		24	12	12	10		58	26%
	5 Admin	9	1	10				20	9%
	6 Management (Acc. & Fin.)	3	1	2	2			8	4%
	7 Others	1	1	2		2		6	3%
	8 Computer	2					22	24	11%
	9 Induction	3	1				1	5	2%
	Total	25	48	52	42	31	22	220	100%
Ratio(%)	11%	22%	24%	19%	14%	10%	100%		

Planned for FY2005	1 Generation	2				17		19	9%
	2 Transimission		2					2	1%
	3 Distribution	2	11	25	26			64	29%
	4 TQM		22	12	20	12		66	30%
	5 Admin	7	1	4				12	5%
	6 Management (Acc. & Fin.)	4		2	4			10	5%
	7 Others	1	2	4		2		9	4%
	8 Computer	12					23	35	16%
	9 Induction	2	1				2	5	2%
	Total	30	39	47	50	33	23	222	100%
Ratio(%)	14%	18%	21%	23%	15%	10%	100%		

(2) PGCB

1) TQM活動計画及びISO9001:2000 QMS実行プログラム

PGCB

PGCB TQM Activity Program

FY 2006-07

Activity Target	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 06	Feb 06	Mar 06	Apr 06	May 06	Jun 06
Start TQM activity in all offices	■	■	■	■	■	■						
Preparation of course material by ranks for TQM	■	■	■									
Conduct TQM training in field offices				■	■		■	■				
Conduct training program on Induced Human Error									■	■		
Conduct Basic Management Training by rank											■	■

ISO 9001:2000 QMS Implementation Program

Activity Target	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06
Continuation of Internal Quality Audit (IQA)	■	■				
Appointment of External Quality Audit body	■	■	■			
Conduct Third Party Quality Audit			■	■		
PGCB will become ISO 9001:2000 certified						■

(3) WZPDCL

1) 2005年度年次研修計画(研修コース)

WZPDCL

WZPDCL 2005年度 年次研修計画

研修所	研修コース	プログラム		対象者
配電研修センター (DTC) (1985)	TQM研修	2コース, 10名, 4日	全2回	中間管理職レベル スタッフレベル
		1コース, 10名, 5日	1回	架線作業員, 電気技師
	変電所の運転維持管理 & TQM	1コース, 10名, 5日	1回	運転操作補助員
	フィーダー, 変圧器管理	1コース, 10名, 4日	1回	中間管理職レベル
	配電線の維持管理 & TQM	1コース, 10名, 10日	全2回	架線作業員, 電気技師
	メータ設置, 試験, 校正, シール & TQM	各1コース, 10名, 4日	全3回	中間管理職レベル スタッフレベル
	電気不正使用 & TQM	各1コース, 10名, 4日	全2回	中間管理職レベル スタッフレベル
	商業運転手順 TQM	各1コース, 10名, 4日	全3回	中間管理職レベル スタッフレベル
	コンピュータ基礎・Email	2コース, 10名, 3日	全4回	中間管理職レベル スタッフレベル
地域研修センター (RTC) (1985)	コンピュータ基礎 & TQM	1コース, 10名, 2週	全7回	スタッフレベル
	導入研修	1コース, 9名, 5日	1回	中間管理職レベル
	メータ検査・検針 & TQM	1コース	1回	メータ検査員, 検針員
	変電所操作盤 & TQM	1コース	全2回	
	電気不正使用 & TQM	1コース	全2回	中間管理職レベル スタッフレベル
	架線 & TQM	4コース, 8~10名, 14日	全6回	架線作業員, 電気技師
	安全, 消火関係 & TQM	各1コース	全3回	オペレータ 警備員
文書管理, 事務, 会計経理, 接 遇関係 & TQM	5コース	全8回	会計士ほか	

2) 2005年度分野別研修回数

WZPDCL

Summary of Training Courses Achieved/Planned FY 2005

Achieved for FY2005

	Name of Courses (Categorized)	No of Courses		Subtotal	Ratio(%)
		Distribution Training Center ²	Regional Training Center ³		
Planned for FY2005	3 Distribution	13	11	24	46%
	4 TQM ¹	5		5	10%
	5 Admin		3	3	6%
	6 Management (Acc. & Fin.)		3	3	6%
	7 Others		5	5	10%
	8 Computer	11		11	21%
	9 Induction	1		1	2%
	Total	30	22	52	100%
	Ratio(%)	58%	42%	100%	

1: Only TQM special course are counted

2: 19 of the rest 25 courses are with TQM training course

3: All courses are with TQM training course

5. ワークショップ結果概要

事前評価調査期間中の6月18日（日）にBPDBの研修用セミナールームにてプロジェクト計画のための参加型計画立案ワークショップを実施した（別紙1のスケジュール参照）。以下、ワークショップの概要結果について述べる。

（1）ワークショップの目的とプロセス

プロジェクトの枠組みを参加型で立案することを目的に、PCM（Project Cycle Management）手法に準じたワークショップを実施した。

参加者は①BPDBのTQM推進室、②研修管理部門（Training Directorate）、③地方研修センター（トンギ）、④マイメイシン配電事業所、⑤ハリプール発電所（以上BPDB関係）、⑥PGCB、⑦WZPDCLの全30名である。特にJICAの国別特設研修に参加した職員については、本ワークショップへの参加をお願いし、計6名参加した。事前調査団員と専門家もオブザーバーとして参加し、適宜分析の整理や事実確認などを行った。（詳細は、別紙2の参加者リストを参照）。

冒頭、JICA調査団の挨拶の後、プロジェクトの概念とプロジェクト管理、PCM手法の説明を行った。その後、関係者を複数のグループに分け現状分析、関係者分析と問題分析を行い、それぞれグループごとに発表し、質疑応答を行った。最終的には実際に昨年作成したPDM案について、活動や指標などで修正、加筆すべき部分があるかどうか、ワークショップでの議論をもとに検証した。ファシリテーターの進行の下、事業所ごとに5つに分かれた各参加者は自分の意見をポストイットに記載・提示するやり方で分析を進めた。限定された時間の中、手法そのものの理解が困難で、なおかつ実際に英語でカードを書くのに不慣れな参加者が多く見られたため、調査団より、適宜各グループ個別に問題の提示方法について指導した。またTQM推進室で研修の講師を務めている参加者も補助的に各グループを支援した。各セッションの最後にグループ発表、質疑応答を行い、参加者全員の共通理解を図りながら合意形成を行った。

（2）TQM普及の現状分析と関係者分析

現在まで短期専門家の派遣、国別特設研修、JBICの案件実施支援調査（SAPI）においてTQMの導入は進んだが、現状、TQMの普及がどれくらい浸透しているかを確認するため、各組織において、現状を分析した。その上でその普及の結果（アウトカム）と、普及に関する問題点について議論を進めた。普及の結果についてはどの機関も一定のマネジメント改善効果をあげており、その導入推進については合意ができているものの、その更なる推進には、研修やインセンティブシステムの導入が不可欠と感じていることが明示された。

さらに彼らの活動に関する関係者であるトップマネジメント、オフィサー（中間管理職）、ワーカー（労働組合）、顧客、それぞれの現状の活動内容、関心、問題点、プロジェクトによってもたらされる結果や効果についても議論した。これらの議論によって問題分析の議論をするための問題の整理がかなりできた。

（詳細は、別紙3のTQM導入状況の現状分析、別紙4の関係者分析を参照）。

（3）問題分析

問題分析では、まず関係者分析で明確にされたさまざまなグループが抱える問題点をレビューしながら、各組織の「中心問題」を設定するために、ブレイン・ストーミングして参加者からカ

ードを出してもらった。しかしながら、TQM 手法に通じている TQM 推進室や PGCB はさまざまなカードを書く様子が見られたが、その他のグループは自分たちの抱える問題を文章にすることが困難であった。カードを書いてもらうためにさまざまな問いかけをし、それについて具体的に考えてもらうという補助をして、何とか文章にしていくのであるが、ブレイン・ストーミング、自らの考えを紙に書くということ自体に戸惑いが見られた。なるべく全員が1枚のカードは書いてほしいものの、消極的な参加者にはいくら参加を促しても困難な様子が伺われた。またカードがある程度、出た段階で、出されたカードを問題の「原因」と「結果」に分けてカテゴリーに分けていくところで、まず多くが躓いた。TQM 推進室と PGCB グループ以外は、ファシリテーターを中心に調査団が支援しなくてはそれらの作業が全く進まないのが現状であった。

しかし、グループによっては、モニタリングシステムが不十分、ノンテクニカルロスとテクニカルロスの原因分析、などの課題が整理され、どのような活動が必要かという課題を幾分収斂させることができた。(詳細は、別紙5の問題系図を参照)。

(4) プロジェクトデザインマトリックス (PDM) の検証

長期専門家が要請し、約1年前に各機関 (BPDB、PGCB、WZPDCL) 別に PDM を作成した。しかしながら、それらは各機関において、JICA 研修経験者が中心となって作成し、組織内で問題分析などのしかるべきプロセスを踏まずに作成したものであり、十分に吟味されていないようであった。本ワークショップの問題分析を終了後、改めて活動内容やその指標についてレビューしてもらったが、基本的に参加者は既存の PDM の内容に大幅な変更点を加えたいという意見はなかった。しかし、問題分析を通じて明確になったことに基づき、より具体的な改善活動について追記していた。それらを全体の PDM に部分的に反映している。

さらにプロジェクト開始までには活動計画の詳細を具体化する必要があると説明し、その活動項目、望まれる成果、期間、また責任の所在について活動開始以前に明確にする必要性について説明した。

(5) 結論

ワークショップの参加者は本プロジェクトのカウンターパート候補であり、TQM の導入により QC サークルの監督などに従事しているミドルマネジメントクラスであった。積極的にワークショップに参加して何かを学ぼうと積極的な参加者がいる中で、まだトップマネジメントの指示を待つという就業体系に慣らされているのか、自ら問題を深く分析し、その解決について提案するという一連の活動に非常に不慣れな参加者もいた。同僚と問題を分析し、合意形成をしていくという活動はマネジメント改善の活動の一部であるが、根気よく支援していかなければ、TQM も定着するのが難しいことはワークショップを通じて明らかになった。

