添付資料２

本邦研修に係る資料

添付資料２－１

研修員リストならびにカリキュラム

LIST OF PARTICIPANTS
POWER SECTOR

バングラデシュ電力セクター支援

独立行政法人
国際協力機構

January 23, 2005 ～ February 19, 2005

1	 BANGLADESH バングラデシュ	Mr. Debashis Das デバシス ダス D0411606 (TQM)	Mailing Address Titas-c-10/4 Jamal Khan PDB Officer's Colony, Chittagong-1000, Bangladesh E-mail: managerhat@yahoo.com Manager GMD, Hattazari Power Grid Company of Bangladesh Ltd.
2	 BANGLADESH バングラデシュ	Mr. Baig Nasir Jahan ベイグ ナシール ジャハン D0411604 (TQM)	Mailing Address Assistant Director (Security & Investigation) Bangladesh Power Development Board Central Stores, Tongi Post: Monnonagar District: Gazipur, Bangladesh Assistant Director (Security & Investigation) Bangladesh Power Development Board
3	 BANGLADESH バングラデシュ	Mr. Md. Abdul Wahab Khan Md. アブドゥル ワハブ カーン D0411609 (TQM)	Mailing Address 496 North Kafrul Dhaka Cantt Dhaka - 1206, Bangladesh E-mail: Deputy Director Regional Training Center, Tongi Directorate of Training Bangladesh Power Development Board
4	 BANGLADESH バングラデシュ	Mr. Anisul Islam Mazumder アニスル イスラム ムジュムダール D0411611 (TQM)	Mailing Address Deputy Director TQM Promotion Office Bangladesh Power Development Board Dhaka, Bangladesh E-mail: Deputy Director TQM Promotion Office Bangladesh Power Development Board
5	 BANGLADESH バングラデシュ	Mr. Bazlul Munir バズルール ムニール D0411608 (TQM)	Mailing Address PGCB Head Office Red Crescent Concord Tower(6th floor) 17, Mohakhali C/A Dhaka-1212, Bangladesh E-mail: pgcb@citechco.net konapara2000@yahoo.com Manager Power Girid Company of Bangladesh Limited
6	 BANGLADESH バングラデシュ	Dr. Md. Rezaul Bashar Siddique Md. レザウル バシャール スィディキ D0411610 (TQM)	Mailing Address 200, Dakhin Khan, Anwarbag Uttara, Dhaka-1230, Bangladesh E-mail: mrbsiddique@yahoo.com Senior Assistant Secretary Power Division, Ministry of Power,Energy and Mineral Resources Bangladesh Secretariat

LIST OF PARTICIPANTS
POWER SECTOR

バングラデシュ電力セクター支援

JICA
独立行政法人
国際協力機構

January 23, 2005 ～ February 19, 2005

7	 BANGLADESH バングラデシュ	Mr. Md. Mokbul Ahmed Md. モクブル アフメッド D0411605 (Power Distribution)	Mailing Address: Additional Director Commercial Operation West Zone Power Distribution Co., Ltd. Biddut Bhaban, Boira Main Roan, Khulna, Bangladesh E-mail: Additional Director Commercial Operation West Zone Power Distribution Co., Ltd.
8	 BANGLADESH バングラデシュ	Mr. Ratan Kumar Biswas ラタン クマール ビスワス D0411613 (Power Distribution)	Mailing Address: Executive Engineer Distribution Division, Sylhet Bangladesh Power Development Board Chittagong, Bangladesh E-mail: Executive Engineer Distribution Division Bangladesh Power Development Board
9	 BANGLADESH バングラデシュ	Mr. Md. Osiur Rahman Md. オシウル ラフマン D0411612 (Power Distribution)	Mailing Address: C-12/1, Urmi, BPDB Colony, Jamal Khan Chittagong, Bangladesh E-mail: Executive Engineer, Sales and Distribution Division, Solashahar, Bangladesh Power Development Board
10	 BANGLADESH バングラデシュ	Mr. Md. Nizamul Haque Sarker Md. ニザムル ハク シャルカール D0411614 (Power Distribution)	Mailing Address: Assistant Engineer Energy Auditing Unit Division, Bangladesh Power Development Board 137, Gangadas Guho Road, Mymensingh, Bangladesh E-mail: Assistant Engineer Energy Auditing Unit Division, Mymensingh Bangladesh Power Development Board