その一方で、普段、異なる機関のミドルマネジメントクラスが一同し、議論をするという機会はありません。せいか、グループ別の発表後の質疑応答は予想以上に活発であった。特に分社化の歴史が長く、TQM の普及実績に自信をもつ PGCB の発表は他の機関に刺激になったようだ。BPDB のグループが分社化の方向性も見えないし、研修されても意欲を見出すのが難しいと発表すると、どこの組織に移ろうと研修や自己研鑽を通じて実力を高めれば恐れることはないと言った PGCB の参加者がアドバイスしていた。さらに各機関、労働組合との関係に頭を痛めていることについて、WZPDCL が PGCB に、その対策を質問し、PGCB が、労働組合に属するワーカーも含めて契約方

法を見直し、労働組合代表者に TQM の研修も受けさせ、インセンティブを導入し、マネジメント効率を上げた経験を発表するなど、活発な意見交換が見られた。このように各機関が一同に会し、活動の実績を発表し、議論を深める機会を本プロジェクトでも提供することの重要性を認識することができた。

別紙1 ワークショップ・スケジュール (6月18日 日曜日)

9:30 ~ 9:50	Registration
9:50 ~ 10:20	Opening-Welcome Remarks Self-Introduction by participants
10:20 ~ 11:20	Outline of the Workshop Stakeholder Analysis with Group Presentation and Q & A
11:40 ~ 12:00	Tea Break
12:00 ~ 12:45	Problem Analysis
12:45 ~ 13:15	Lunch
13:15 ~ 15:00	Group Presentation and Q & A
15:00 ~ 15:15	Tea Break
15:15 ~ 16:00	Review and Draw up the Project Design Matrix (PDM)
16:00 ~ 17:00	Group Presentation of the PDM and wrap-up by the Moderator

別紙2 参加者リスト

No.	Name	Designation
BPDB. Dhaka		
1.	Mr. J.B. Barua	General Manager, Training
2.	Mr. S.M. Haider Ali	Director, TQM Promotion Office
3.	Mr. Nazrul Islam	Director (In charge), Directorate of Training
4.	Mr. M.A. Hasnat	Deputy Director(XEN), TQM Promotion Office,
5.	Mr. A.T.M. Mustafizur Rahman	Deputy Director (XEN), TQM Promotion Office
6.	Mr. Abu Taher	Deputy Director, Directorate of Training
7.	Mrs. Shermeen Sultana	Assistant Engineer, TQM Promotion Office
8.	Mr.Kazi Nazrul Islam	Assistant Director, TQM Promotion Office
9.	Md. Abul Qusem	Training Consultant
10.	Md. Shafique Uddin	Deputy Director (XEN), Regional Training Center, Tongi
BPDB Mymensingh		
11.	Mr. Mintu Ranzan Chowdury	Assistant Chief Engineer, Central Zone,
12.	Mr. Nizamul Haque Sarkar	SDE, 18 Town, PDPD-6,
13.	Mr. A.K.M Mostofa Zaman	Assistant Engineer, Energy Auditing Unit
14.	Mr. Suranzan Chackroborty	Assistant Engineer, S& D-1
BPDB Haripur Power Station		
15.	Md. Shaidul Islam	SDE
16.	Mr. Ariful Haque	Assistant Engineer
17.	Md. Muzammel Hossain	Assistant Director
PGCB		
18.	Bazlul Munir	Manager, Attached to MD
19.	Md. Imdadul Inam	Manager, GMD, Bogra
20.	Md. Abdus Salam	Deputy Manager, GMD Dhaka (North)
21.	Md. Iqbal Azam	Manager, GMD, Barisal
22.	Eng. Debashis Das	Manager, GMD, Chittagong (North)
WZPDCL		
23.	Md. Shariful Islam	Executive Engineer, S & D-1, Khulna
24.	Krishna Das Saha	Sub Divisional Engineer, S & D-1, Khulna
25.	Syed Hossainuzzaman	Deputy Director, Regional Training Center, Khulna
26.	Md. Kousar Ali Howlader	Sub Divisional Engineer, S & D-1, Khulna
27.	Md. Shafiqul Islam	Sub Divisional Engineer, S & D-1, Khulna
28.	Mallick Abul Kashem	Senior Asst. Director, Khulna.
29.	Md. Mokbul Ahmed	Additional Director, Commercial Operation
30.	Md. Rokonuzzaman	Sub Divisional Engineer, S & D-1, Khulna
JICA		
31.	Mr. Hiroshi Sato	JICA Tokyo
32.	Mr. Hirokazu Nakanishi	JICA Expert (Power Sector Advisor) ~ June 2006
33.	Mr. Seiichi Suzuki	JICA Expert (Power Sector Advisor) June 2006 ~
34.	Mr. Hitoshi Egawa	Consultant
35.	Mr. Hisao Jinnouchi	Consultant
36.	Ms. Nobuko Shimomura	Consultant / Facilitator

別紙3 TQM 導入状況の現状分析

	No. Employees	No. Employees trained	Outcome of TQM	Problem of TQM promotion
BPDB	<p>Class 1 1781</p> <p>Class 2 1205</p> <p>Class 3 10842</p> <p>Class 4 7441</p> <p>Total 21269</p>	<p>2,699/ 18,800 trained (approx. 15%) ex-JICA trainees =32</p> <p>23 Chief. Eng. trained, but many retired.</p>	<p>People aware of customers and TQM concept</p> <p>Management record is improved.</p> <p>No.of accident reduced.</p> <p>Office environment is improved widely.</p> <p>Record keeping system is improved.</p> <p>Problem-solving capacity of staff is developed.</p> <p>Customers' satisfaction improved.</p> <p>Outrage decreased and performance improved.</p>	<p>Project delayed abnormally.</p> <p>BPDB Reform indirectly affects officers and staff not to accept TQM.</p> <p>Reform activity disheartened people to TQM</p> <p>Reform process is not transparent.</p> <p>Lack of support from top level of organization.</p> <p>Employees are still not punctual.</p> <p>Impact of training is not resulted in promotion.</p> <p>Absence of Trainer's training in hierarchy.</p> <p>Specific data on outcome of TQM is not prevailed.</p>
BPDB Mymensingh	<p>Total 1,174</p> <p>Officers 118</p>	<p>190/ 1,174 trained (approx. 16%) ex-JICA trainees =2</p>	<p>Reduce system loss in one feeder.</p> <p>Less interruption</p> <p>Activities are improving</p>	<p>Poor salary</p> <p>No instantaneous incentives.</p> <p>Bad activities of trade union.</p> <p>Lack of technical instrument support</p> <p>Lack of interest</p>
BPDB Haripur Power Station	<p>Total 87</p> <p>Officer 23</p> <p>Workers 64</p>	<p>60/ 87 (approx. 68%) ex-JICA trainees =0</p>	<p>Discipline in organization</p> <p>Accountability established.</p> <p>Enhance the spirit for the work of the workers.</p> <p>Working procedure became easy.</p> <p>Money saving.</p>	<p>Culture barrier</p> <p>Lack of incentives</p> <p>Lack of autonomy</p> <p>PPA not followed by BPDB.</p>

	No. Employees	No. Employees trained	Outcome of TQM	Problem of TQM promotion
PGCB	Total 2,110 Officers 700 Staffs 900 Workers 1,600	122/ 2,100 trained (approx. 6%) ex-JICA trainees =2 120 attended 1 week course.	Less outage time. Improved maintenance quality. People share their ideas. People becoming motivated. Economy in maintenance is achieved to some extend. Objectives of PGCB can be achieved. Implementation of ISO9001:2000 has become easier. Mindset changed somehow in work place. Improved operational capability.	Needs motivation to all types of employees. No TQM promotion office. Need more training about TQM. Insufficient manpower as per setup. Insufficient trainers.. Monitoring of TQM activity is below than expected.
WZPDCL		592/ 3,245 trained (approx. 18%) ex-JICA trainees =1, Officers -180, Staff-412 trained.	Reduce system loss from 22.72% to 15.82% Reduce Expenditure: 42 million Tk. Increase revenues 42 million. Tk. Working people organized. Better management, quick decision Relationship improved. Increase Change of command.	Lack of TQM training Lack of TQM management support Lack of positive attitude Uncontrolled CBA activities. No TQM promotion office. Lack of encouragement No reward system Pay commission not established.