平成16年度（国別研修）バングラデシュ電力セクター支援　研修日程（最終）【全体日程案】

（合同プログラム）		
月　日	曜	研　修　内　容
1月23日	日	来日指定日
1月24日	月	0930-1100【説明】ブリーフィング 1100-1200【説明】プログラムオリエンテーション 1300-1700【講義】電力会社におけるTQM活動
1月25日	火	1000-1600【実習】PCM（プロジェクト・サイクル・マネジメント） 1600-1700【説明】アクションプラン作成説明
1月26日	水	1030-1200【講義】東京電力概要 1400-1630【講義】企業倫理

（個別プログラム）			
		TQM5名	配電5名
月　日	曜	研　修　内　容　（講師：敬称略）	
1月27日	木	1000-1600【実習】財務分析理論と演習	合同プログラム
1月28日	金	0930-1200【講義】渋谷支社のISO活動 1400-1600 【見学】電力館	0930-1430【講義】配電設備の信頼度向上策 1530-1700【見学/説明】電気の史料館
1月29日	土	休	休
1月30日	日	休	休
1月31日	月	0930-1200【講義】火力発電所のO&M、TQM活動 1430-1600【見学】品川火力発電所	0930-1200【講義/見学】都市部再開発地域における地中配電設備の概要 1300-1500【講義/見学】臨海副都心の設備実態調査 1500-1700【講義/見学】配電機材技術センターにおける業務内容
2月1日	火	0930-1200【講義】東京電力の研修システム 1300-1630【講義】QC手法（1）	合同プログラム
2月2日	水	0930-1630【講義】QC手法（2） PM 【実習】理解度確認テスト	合同プログラム
2月3日	木	0930-1630【実習】QC手法（3）	合同プログラム
2月4日	金	0930-1600【実習】QC手法（4）	合同プログラム
2月5日	土	休	休
2月6日	日	休	休
2月7日	月	0930-1630【実習】ヒューマンファクター	1000-1600【講義/見学】変圧器・開閉器の製造および品質管理 郊外の6kV架空設備実態調査
2月8日	火	0930-1630【実習】 ヒューマンファクター	1000-1600【講義/見学】計器の製造・検定・修理ならびに品質管理
2月9日	水	1300-1630【見学】原子力発電所見学	1000-1600【講義/見学】6kV配電設備の活線工事、無停電工事
2月10日	木	0930-1200【見学】原子力発電所見学	0930-1200【講義】ノンテクニカル・ロス事例紹介 1300-1600【講義】検針・料金発行・集金の流れ
2月11日	金	休	休
2月12日	土	休	休
2月13日	日	休	休
2月14日	月	0930-1630【実習】管理の基礎研修	合同プログラム
2月15日	火	0930-1630【実習】管理の基礎研修	合同プログラム
2月16日	水	0930-1200【講義/見学】東内幸町変電所見学 1300-1630【自習】アクション・プラン作成	アクション・プラン作成

（合同プログラム）		
月　日	曜	研　修　内　容
2月17日	木	0930-1630【自習】アクション・プラン作成
2月18日	金	0930-1200【自習】アクション・プラン・リハーサル 1330-1600アクション・プラン発表会 1600-1700評価会 1700-1730閉講式 1730-1900合同閉講パーティー
2月19日	土	帰国指定日

添付資料２－２

研修コース評価

集計年月日：2005/2/16

クエスチョネア集計/Questionnaire

研修コース名	バングラ電力セクター支援 Power Sector for People's Republic of Bangladesh
受入期間	2005 / 1 / 23 ～ 2005 / 2 / 9
対象人数	10 名

Ⅰ．研修コース評価 Evaluation of the training course

1．設定された到達目標とニーズの適合について

Did you find the course objectives appropriate according to the needs of your country or organization?

← appropriate				inappropriate →	X
5	4	3	2	1	
4	5		1		

回答が 1、2 の場合、改善を要す点 If your answer is 1 or 2, what kind of improvement should be made?

- For “Power Distribution” training course some “Electrical protection devices engineering” subject (such as relay protection) proposed to introduce. (Biswas)

2．カリキュラム評価 Evaluation of the curriculum

(1) 研修プログラムで最も有益であった研修項目

Please name the most beneficial subject in the training program.

- Role of Managers/Basic Management Training (Das, Anisul, Siddique, Mokbul, Rahman)
- QC Method (Baig. Khan, Anisul)
- Total Quality Management(TQM), QC Method ①&② (Anisul)
- Human Factor (Munir)
- Present Activities of TEPCO (Biswas)
- Project Cycle Management (Sarker)

(2) 今後追加すべき研修項目

Please write the subject that should be added to the training program.

- To observe the QC activities in Japan. Trainees may be allowed to observe the circle meetings by physical attendance or by video. (Das)
- Kaizen (Baig)
- Creative and innovative ideas for solving problems. (Khan)

- Behavior Modification (Munir)
- Financial Management (Siddique)
- Japanese Language Course (Mokbul, Rahman)
- In power sector "Distribution" training course some Electrical protection Device – subject may be added. (Biswas)
- Human Resource Management (Sarker)

(3) 今後削除すべき研修項目

Please write the subject that should be eliminated from the training program.

N/A

３．研修期間について Did you find the duration of the program appropriate?

← appropriate				inappropriate →	X
5	4	3	2	1	
1	3	1	5		

回答が 1、2 の場合、その理由 If your answer is 1 or 2, please describe the reasons.

- 1. PCM should be for at least – 3 days. 2. Lecture on "Corporate ethics" should be for – 2 days.
  3. Human factor engineering should be for – 3 days. 4. Role of Managers should be for – 4 days.
  5. Visit facilities/factories/substations, practicing TQM & Corporate ethics should be included more. (Das)
- Role of Manager should be 5days, Project Cycle Management must be minimum 2 days, financial analysis needs minimum 2 days. (Munir)
- PCM – 3days; Financial Analysis – 3days; Basic Management Training – 5days; Study of Technical & Non Technical Losses – 2days. Total 36days. (Mokbul)
- PCM – 3days, Financial Analysis – 3days, Basic Management Training – 5days, Technical & Non Technical Losses – 2days. Total 35days (Rahman)
- Basic Management course = 5 days; PCM = 3 days; Financial analysis = 3 days Study of Technical & Non Technical Losses = 3 days Required. (Sarker)

４．講師の講義プレゼンテーションについて

What is your evaluation of the presentation by the lecturers in the program?

← good				poor →	X
5	4	3	2	1	
3	7				

回答が 1、2 の場合、その理由 If your answer is 1 or 2, please describe the reasons.

- Lecturers are very sincere and cooperative. But if all the lecturers can deliver in English, the direct communication may enhance the outcome of training. (Das)

５．テキスト、研修機材、講義施設について

What is your evaluation of the textbooks, training equipment, and lecture facilities of the program?

	← good				poor →	X
	5	4	3	2	1	
テキスト/ textbooks	6	4				
研修機材/ training equipment	7	3				
講義施設/ lecture facilities	7	3				

回答が 1、2 の場合、その理由　If your answer is 1 or 2, please describe the reasons.

６．研修運営管理について

What is your evaluation of the general administration and management of the training program?

	← good				poor →	X
	5	4	3	2	1	
ＪＩＣＡ	6	4				
受入機関/ training institution	5	5				
ｺｰﾃﾞｨﾈｰﾀｰ/ coordinator	10					

７．期待充足度　Did the training meet your expectations?

← satisfied				unsatisfied →	X
5	4	3	2	1	
1	9				

回答が 1、2 の場合、その理由　If your answer is 1 or 2, please describe the reasons.

８．到達目標達成度　Evaluation of level of objective accomplishment

(1)　到達目標１　Objective 1

To deepen the understanding of the basic knowledge and theory in each specific field(TQM or power distribution) of Power sector

到達目標１の達成度　Did you achieve objective 1?

	← 十分達成できている fully achieved				達成していない → unachieved	X
	5	4	3	2	1	
研修実施前 before the training			8	1	1	
研修実施後 after the training		10				

回答が 3、4、5 の場合、今回の研修で得た情報・知識は、業務に活用可能か。

If your answer is 3,4,or, 5, do you find the information and knowledge obtained through the training program

useful to your job in your country?

← 十分活用出来る very useful				活用できない → not useful	X
5	4	3	2	1	
	9	1			

回答が 4、5 の場合、業務おける具体的な活用内容及び方法

If your answer is 4 or 5, please describe how it applies to your job.