別紙 4 関係者分析

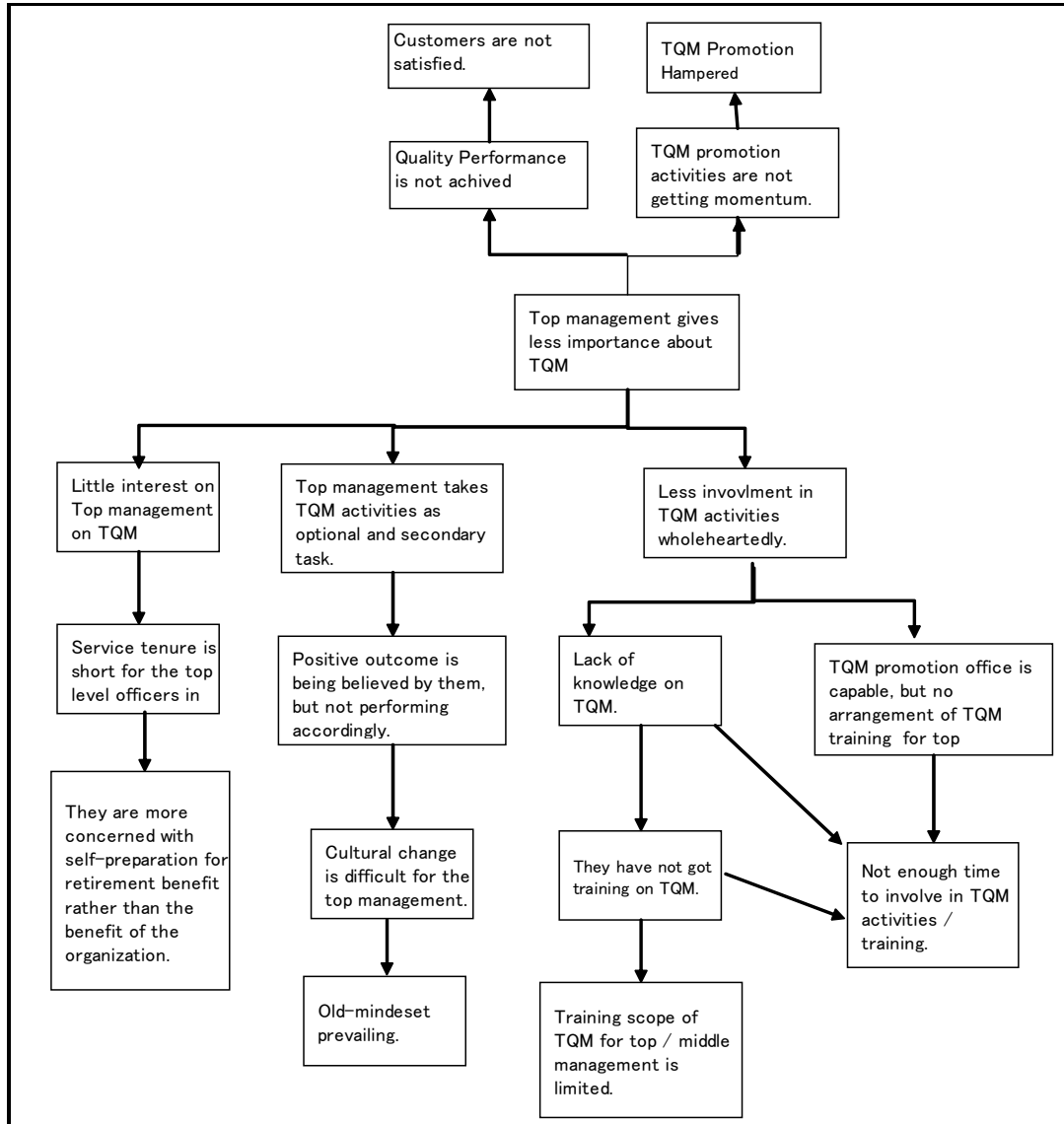
	Stakeholders	Current job description	Interests	Problems	Consequence of the project
BPDB	Top Management		<ul style="list-style-type: none"> Convenient posting / Undue influence in transfer / posting Nepotism Preference on personal interest. 	<ul style="list-style-type: none"> Don't read files thoroughly. 	<ul style="list-style-type: none"> Need to improve competency, skill development by training Higher performance Quick service
	Middle class management		<ul style="list-style-type: none"> Emphasis on self benefit Eager to earn more for survival Maintain leadership in top & working group Convenient posting 	Less attentive in vital decision.	Need more training in skill competence, management.
	Workers / Trade unions		<ul style="list-style-type: none"> Getting job satisfaction Getting the overtime benefit 		<ul style="list-style-type: none"> Self interest Core support by ministers.
	Customers	More involvement needed	<ul style="list-style-type: none"> Uninterrupted power supply Timely delivery of monthly bill No undue harassment 	No information about service (no announcement of power cut schedule, etc.)	<ul style="list-style-type: none"> Transparent performance Improve benefit
BPDB Mymensingh	Top Management	<ul style="list-style-type: none"> All over supervision of operation, maintenance & commercial activities 	Not satisfactory	<ul style="list-style-type: none"> Having no full power regarding hire and fire employees. Due to insufficient salary, they are frustrated. 	<ul style="list-style-type: none"> Feels trade union problem Improve management capability
	Middle class management	<ul style="list-style-type: none"> Improve CI ratio Increase revenue collection Decrease system loss 	Comparatively better to top management	Less attentive in vital decision.	Improve working capability
	Workers / Trade unions	Works in field level to proceed into goal / target.	<ul style="list-style-type: none"> Less interest Overtime 	Lack of training	Improve working and mental development
	Customers		<ul style="list-style-type: none"> Uninterrupted power supply Instant problem solution 	Not getting bill in time	Improve bill paying tendency
BPDB Haripur Power Station	Top Management	<ul style="list-style-type: none"> Decision making in Administration; Finance /accounts; Procurement 	<ul style="list-style-type: none"> Smooth power generation without interruption Customers' satisfaction 	Control all type of activities	Consume more time for decision
	Middle class management	Implementation Supervision Technical	<ul style="list-style-type: none"> Good salary Good working environment 	<ul style="list-style-type: none"> Minimum financial power Minimum Administrative power No decision power 	Need more training in skill competence, management.

	Workers / Trade unions	Work by middle-class officers.	Work for overtime	<ul style="list-style-type: none"> Do not work in scheduled time Short of medical facilities 	Work hamper.
	Customers	Supervise the top management	<ul style="list-style-type: none"> Proper generation Maximum Power generation Better service 	Do not get sufficient electricity	Economy breakdown
	Stakeholders	Current job description	Interests	Problems	Consequence of the project
PGCB	Top Management	<ul style="list-style-type: none"> Insufficient financial & administrative power in the field offices Financial & administrative power centralized Decision making, financial management, administrative management Policy making, monitoring of policy implementation 	Overall improvement of organization.	Government policy may conflict (Decision made without commercial viability due to political influence.)	Improvement achieved Policy may need to be changed.
	Middle class management	<ul style="list-style-type: none"> Supervise the field works. Execution of policy. Support management for work. Resolve problems between workers and management 	Achieve the objectives.	Lack of support from top and lower parts.	<ul style="list-style-type: none"> Skill needs to be improved. Skill development activity needed.
	Workers / Trade unions	<ul style="list-style-type: none"> Implementation of work. 	Improved financial and working condition. Better working environment for everybody.	No schedule for execution of work, so work delayed.	<ul style="list-style-type: none"> Work quality becomes better. Technical training is needed. Mind set is uniform.
	Customers		Uninterrupted quality power supply.	Huge load shedding hampered wheeling collection from PBS / WZPDCO.	
WZPDCL	Top Management	<ul style="list-style-type: none"> Involved in tech. and non-tech. work. Administration, management Financial procurement 	<ul style="list-style-type: none"> Reduce cost All decision through them Build WZPDCL as a unique organisation Best power service providers in Bangladesh Best power service providers in Bangladesh 	<ul style="list-style-type: none"> Lack of time Priority of works Control all sorts of activities Delay decision Political Influence Lack of monitoring 	Decision achieved not expected by lower level. Company does not run smoothly. Poor quality goods Project not finished in time. Achieve excellence in Human resource management, consumer service, operation

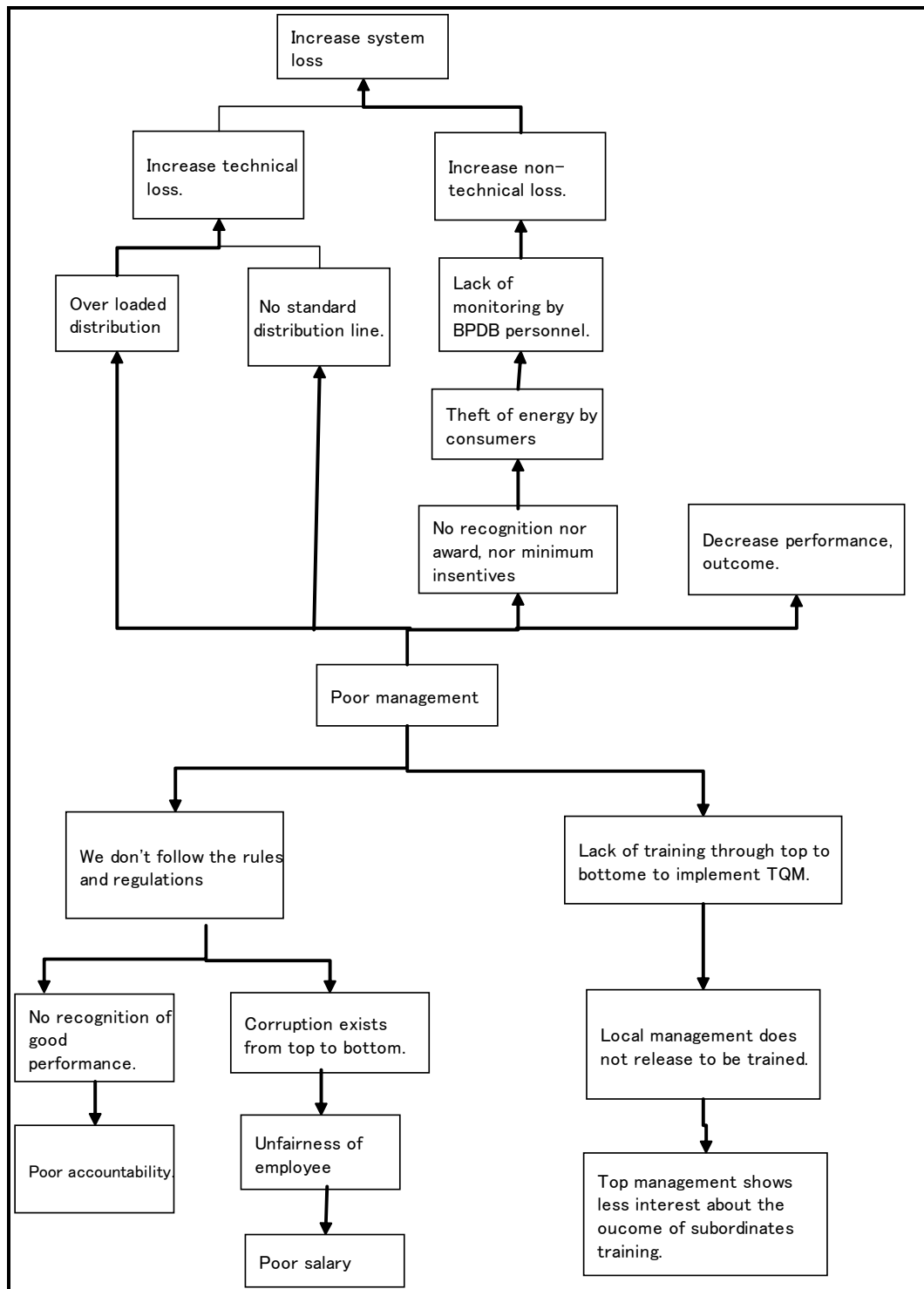
Middle class management	<ul style="list-style-type: none"> • Execution • Overall supervision • Responsible for implementation 	<ul style="list-style-type: none"> • Carry out top management's order. • Executive officers of the field. • Working time reduced. 	<ul style="list-style-type: none"> • No decision /financial power • Satisfy top management • Lack of supervision 	<ul style="list-style-type: none"> • Dissatisfaction of top management • Not to get done the work. • Poor quality
Workers Trade unions	Work through contractors	<ul style="list-style-type: none"> • Represent their thought Overtime • Carry out managers order Interests in benefit. 	<ul style="list-style-type: none"> • Contractors wants money without or less work. • Hamper working environment. • Interested in overtime work to get more pay. • Get no logistic & support from management. • Not interested in working in scheduled time. 	Get no optimum facility.
Customers	<ul style="list-style-type: none"> • Better service • Pay the electricity bill in time. 	Get good service.	Not get proper service	Consumer suffering increases Fall in suffer.

別紙5 問題分析

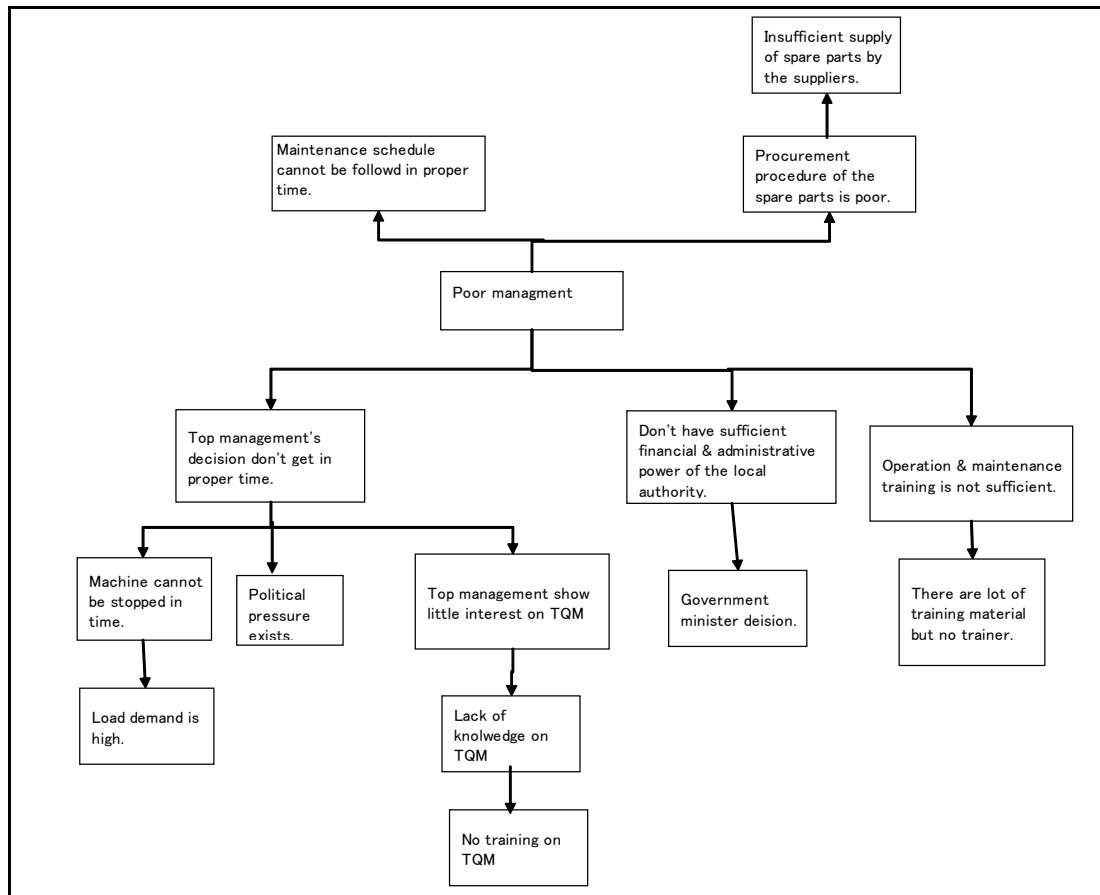
(1) BPDB の問題分析



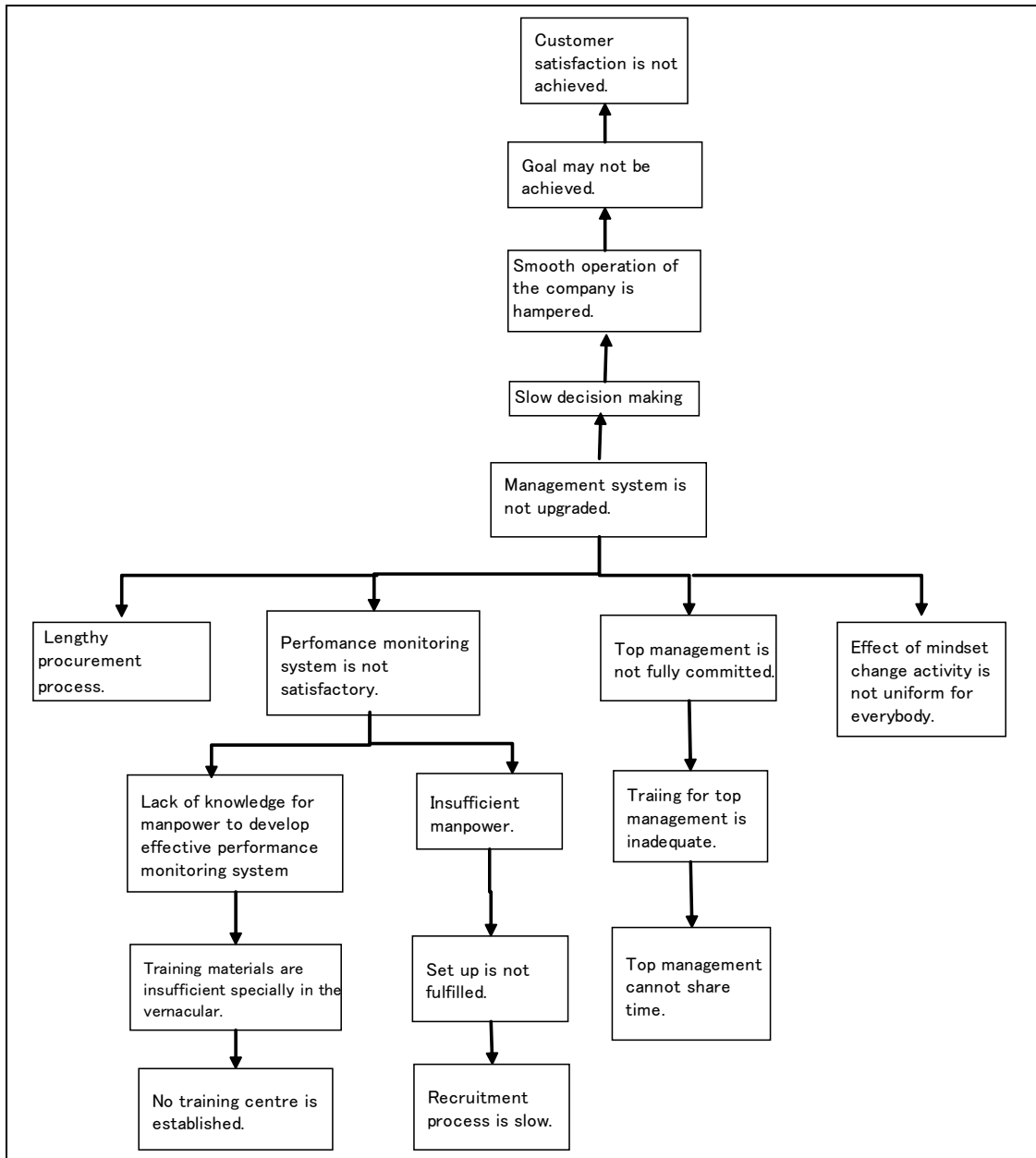
(2) BPDB Mymensingh の問題分析



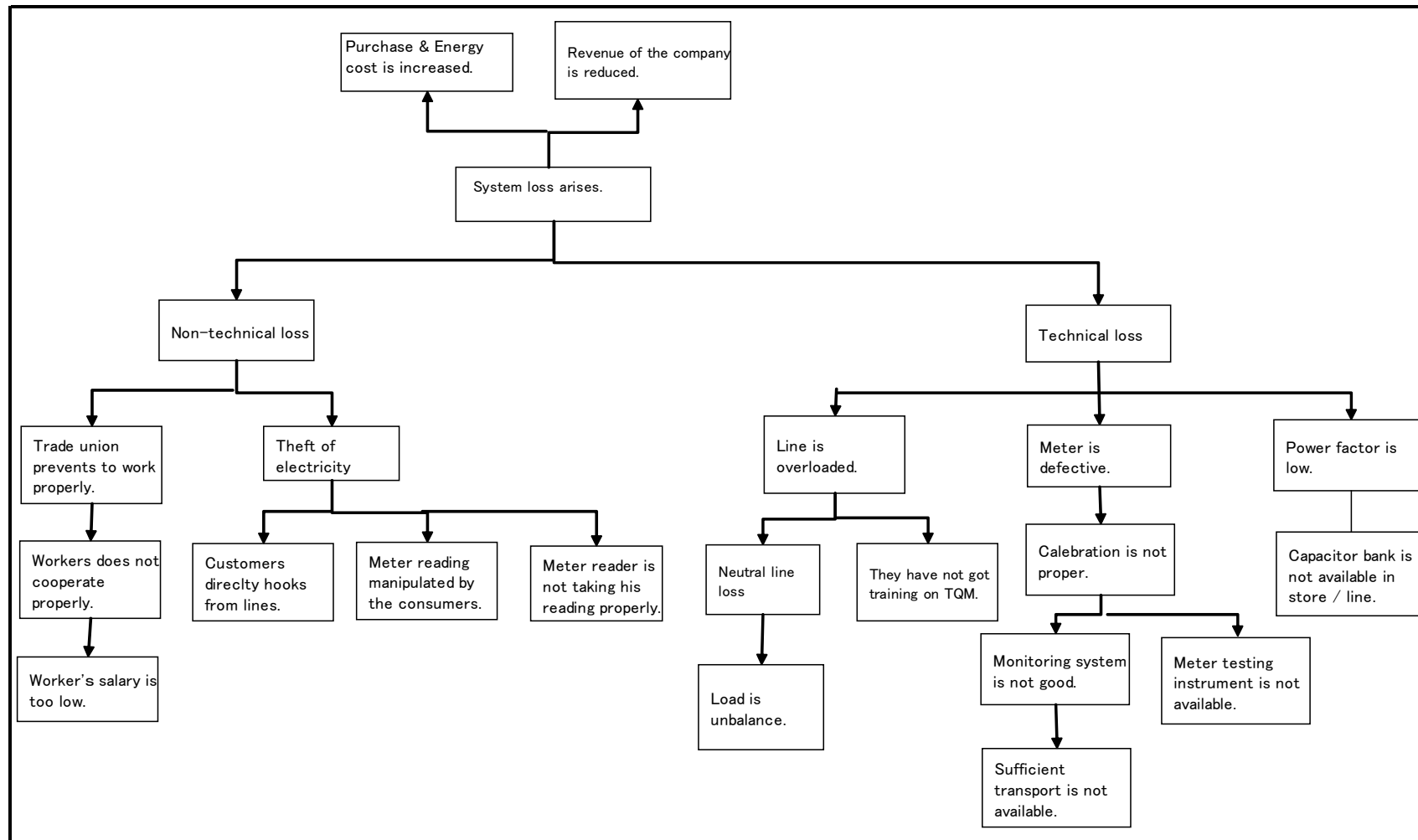
(3) BPDB Haripur 発電所 の問題分析



(4) PGCB の問題分析



(5) WSPDCL の問題分析



別紙6 提案された活動
 (1) BPDB の提案した活動

		Activities
Original idea	1	Formulate the standard to be observed in the field of generation, distribution and other offices.
	2	Develop and implement a quality assurance system in pilot Power stations and Distribution circles.
	3	To enhance the organizational scheme for promoting TQM activities.
	4	Carry out training needs assessments.
	5	Development of curriculum and training materials for the group training and OJT.
	6	Cultivate minimum 100 trainers in the field of TQM.
	7	Organize training courses for all employees which utilize in-house trainers and local consultants as resource.
	8	Arrange a country focused training, counterpart training etc.
	9	Measures to be taken to modernize the regional training centres of BPDB.
Added activities	1	Continue to retaining and replenish resources / trained trainers
	2	Arrange seminar regularly on TQM for top management by JICA
	3	Arrange specialized technical trainer's training, provide inputs for training methodology
	4	Upgrade the existing standard regulations of BPDB with necessary amendment
	5	Introduce job description and ensure strict adherence to it.
	6	Declare TQM as the main theme of improving quality of PDB
	7	Modernize Training Centre
	8	Develop aids and tools for training continuously

(2) BPDB Mymensingh の提案した活動

Added activities	1	Install capacitor bank for improve the power factor.
	2	Power factor should be kept 0.95 to 1.0 at HT consumers.
	3	Reduce breakdown percentage of distribution X-former up to 1 % per year.
	4	Schedule checking & maintenance of distribution system as per PDB maintenance manual.

(3) BPDB Haripur 発電所 の提案した活動

Added activities	Before 2007	1)Dismantling old exhaust stack of three GT Units 2) Install new exhaust stack 3) Opening turbine rotor & send to Japan 4) Out the generator & inspection (# three GT units) 5) After inspection the generator, then, assemble.
	After 2007	1)Unit No.#2 will come in operation 2) O&M schedule should be followed properly. 3) TQM activities should be implemented properly.

(4) PGCB が追記した PDM
(オリジナルの案にこれらの記述を追加希望した)

Narrative Summary	Indicators	Means of Verification
Overall Goal Reliable transmission of quality power Reliable transmission of power to the consumers		
Project Purpose	Voltage and frequency is maintained within allowable range. No unnerved energy due to grid inadequacy.	Operational records of the system
Outputs People building activity is performed		
Activities To provide training on induced human error. Management training by rank before promoting to higher position To replace the old equipments after guaranteed life time. To relieve the over load substation. Skill development by in-house training Motivation in every level for achieving excellence	Inputs — —	

(5) WSPDCL の提案した活動

		Activities
Original idea	1	Formulate the standards which employees should observe in the field of O&M distribution and other works.
	2	Develop and implement a Quality Assurance System in S&D-1, Faridpur O&M Circle and S&D-1, Khulna Electric Supply as model offices.
	3	Set up the organizational scheme for promoting TQM activities.
	4	Carry out a Training Needs Assessment.
	5	Develop curriculum and training materials for the Group training and OJT.
	6	Cultivate no less than 40 trainers in the fields of TQM.
	7	Organize training courses for all employees, which utilize in-house trainers and local consultants as resource, and monitor them.
	8	Manage the country-focused training, counterpart training and so on.
	9	Modernize the Regional Training Centre (Khulna).
Added activities	1	Electro-mechanical prefers to be replaced by programmable meters.
	2	Non standard service drop to be standard as mentioned on planning guide.
	3	Renovation of 33/11 KV S/S 2 X 10/13.33 mVA - 15 Nos.
	4	LT line must be covered.
	5	Avoid theft of electricity meters to be installed inside box on pole at man height.
	6	Create TQM promotion office.
	7	Model S/S required for RTC / DTC Capass, Khulna.
	8	Knowledge & use of computers by all employees (staff & officers)
	9	OJT & reporting to be ensured.
	10	11 KV Capacitor Bank to be installed for improvement of low power factors.

別紙7 参加者写真

	
<p>BPDP TQM推進室、Tongi研修所他関係者 (JICA 研修経験者 1名)</p>	<p>BPDP Mymensingh 配電事業所関係者 (JICA 研修経験者 2名)</p>
	
<p>BPDP Haripur 発電所関係者</p>	<p>WZPDCL 関係者 (JICA 研修経験者 1名)</p>
	
<p>PGCB 関係者 (JICA 研修経験者 2名)</p>	<p>ワークショップ会場</p>

**RECORD OF DISCUSSIONS BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE PEOPLE'S REPUBLIC OF BANGLADESH
ON
JAPANESE TECHNICAL COOPERATION PROJECT
FOR
THE PROJECT ON STRENGTHENING MANAGEMENT AND PERFORMANCE
STANDARDS IN POWER SECTOR OF BANGLADESH
THROUGH PROMOTION OF TQM**

Japan International Cooperation Agency (hereinafter referred to as "JICA") through its Resident Representative of Dhaka Office, exchanged views and had a series of discussions with the authorities concerned of the Government for the successful implementation of the above-mentioned project.

As a result of the discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of Japan and the Government of Bangladesh, signed in Dhaka on 8th December, 2002 (hereinafter referred to as "the Agreement"), JICA and Bangladesh authorities concerned agreed on the matters referred to in the document attached hereto.