- I found the information and knowledge of TQM activities, corporate ethics of conduct, problem solving by QC Tools.　These will be helpful in my place for problem solving. (Das)
- Through QC circle activities. (Baig)
- By applying QC method we can find problems and can find the appropriate solution. (Khan)
- I will dispatch the information & knowledge obtained through the training to my colleagues & my subordinates by sharing of works & by taking training classes & also by practices.　(Anisul)
- I will be able to train other persons in TQM and human factor. (Munir)
- Through QC circle activities (Siddique)
- Modern Technology & Thoughts acquired and Motivational & Behavioral Science should be applied in my workplace. (Mokbul)
- As the TEPCO employees work in their field, I shall try to apply myself and BPDB's employees in our office field. (Biswas)
- Modern technology and thoughts gained and motivation and behavioral science will be applied in my job.　(Rahman)

回答が 1、2 の場合、その理由　If your answer is 1 or 2, Please describe the reasons.

(2) 到達目標２ Objective 2

To acquire Japanese knowledge and skills for improvement of the power sector

到達目標２の達成度 Did you achieve objective 2?

	← 十分達成できている fully achieved			達成していない → unachieved		X
	5	4	3	2	1	
研修実施前 before the training			6	2	1	1
研修実施後 after the training		10				

回答が 3、4、5 の場合、今回の研修で得た情報・知識は、業務に活用可能か。

If your answer is 3,4,or, 5, do you find the information and knowledge obtained through the training program

useful to your job in your country?

← 十分活用出来る very useful				活用できない → not useful	X
5	4	3	2	1	
	10				

回答が 4、5 の場合、業務おける具体的な活用内容及び方法

If your answer is 4 or 5, please describe how it applies to your job.

- I got some ideas of development in Japan. Time management, Human factors Engineering, Role of Managers will be very useful to improve my job situation. (Das)
- Implementing TQM, use in training class and applying knowledge & skill in official work. (Baig)
- By applying Management skill we can create our workplace more effective. (Khan)
- I will apply it through taking training & in my job practices. (Anisul)
- The way I used to think is changed, I feel more positive to handle any problem. (Munir)
- Through applying this knowledge in planning and implementing stages of development activities. (Siddique)
- TQM activities in Power Sector Utilities, Modern Management Techniques, Techniques of using QC Tools with motivation & Human Relations will be applied. (Mokbul)
- The Japanese are hard workers, sincere and dutiful in their duties. I shall try to do so in our country. (Biswas)
- TQM activities in Power Sector Utilities, Modern management technique, Technique of using QC Tools with motivation and human relations will be applied. (Rahman)
- Management technique & TQM Activities are to applied in my work place. (Sarker)

回答が 1、2 の場合、その理由　If your answer is 1 or 2, Please describe the reasons.

(3)　到達目標３　Objective 3

To make an action plan of the organization to develop the power sector in Bangladesh in cooperation with JICA experts and to play a key role in this field

到達目標３の達成度　Did you achieve objective 3?

	← 十分達成できている fully achieved			達成していない → unachieved		X
	5	4	3	2	1	
研修実施前 before the training			5	4	1	
研修実施後 after the training		9	1			

回答が 3、4、5 の場合、今回の研修で得た情報・知識は、業務に活用可能か。

If your answer is 3,4,or, 5, do you find the information and knowledge obtained through the training program

useful to your job in your country?

← 十分活用出来る very useful				活用できない → not useful	X
5	4	3	2	1	
	10				

回答が 4、5 の場合、業務おける具体的な活用内容及び方法

If your answer is 4 or 5, please describe how it applies to your job.

- I shall prepare an action plan for Environmental management (short term) and a 3-year action plan to develop management skill of the officers under me and to motivate the staffs for achieving PGCB's objectives. (Das)
- Official action plan can be made in light of this action plan. (Baig)
- JICA expert may help to introduce and enhance TQM Management in PDB. (Khan)
- I will apply it by taking initiative through my authority. (Anisul)
- By importing my knowledge obtained to others and motivation. (Munir)
- Knowledge obtained through the training will be useful in identifying the root cause of problem and countermeasures of the problem. Management skill will help in implementing the countermeasures. (Siddique)
- Motivational Tools, Interpersonal Relationship, OJT, Off-JT to be applied, Target to be fixed and information to the people & Monitoring. (Mokbul)
- 1.Motivating the consumers to pay the bills by the meter readers like TEPCO. 2. PDCA system is to be introduced. 3. Time management is to be started. (Biswas)

- Motivational tools, interpersonal relationship, OJT, Off JT to applied. Target to fixed and inform people and monitoring. (Rahman)
- Use motivational tool to buildup interpersonal relationship. OJT Training should be added. (Sarker)

回答が 1、2 の場合、その理由 If your answer is 1 or 2, Please describe the reasons.