Dhaka, July 31, 2006



Mr. Akio Arai
Resident Representative
Japan International Cooperation Agency
Bangladesh Office



Mr. M. Emadatul Haque
Deputy Secretary
Economic Relations Division
Ministry of Finance

THE ATTACHED DOCUMENTS

I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF BANGLADESH.

1. The Government of the People's Republic of Bangladesh will implement the technical cooperation project for the project on strengthening management and performance standards in power sector of Bangladesh through promotion of TQM (hereinafter referred to as "the Project") in cooperation with JICA.
2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan and the provisions of Article of the Agreement, JICA, as the executing agency for technical cooperation by the Government of JAPAN, will take, at its own expense, the following measures according to the normal procedures of its technical cooperation scheme.

1. DISPATCH OF JAPANESE EXPERTS

JICA will provide the services of the Japanese experts as listed in Annex II. The provision of Article V of the Agreement will be applied to the above-mentioned experts.

2. PROVISION OF MACHINERY AND EQUIPMENT

JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The provision of Article IV of the Agreement will be applied to the Equipment.



3. TRAINING OF BANGLADESH PERSONNEL

JICA will receive the Bangladesh personnel connected with the Project for technical training in other relevant countries, if necessary.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF BANGLADESH

1. The Government of Bangladesh will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese Technical Cooperation, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.
2. The Government of Bangladesh will ensure that the technologies and knowledge acquired by the Bangladesh nationals as a result of the Japanese technical cooperation will contribute to the economic and social development of Bangladesh.
3. In accordance with the provision of Article VI of the Agreement, the Government of Bangladesh will grant in Bangladesh privileges, exemptions and benefits to the Japanese Experts referred to in II-1 above and their families.
4. In accordance with the provisions of Article IX of the Agreement, the Government of Bangladesh will take the measures necessary to receive and use the Equipment provided by JICA under II-2 above and equipment, machinery materials carried in by the Japanese experts referred to in II-1 above.
5. The Government of Bangladesh will take necessary measures to ensure that the knowledge and experience acquired by the Bangladesh personnel from technical training, will be utilized effectively in the implementation of the Project.
6. In accordance with the provision of Article V of the Agreement, the Government of Bangladesh will provide the services of Bangladesh counterpart personnel and administrative personnel as listed in Annex IV.

7. In accordance with the provision of Article V of the Agreement, the Government of Bangladesh will provide the working spaces and facilities as listed in Annex V.
8. In accordance with the laws and regulations in force in Bangladesh, the Government of Bangladesh will take necessary measures to supply or replace at its own expense machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided by JICA under II-2 above.
9. In accordance with the laws and regulations in force in Bangladesh, the Government of Bangladesh will take necessary measures to meet the running expenses necessary for the implementation of the Project.

IV. ADMINISTRATION OF THE PROJECT

1. Joint Secretary, Power Division, Ministry of Power Energy and Mineral Resources, as the Project Director, will bear overall responsibility of the Project.
2. Chairman and/or Member (Administration), BPDB, Managing Director, PGCB and Managing Director, WZPDCL, as the Project Managers, will bear the responsibility for administration and implementation of the Project.
3. Director of TQM Promotion Office, BPDB will be responsible for coordination among the entities and offices related to the Project.
4. The Japanese experts for the Project and Power sector advisor for MoPEMR will provide necessary recommendations and advice to the Project Director and the Project Managers on any matters pertaining to the implementation of the Project.
5. The Japanese experts will give necessary technical guidance and advice to Bangladesh counterpart personnel on technical matters pertaining to the implementation of the Project.
6. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordination Committee will be established whose functions and composition are described in Annex VI



V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Bangladesh authorities concerned, during the last six months of the cooperation term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

In accordance with the provision of Article VII of the Agreement, the Government of Bangladesh undertakes to bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in Bangladesh except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between JICA and the Government of Bangladesh on any major issues arising from, or in connection with this Attached Document.

VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT.

For the purpose of promoting support for the Project among the people of Bangladesh, the Government of Bangladesh will take appropriate measures to make the Project widely known to the people of Bangladesh.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this attached Document will be for three years initiating preferably from November 2006.



- ANNEX I MASTER PLAN
- ANNEX II LIST OF JAPANESE EXPERTS
- ANNEX III LIST OF MACHINERY AND EQUIPMENT
- ANNEX IV LIST OF BANGLADESH COUNTERPART AND ADMINISTRATIVE
PERSONNEL
- ANNEX V LIST OF WORKING SPACES AND FACILITIES
- ANNEX VI JOINT COORDINATION COMMITTEE



Master Plan

**Project Design Matrix (PDM) or Logframe on
"Strengthening Management and Performance Standards in Power Sector of Bangladesh through promotion of Total Quality Management"**

Implementing Agency (Japanese side): JICA

Implementing Agency (Bangladeshi side): BPDB, PGCB, WZPDCL

Duration : November 2006~October 2009 (3 years)

Target Group: Baghabari P/S (BPDB), GMD Dhaka-East (PGCB), Mymensingh O&M Circle (BPDB), Khulna O&M Circle (WZPDCL), Each TQM Promotion Office

Target Area: Operation areas of the abovementioned targeted group

Narrative Summary	Indicator	Means of Verification	Assumption
<p><u>Overall Goal</u> The whole power entities will improve their operation, maintenance and management performance by extending the outcomes of the pilot offices.</p>	<ul style="list-style-type: none"> The number of power entities who implement TQM proactively by learning the outputs of the pilot power entities by year 2008. Management indexes mentioned below for the whole power entities. 	<ul style="list-style-type: none"> Performance records of respective power entities. 	<ul style="list-style-type: none"> Necessary financial and technical resources for current Power System Master Plan should be allocated. Tariff based on cost is set without delay.
<p><u>Project Purpose(Outcomes)</u> Operation and maintenance, and management capacity of the pilot offices involved in generation, transmission and distribution is improved through the organization-wide promotion of TQM</p>	<p>Management indexes for evaluating reliability and efficiency of power entities are set in each pilot office, as shown in Table 1.</p>	<p>(Generation) Power generation and inspection records. (Transmission) Operational data of the system. (Distribution) Operational records inclusive of monthly commercial operation statistics.</p>	<ul style="list-style-type: none"> Trade unions of the respective power entities agree to introduce TQM into the company, and to collaborate the projects. Necessary financial and technical resources for TQM activities should be allocated.

<p>1 The Quality Assurance activities (such as Policy management, Daily management, Quality Control Circle, Suggestion Scheme, Monitoring and Evaluation, etc) are institutionalized in the pilot offices.</p>	<p>1-1 Management by policy is developed by the year of 2009. (a) Mid-term management plan established in line with the existing 'Policy Statement' and 'Vision Statement' of the Government by 2009. (b) Management policies established for the respective fiscal years. (c) The targets defined by the chief of subordinated units</p> <p>1-2 Daily management is established by 2009. (a) Number and quality of the Job description and target of each office. (b) Explicit job instruction, based upon check list, manuals, standards, etc., given to workers and staff to achieve the target for the fiscal year in accordance with the policy. (c) Check sheets for quality control made for daily work.</p> <p>1-3 Number and quality of the activities taken by introducing Quality Assurance activities</p>	<p>1-1 Respective policies and targets reported to the taskforce meeting., etc.</p> <p>1-2 Records of taskforce meeting, etc.</p> <p>1-3 Records of QC circle activities</p>	<p>• Autonomy of each organization is enhanced and secured.</p>
<p>2 The structure of power entities to introduce and institutionalize Quality Assurance activities through TQM is strengthened.</p>	<p>2. TQM Promotion system is established by 2009 to disseminate good practices in the pilot entities to the whole power entities (a) Contents of TQM promotion plans and materials for respective entities (b) Monitoring / feedback system for TQM promotions (c) Number and quality of OJT instructors for TQM promotion (d) Number of good practices by QC circle activities for improving management targets</p>	<p>2. Review of Japanese experts upon (a) TQM promotion plans and materials (b), (c); (d) Monitoring reports by respective TQM promotion offices, and revised regulations /standards /manuals /check lists/ inventories of TQM promotion plans and materials</p>	

Activities	Inputs	
	The Bangladeshi Side	The Japanese Side
<p>1-1 Policy management (mainly implemented by top management)</p> <p>a) Set target (management Indexes) and plan.</p> <p>b) Supervise PDCA cycles by Monitoring & Evaluation Group</p> <p>c) Upgrade existing regulation and standards with necessary amendments.</p> <p>d) Introduce job description and ensure strict adherence to it.</p> <p>1-2 Daily management (mainly implemented by middle-class management)</p> <p>a) Draft management Indexes based upon collected baseline data.</p> <p>b) Develop and revise O&M manuals /check lists/ standards and enforce O&M properly.</p> <p>c) Draft job description upon O&M manuals/ check lists/ standards</p> <p>d) Supervise QC circle activities.</p> <p>e) Facilitate suggestion scheme upon technically and financially feasible proposals</p> <p>1-3 QC circle and suggestion schemes (mainly implemented by staff workers).</p> <p>a) Implement QC circle activities.</p> <p>b) Implement suggestion scheme.</p> <p>2-1 Facilitate TQM activities for top management officers in practical manners</p> <p>2-2 Introduce the rewarding / penalty system to institutionalize the TQM activities.</p> <p>2-3 Review the past experience of TQM activities.</p> <p>2-4 Develop TQM promotion system</p> <p>2-5 Enhance OJT instructors in the field of TQM</p> <p>2-6 Prepare TQM promotion plans and materials to improve management indexes</p>	<p>1. Personnel</p> <p>Project Director</p> <p>Deputy Project Director</p> <p>Project Manager</p> <p>C/P</p> <p>2. Office/ Facilities</p> <p>Preparation of working space and facilities</p> <p>3. Local cost</p> <p>Operational Cost for the Project</p>	<p>1. Expert</p> <p>Short-term experts</p> <ul style="list-style-type: none"> • TQM (Quality assurance) • O&M in generation • O&M in transmission • O&M in distribution <p>2. Provision of the Equipment</p> <p>3. Counterpart Training, if necessary</p>
		<p>• Core personnel remain in the company, or staff arrangement, handing over of ones' duties is smoothly implemented.</p> <p><u>Pre-condition</u></p> <ul style="list-style-type: none"> • Top management of BPDB, PGCB, WZPDCL are supportive for TQM promotion whoever managers are.

Table 1 Management Indexes

Classification		Before (2004-2006)	After (Target) (2009)	Remarks
Generator	BPDB	95%* (2004)	98%	(Operation(hrs)+Standby(Hrs)+Planned Inspection(Hrs))/8.760hrs x 100
	PGCB	Not properly done	Properly done	As scheduled
Transmission	Dhaka East GMD	130hrs (2006)	80hrs	15% reduction per annum, excluding dstrubtion failures
		46times (2006)	28times	15% reduction per annum, excluding dstrubtion failures
		760MWh (2006)	467MWh	15% reduction per annum, excluding dstrubtion failures
BPDB	Mymensingh Circle	423hrs (2005)	100hrs	Total of 10 feeders (11kV) per annum (S&D-1 Division**)
		478times (2005)	100times	Total of 10 feeders (11kV) per annum (S&D-1 Division**)
Distribution	Khulna Circle	21% (2005)	15%	
		96% (2005)	More than 100%	Collection(TK)/Billed amount(TK) x 100
		3,695hrs (2005)	1,478hrs	Total of 45 feeders (11kV) per annum
		5,787times (2005)	2,315times	Total of 45 feeders (11kV) per annum
		17% (2005)	11%	
		92% (2005)	More than 100%	Collection(TK)/Billed amount(TK) x 100

*) BPDB's own target for the fiscal year 2004 set in 2003 (Actual data is not available)

**) Target for the other S&D division and ESU will be set after project started.

BD 1/20

1003

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TENTATIVE LIST OF JAPANESE EXPERTS

1. TQM (Quality Assurance) Expert
2. O&M (Generation) Expert
3. O&M (Transmission) Expert
4. O&M (Distribution) Expert
5. Local consultant will be assigned when necessary for smooth and effective implementation of the Project

* Power sector advisor for MoPEMR will supervise the Project.



LIST OF MACHINERY AND EQUIPMENT

1. The necessary equipment to achieve the project purpose by the Japanese experts will be provided.

Notes: The contents, specifications and quantity of equipment to be provided each year will be discussed in principle every year between the JICA Bangladesh office and the Bangladeshi counterpart personnel based on the annual plan of the Project, within the allocated budget of the Japanese fiscal year.



LIST OF BANGLADESHI COUNTERPART PERSONNEL

 Ministry of Power Energy and Mineral Resources

1. Joint Secretary, Power Division, MoPEMR

 BPDB (Bangladesh Power Development Board)

1. Chairman and / or Member (Administration), BPDB

2. Director, TQM Promotion Office

3. Deputy Director, TQM Promotion Office

4. Manager, Baghabari P/S

5. Assistant Manager, Baghabari P/S

6. Superintending Engineer, Mymensingh O&M Circle

7. All Executive Engineer/ Sub-Div. Engineer under Mymensingh O&M Circle

 PGCB (Power Grid Company of Bangladesh Ltd.)

1. Managing Director, PGCB

2. General Manager, System Operation, PGCB

3. Manager, Attached to Managing Director

4. Manager, Grid Maintenance Division, Dhaka-East

5. All Assistant Manager under Grid Maintenance Division, Dhaka-East

 WZPDCL (West Zone Power Distribution Company Ltd.)