Ⅱ.その他 Others

1．JICA のブリーフィングについて　What is your evaluation of JICA's briefing?

← good				poor →	X
5	4	3	2	1	
4	6				

回答が 1、2 の場合、その理由　If your answer is 1 or 2, please describe the reasons.

2．ジェネラルオリエンテーションについて　What is your evaluation of the general orientation?

← good				poor →	X
5	4	3	2	1	
2	8				

回答が 1、2 の場合、その理由　If your answer is 1 or 2, please describe the reasons.

3．日本の印象　What kind of impression of Japan did you get through your stay here?

← favorable				unfavorable →	X
5	4	3	2	1	
7	3				

(1) 回答が 1、2 の場合、その理由　If your answer is 1 or 2, please describe the reasons.

(2) 回答が 4、5 の場合、その理由　If your answer is 4 or 5, please describe the reasons.

- People are sincere in work, committed to profession, polite in behaviour, disciplined. They bear benevolent mentality and also friendly so I feel better staying here. (Baig)
- Japanese are most co-operative and committed to themselves as well as to world community. (Khan)
- In Japan everything goes in a discipline way. People are very gentle, co-operative & with very good manner. (Anisul)
- Simply fantastic. Everybody I met is positive, in thinking and in application. Time management is outstanding. People's deep concern about environment is outstanding. (Munir)
- Japanese people are very sincere, cooperative, punctual, laborious and committed to their works and responsiblities. (Siddique)
- Japanese are very gentle, very much co-operative, well-disciplined. Environment friendly, Socially responsible as well as responsible to the world communities.

(Mokbul)

- The people of Japan are very getnle and hard worker. They perform their duties with responsibilities. (Biswas)
- Japanese are very gentle, Very much cooperative, well disciplined. Environemt friendly, socially responsible as well responsible to the world communities. (Rahman)
- They are very much gentle & well disciplined, socially responsible as well as responcible to the world communities. (Sarker)

４．その他コメント　Any other comments

- As per my observation first time in Japan, the Japanese are very gentle & helpful. I like to thank to the JICA experts, TEPCO peoples and TIC staffs for their kind co-operation which make me enjoyable to stay in Japan. I am grateful to each of them. (Das)
- Total training environment is excellent. Our coordinator is extraordinary in all respect. (Baig)
- Course coordinator is extraordinary with all round performances. (Anisul)
- Our coordinator Marumo San was outstanding in all respects. Besides, all the persons who gave lectures were very knowledgeable and cooperative which was beyond my expectation. Specially the lectures on human factor, QC technique and Role of managers were very interesting and I came to know many new ideas. Thanks to JICA for selecting me for the program. Thanks to everybody concerned. Thanks to the staffs of TIC for their help. Thanks to all. (Munir)
- Training coordinator, Program officers of JICA & Instructors were very cordial, cooperative and helpful. The arrangement made by JICA for trainees were excellent. Sightseeing should be included in the training program. (Siddique)
- The course co-ordinator is extraordinary in all respect. Highly knowlegeable and highly educated. Excellent in behavior. Even Hida San also. Historical site visit and sightseeing should be added to the course curriculum. Japan is an excellent and well developed country and well disciplined country also. (Mokbul)
- I am grateful to JICA & people of Japan for giving opportunities to see such a beautiful country & to meet with them. (Biswas)
- The course coodinator is extraordinary and all round in performances. Tradditional site seeing visit to Historical places should be added in course curriculum. Japan is an excellent coutnry. (Rahman)
- Japan is an excellent country with well behaved people impressed me. This nations is devleoped and people are hard working. The course coordinator excellent. (Sarker)