1. Managing Director, WZPDCL

2. Additional Director, TQM Promotion officer

3. Assistant Director, TQM Promotion officer

4. Superintending Engineer, Khulna O&M Circle

5. All Executive Engineer/ Sub-Div. Engineer under Khulna O&M Circle

6. Executive Engineer/ Sub-Div. Engineer/ Deputy Director, Headquarters



LIST OF WORKING SPACES AND FACILITIES

1. Project offices and facilities at TQM promotion office, Regional training centers, Baghabari P/S and Mymensingh O&M Circle, BPDB
2. Project offices and facilities at TQM promotion office and GMD Dhaka-East, PGCB
3. Project offices and facilities at TQM promotion office, Khulna training center and Khulna O&M Circle, WZPDCL
4. Other facilities mutually agreed upon as necessary for the implementation of the Project



JOINT COORDINATION COMMITTEE

The Joint Coordination Committee, which consists of both the Japanese side and the Bangladeshi side, will be established for the smooth and effective implementation of the Project.

1. Functions

The Joint Coordination Committee will meet at least twice a year according to the dispatch of Japanese experts or whenever necessity arises in order to fulfill the following functions;

- 1) To formulate the Annual Plan of Operation of the Project
- 2) To review the overall progress and achievement of the Project
- 3) To exchange views on major issues arising from or in connection with implementation of the Project, and to give guidance to the Project and the Bangladeshi counterparts, if necessary

2. Composition

1) Chairperson

Joint Secretary, Power Division, Ministry of Power, Energy and Mineral Resources

2) Co-chairperson

Resident Representative, JICA Bangladesh Office

3) Members

- Bangladeshi side

Deputy Secretary, Japan Branch, Economic Relations Division

Member (Administration), BPDB

Managing Director, PGCB

Managing Director, WZPDCL

Representative of counterpart personnel of the Project

- Japanese side

Official(s) in charge, JICA Bangladesh Office

Experts of the Project

Expert for MoPEMR

Note: Official(s) of Embassy of Japan to Bangladesh may attend the Joint Coordination Committee as observer(s).

7. 要請書

APPLICATION FORM FOR JAPAN'S TECHNICAL COOPERATION

1. Date of Entry: Day 15 Month July Year 2004
2. Applicant: The Government of Bangladesh
3. Project Title: Strengthening Management and Performance Standards in BPDB
Through Promotion of Total Quality Management
4. Implementing Agency: Bangladesh Power Development board (BPDB)
Address: WAPDA Bhaban, Motijheel, C/A. Dhaka
Contact Person: Chairman, BPDB
Tel. No.: 880-2-9562154, 880-2-9563532
Fax No.: 880-2-9564765
E-Mail: chbpdb@bol-onlinr.a.com

5. Background of the Project
(Current conditions of the sector, Government's development policy for the sector, issues and problems to be solved, existing development activities in the sector, etc.)

The I-PRSP emphasized very strongly the role of infrastructure (Power, Energy and Communication) in accelerating the rate of poverty reduction and economic growth. Government of Bangladesh has planned to provide electricity for all by the year 2020. At present only 32% of the population is covered by electricity network. GOB has taken up several reform initiatives with assistance from World Bank, ADB, JBIC and other donors. Unfortunately, past reform process that is unbundling of DESA, PGCB and so on has not been satisfactory due to the unchanged poor management.

BPDB being the principal entity in power sector of Bangladesh, which will become a holding company in the process of future reform, still remains responsible for generation and distribution of electricity. Absence of standardized management system in generation and distribution resulted in high system loss, poor productivity and also as the computer billing could not be introduced in all the distribution centres, poor metering and billing system impedes revenue collection. Age old power stations and lack of their proper maintenance often bring out serious disruption in continuous and consistent supply of electricity. It is important that this vital organization overcome its deficiencies, establish good management and practice thoroughgoing standardization in all activities.

In this process, as a first step BPDB achieved success in promoting the practice of Total Quality Management (TQM) at one of its power generation facility at Haripur. Being guided by the success story BPDB intended to improve its overall management through promotion of TQM. Accordingly, a TQM promotion office has been established attached to the Chairman, BPDB in 2002.

Effort undertaken by BPDB, is giving positive results. BPDB is aiming at the introduction of the whole TQM concept across the board by 2007. BPDB has a training policy which also includes that objective. To be effective and successful it is necessary to make a vigorous systematic effort in this line. Assistance for systematic integration of quality management organization wide, improvement of O&M of generation and distribution and thoroughgoing standardization is urgently necessary which is the focus of this project. After BPDB becoming a holding company, the established management system will be succeeded to its subsidiaries and support the Power Sector Reform ab intra.

6. Outline of the Project

(1) Overall Goal

(Development effect expected as a result of achievement of the "Project Purpose" in several years after the end of the project period)

Stable and efficient generation and distribution of electricity by BPDB

(2) Project Purpose

(Objective expected to be achieved by the end of the project period. Elaborate with quantitative indicators if possible)

1. BPDB achieves quality assurance in generation, distribution and other works through the daily management based on the standards established in this project.
2. BPDB's management capability is improved with involvement of all employees given clear target in each stage, strengthened management makes quality assurance system more desirable and sustainable one.

(3) Outputs

(Objectives to be realized by the "Project Activities" in order to achieve the "Project Purpose")

1. TQM activities will be disseminated and will be developed in the appropriate and sustainable way by the establishment of training system and development of trainers by the indication and advice of expert.
2. Establish management capability and standardization in the power plants and distribution units and all other works. As a result, decrease of unscheduled shutdowns, sufficient utilization of installed capacity, reduction of system loss and increase in sales/revenue will be realized in the end.

(4) Project Activities

(Specific actions intended to produce each "Output" of the project by effective use of the "Input")

TQM consists of a lot of components from top to bottom and involvement of all employees is vital. This project will orient TQM promotion activities to the proper direction and emphasize training for trainers and establishment of Quality Assurance System for the benefit of autonomous development of TQM.

1. Orientation:

Appropriate indication and advices for TQM activities will be given by Japanese experts, especially focused on the following issues.

1. Guidelines for the formulation of Policy Management and Daily Management.
2. Guidelines and information (literatures, books, magazines, etc.) as regards comprehensive education about QC circle activities.

2. Training:

1. Carry out a Training Needs Assessment, Develop curriculum and training materials and organize at least most important programs to enhance required skill.
2. Develop training capability through development of trainers. To develop trainers in the fields of TQM in generation and distribution.
3. Organize Training Courses on TQM to cover relevant personnel of BPDB to implement such courses in BPDB.
4. Manage the country-focused training, counterpart training and so on.
5. Modernization of the Regional Training Centre (Tongi, Chittagong, Rajshahi and Ghorashal) Training Centre.

3. Quality Assurance:

1. To formulate standards for O&M in generation, distribution and others.
2. To develop and implement a Quality Assurance System in one selected generation facility and one distribution circle as a model.

- (5) Input from the Recipient Government
(Counterpart personnel (identify the name and position of the Project manager), support staff, office space, running expenses, vehicles, equipment, etc.)
 Counterpart: Chairman/ Member-Administration, BPDB
 Working counterpart: Director-TQM promotion office, BPDB
 Office Space: BPDB will provide adequate office space with telephone and furniture and take necessary security measures before the project is set-up.
- (6) Input from the Japanese Government
(Number and qualification of Japanese experts, training (in Japan and in-country) courses, seminars and workshops, equipment, etc.)
1. One long-term Japanese expert on TQM
 2. One long-term Japanese coordinator (well conversant in English)
 3. Short-term Japanese experts on Policy Planning, O&M of Generation, O&M of Distribution, Finance & Accounts etc. (They must have strong TQM background.)
 4. Financial resource to implement above mentioned programs.
 5. Vehicle for field trip.
 6. Equipment to upgrade training facilities of BPDB.
7. **Implementation Schedule**
 Month August 2005 to July 2008
8. **Implementing Agency**
(Budget, staffing, etc.)
 Bangladesh Power Development Board
9. **Related Activities**
(Activities in the sector by the recipient government, other donors and NGOs)
 Same as No. 5
10. **Gender Consideration**
(Any relevant information of the project from gender perspective.)
 Although this project does not have a direct impact but as mentioned in I-PRSP the provision of infrastructure support such as gas and electricity in the household sector is also important for woman to undertake income generating activities.
11. **Environmental and Social Considerations**
(Please fill in the attached screening format.)
12. **Beneficiaries**
(Population for which positive changes are intended directly and indirectly by implementing the project and gender disaggregated data, if available)
 BPDB and the clientele of BPDB
13. **Security Conditions**
 In general, good.
14. **Others**

8. 収集資料リスト

BPDB TQM Promotion Office

番号	タイトル	発行元	発行年	備考
1	STATUS OF TQM PROMOTION ACTIVITIES IN BPDB(Presentation 資料)	TQM Promotion Office	JUNE 2006	Papers
2	Annual Action Plan for TQM Promotion in BPDB(FY2004 – 2005)			Papers
3	質問票			Papers
4	Engineering Academy, Kaptai, BPDB Annual Training Programme for the year 2006-2007			
5	Annual Training Programme for the year 2005-2006			
6	Smart Quality Control Circle(Case Study)			Blue, book
7	Monthly progress report(Up to April'06) on TQM activities in the BPDB			Blue, book
8	TQM text book			White, book
9	Annual Report(2003-2004)	Bangladesh Power Development Board		Papers (Copy)

BPDB Mymensingh 配電事業所

番号	タイトル	発行元	発行年	備考
1	Commercial Operation Statistics(Executive Summary) Provisional	GENERAL MANAGER COMMERCIAL OPERATION BPDB, DHAKA	APRIL - 2006	Book
2	- Ditto -	- Ditto -	MARCH - 2006	Ditto
3	- Ditto -	- Ditto -	FEBRUARY - 2006	Ditto
4	- Ditto -	- Ditto -	DECEMBER - 2005	Ditto
5	- Ditto -	- Ditto -	NOVEMBER - 2005	Ditto
6	- Ditto -	- Ditto -	OCTOBER - 2005	Ditto
7	- Ditto -	- Ditto -	SEPTEMBER - 2005	Ditto
8	- Ditto -	- Ditto -	AUGUST - 2005	Ditto
9	MONTHLY INSPECTION REPORT OF DISTRIBUTION LINES	マイメインシ配電サークル		File
10	DISTRIBUTION TRANSFORMER LOAD BALANCING REPORT	マイメインシ配電サークル		File
11	132&33kV Existing and Proposed Network System(6-Town Power Distribution Development Project, Mymensingh)	Ditto		Grid Figure
12	SINGLE LINE DIAGRAM OF DISTRIBUTION NETWORK UNDER CENTRAL ZONE BPDB, MYMENSINGH	Ditto		Grid Figure

13	TQM ACTIVITIES	CHIEF ENGINEER CENTRAL ZONE POWER DEVELOPMENT BOARD MYMENSINGH	15-6-06	File
14	EQUIPMENT HISTORY (Name of The S/S: Akua) and Inspection & Maintenance Report			File
15	GENERAL REGULATION AND STANDARD OPERATING CODE			
16	Salient Feature of Distribution Central Zone, PDB, Mymensingh			Book, white
17	Accounts receivable as on 31/3/2006 GOV.SEM GOV, Autonomous Bodies & Corporations	Superintending Engineer Operation and Maintenance Circle Power Development Board Mymensingh	31/3/2006	Book, white
18	Manpower Under, Distribution Central, PDB, Mymensingh	PDB, Mymensingh	2006	
19	Organization Chart of Chief Engineer, Distribution, Central Zone, PDB, Mymensingh	Ditto	2006	
20	Organization Chart of Superintending Engineer, O&M Circle, PDB, Mymensingh	Ditto	2006	
21	Organization Chart of Superintending Engineer, O&M Circle, PDB, Tangail	PDB, Tangail	2006	

BPDB Haripur 発電所

番号	タイトル	発行元	発行年	備考
1	Haripur 100MW PS BPDB Narayangonj.(Up to May, 2006)	Haripur PS	May, 2006	設備諸元表
2	Rehabilitation Work Schedule (with Target completion date)		5th March, 2006	リハビリ工程表
3	Evaluation Report on the performance of Haripur PS	Haripur PS	2005	発電実績記録含む
4	Organogram for Haripur 100MW PS		2006	組織表
5	Check list for "Routine Check During Operation of GTG"	Haripur PS		運転チェックリスト
6	Check list for "Ready to Start" Condition for Obtaining "Ready to Start" Status of G/T Units	Haripur PS		運転チェックリスト
7	Management Report on the Audit of Accounts for the year ended June30,2005	Haripur PS	30th June, 2005	会計監査報告書

BPDB Baghabari 発電所

番号	タイトル	発行元	発行年	備考
1	BAGHABARI POWER STATION PROPOSED ORGANOGRAM	バカバリ発電所		
2	Monthly report of Total Quality Management, Baghabari Power Station,		December '2005	Paper
3	CALCULATION FOR BAGHABARI POWER STATION (SBU)"CAPACITY			Paper

	PAYMENT”			
4	PRESENT STATUS OF BAGHABARI POWER STATION		01.06.2006	Paper
5	Generation of Baghabari Power Station		31/05/2006(May/2006)	Paper
6	MONTHLY OPERATIONAL DATA OF BAGHABARI POWER STATION, UNIT1&2(READING AT 24:00 HRS OF THE LAST DAY OF THE MONTH)FOR THE MONTH OF:May/2006			Paper

PGCB

番号	タイトル	発行元	発行年	備考
1	STATUS OF POWER SECTOR TRANSMISSION	PGCB	JUNE 16, 2006	
2	Minutes of 26th Meeting on TQM	Office of the Managing Director, GMD, Dhaka(East)	15/05/06	
3	単線結線図 (ハリプール変電所)			
4	Annual Report 2005			Papers(Copy)
5	Minutes of 26 th Meeting on TQM (7 th May,2006)	PGCB	15 th May,2006	Office of the Managing Director, GM D, Dhaka

WZPDCL

番号	タイトル	発行元	発行年	備考
1	Outline of Current WZPDCL(Provisional Name)		17-18 JUN 06	質問票付
2	Situation of trimming trees(S&DII)			File
3	QC サークルケーススタディー (S&D 1)	Nil Komol		Blue, book
4	Ditto	Dolonchapa		Green, book
5	Office of the Executive Engineer sales & Distribution Division-1 WZPDCL 1, SHER-E-BANGLA ROAD KHULNA			Blue, file
6	West Zone Power Distribution Co Ltd Khulna(WZPDCL) Progress Report on TQM Activities.			Light blue, file
7	Distribution Training Center (DTC), WZPDCL KHULNA			Light blue, file
8	Regional Training Center WZPDCL KHULNA			Green, book
9	Brief on West Zone Power Distribution Co. Ltd Khulna		Tue 23 Nov 04	Blue, book
10	Annual Report 2004-2005			Book
11	Ditto(2002-2003)			Book
12	Power Purchase Agreement(Provisional)	Baghabari Power Station Operation as Strategic Business		Paper

		Unit(SBU)		
13	Submission of Answer to Questionnaire for PCM Workshop	17 June 2006		Green, file
14	Revenue & Operational Statement for the period March & April - 2006	Operational & Maintenance Circle WZPDCL, Jessor		Paper

その他

番号	タイトル	発行元	発行年	備考
1	Bangladesh Energy Training Program Workshop on Maintenance Management	Sponsored by USAID, Dhaka Mission Organized & Conducted by IIE / Energy Group of USA in Collaboration with Centre for Management Development	April 2004	Book
2	Orientation Program for PGCB	Ditto		Book
3	Ditto (ベンガル語)	Ditto		Book
4	Small Group Activities for Improving Performance	Ditto	September 2003	Book
5	Bangladesh Power Development Board Training Policy	Centre for Management Development	29 January, 2003	Papers
6	10th National Annual Quality Convention	Bangladesh Society for Total Quality Management Real Estate & housing Association of Bangladesh, Bangladesh AOTS Alumni Society Japan Bangladesh Chamber of Commerce & Industry	August, 2005	Green,Book
7	Reading Materials for The Training of Quality Control Circles in manufacturing enterprises	Centre for Management Development(C MD)		Papers
8	QC サークル	Ditto		Green,book
9	5 S	Ditto		Ditto
10	Technical Assistance to the People's Republic of Bangladesh for the Corporatization of the Bangladesh Power Development Board (Financed by the JapanSpecial Fund)	ASIAN DEVELOPMEN T BANK	August 2005	TAR: BAN 39141
11	TECHNICAL ASSISTANCE (Financed by the Japan Special Fund) TO THE	ASIAN DEVELOPMEN	December 2004	TAR: BAN 36268

	PEOPLE'S REPUBLIC OF BANGLADESH FOR PROMOTING PRIVATE SECTOR PARTICIPATION IN THE ENERGY SECTOR	T BANK		
12	PROJECT APPRAISAL DOCUMENT ON A PROPOSED IDA CREDIT IN THE AMOUNT OF SDR 4.9 MILLION (US\$7.1 MILLION EQUIVALENT) AND A PROPOSED IDA GRANT IN THE AMOUNT OF SDR 5.8 MILLION (US\$8.4 MILLION EQUIVALENT) TO THE PEOPLE'S REPUBLIC OF BANGLADESH FOR A POWER SECTOR DEVELOPMENT TECHNICAL ASSISTANCE PROJECT	WORLD BANK	May 7,2004	Report No: 28848-BD
13	The 3rd Special Assistance for Project Implementation(SAPI) for The expansion of Haripur Power Station, Final Report,	SAPI Team for Japan Bank for International Cooperation	March 2001	
14	Ditto	Ditto	Ditto	Alternative Plan for conversion to Combined Cycle Plant
15	JICA バングラデッシュ国 H14 年度電力セクター強化支援専門家派遣<TQM>簡易報告資料	東京電力 本田道紀	平成 14 年 11 月 26 日	Papers
16	Total Quality Management(TQM) Promotion Plan(Draft)	TQM Promotion Office Bangladesh Power Development Board	November 26, 2002	Papers
17	「ハリプール発電所拡張事業」組織運営・財務関係調査 (2ndSAPI)			Papers
18	Role of Power Cell		June, 2006	Papers
19	Energy & Power ANNIVERSARY (SBU : A Real Reform for Sustainable Development)		2004	Papers

事前調査開始前

番号	タイトル	発行元	発行年	備考
1	Bangladesh Power Sector Development Plan and Strategies	Power Division Ministry of Power, Energy & Mineral Resources Government of the peoples' Bangladesh	January 2004	
2	Annual Report	Bangladesh Power Development Board	2002-2003	
3	Ditto	Ditto	2001-2002	

4	Ditto	PGCB	2003	
5	Ditto	Ditto	2004	
6	JHATIKA WUALITY CIRCLE, Mechanical Maintenance Division, Baghabari power Station BPDB. Baghabari. Sirajgonj		14.09.2004	
7	JOTI CIRCLE, Electrical Maintenance Division(SBU), Name of the Project:”Repairing of 132 kV Isolator Control Box”, Savings from the Project = TK.127,700.00		14.09.2004	
8	-Ditto- Name of the Project, “Repairing of Gas Control Valve”, Savings from the Project=TK.416,494.00			
9	Target – Achievement Report S&D Div.-1 PDB. Bogra, prepatred by (Md. Enayat Karim Executive Engineer Sales & Dist, Division-1 PDB, Bogra ID No. 1-0344			
10	2 Years of Power Sector & Future Plan	Power Division Ministry of Power, Energy & Mineral Resources	October, 2003	
11	Case Study			
12	バングラデッシュ国トータルクオリティマネジメント (TQM) による電力セクター支援プロジェクト、プロジェクト事業進捗状況報告書	東京電力株式会社	平成 17 年 1 月	
13	平成 14 年度 バングラデッシュ国 電力セクター強化支援 専門家派遣 総合報告書 個別報告書	専門家氏名 川井正俊 (配電保守) 本田道紀 (TQM)	(平成 14 年 12 月)	
14	平成 13 年度 バングラデッシュ国 電力セクター強化支援 専門家派遣 総合報告書 個別報告書	専門家氏名 岩井亨二 (配電保守) 古越仁 (TQM)	平成 14 年 3 月	
15	バングラデッシュ国トータルクオリティマネジメント (TQM) による電力セクター支援プロジェクト支援プロジェクト、業務完了報告書	独立行政法人 国際協力機構 経済開発部	平成 17 年 3 月	
16	バングラデッシュ 電力セクター調査	海外経済協力基金、委託先、東京電力株式会社	平成 11 年 8 月	
17	バングラデッシュ人民共和国 「ハリプール発電所拡張事業」に係わる案件実施支援調査 (第 3 次調査)、最終報告書 (要約)	東京電力株式会社	平成 13 年 3 月	