添付資料２－３

アクションプラン発表会資料

2005.2.18

Training Program on Power Sector for the Republic of Bangladesh

Action Plan Presentation

1. Time: February 18, 2005　13:30-16:00
2. Place: JICA Tokyo International Center-JICA Bangladesh Office
3. Schedule:

13:30-13:35 Delineation about Action Plan Presentation from JICA Tokyo
13:40-14:00 Presentation from respective participant (including Q&A session)
- 13:40-13:52 Mr. Debashis Das(Power Grid Company of Bangladesh Ltd.)
- 13:52-14:04 Mr. Baig Nasir Jahan(Bangladesh Power Development Board)
- 14:04-14:16 Mr. Abdul Wahab Khan(Bangladesh Power Development Board)
- 14:16-14:28 Mr. Anisul Islam Mazumder(Bangladesh Power Development Board)
- 14:28-14:40 Mr. Bazlul Munir(Power Grid Company of Bangladesh Ltd.)
- 14:40-14:52 Dr. Rezaul Bashar Siddique(Ministry of Power, Energy and Mineral Resources)
- 14:52-15:04 Mr. Md Mokbul Ahmed(West Zone Power Distribution Co., Ltd.)
- 15:04-15:16 Mr. Ratan Kumar Biswas (Bangladesh Power Development Board)
- 15:16-15:28 Mr. Md. Osiur Rahman(Bangladesh Power Development Board)
- 15:28-15:40 Mr. Nizamul Haque Sarker(Bangladesh Power Development Board)

15:40- 16:00 Overall Discussion

4. Participants into the Presentation Session

Bangladesh Side:
- (BPDP) Mr. Mominul Huque Bhuiyan, member
- (Admin) Mr. Haider Ali, Director, TQM Promotion Office and about 6 more officials
- (PGCB) Mr. Anisur Rahman, Director (Finance)
- (WZPDCL) Mr. Brig. Gen.
- (Retd.) Mr. Mofizur Rahman, Managing Director and 2 more official
- JICA Bangladesh Office

Japanese Side:
- Tokyo Electric Power Company (TEPCO)
- JICA HDQ, Economic Development Department
- JICA Tokyo, Economic Development Team

List of Participants in tele-conference
On February, 2005 in JICA Bangladesh office

A. Bangladesh Power Development Board (BPDB)

1. Mr. Mominul Haque Bhuiyan
   Member (Admin), BPDB

2. Mr. S. M. Haider Ali
   Director, TQM Office,

3. Mr. Iskandar Ali
   Director, Organization and Method Directorate

4. Mr. M. A . Hasnat
   Deputy Director, TQM Promotion office

5. Mrs. Nasrin Parvin
   Deputy Director, TQM Promotion office

6. Mr. Mazharul Haque
   Executive Engineer, 18-Electricity Distribution Plan
   Sylhet

7. Mr. Abdul Halim
   Executive Engineer, 18-Electricity Distribution Plan
   Mymansingh

8. Mr. Emrul Hossain
   Deputy Director, Regional training Centre
   Tongi

9. Mr. Abdul Majid
   Assistant Chief Engineer
   BPDB, Dhaka

10. Mr. M.S. Akhtarujjaman
    Executive Engineer, Baghabari Power Station
    BPDB, Sirajgong

B. West Zone Power Distribution Company Limited

11. Brig General (Redt) M. Mofizur Rahman
    Managing Director, West Zone Power Distribution Co. Ltd

12. Mr. Abul Kashem
    Assistant Director, West Zone Power Distribution Co. Ltd

C. Power Grid Company of Bangladesh

13. Md. Anisur Rahman
    Director, Finance, PGCB

D. Power Division, Ministry of Power Energy and Mineral Resources

14. Ms. Dilruba Shaheena
    Assistant Chief, Power Division
    MOPE&MR

E. JICA Bangladesh Office

15. Mr. Hirokazu Nakanishi
    JICA Expert in Power Division

16. Mr. Tsuyoshi Kanda
    Deputy Resident Representative
    JICA, Bangladesh

17. Mr. Zulfiker Ali
    Deputy Director, JICA, Bangladesh

18. Ummee Saila
    Program officer, JICA, Bangladesh

WELCOME

PRESENTATION OF ACTION PLAN

POWER GRID COMPANY OF BANGLADESH LTD.
GRID MAINTENANCE DIVISION,HATHAZARI
CHITTAGONG.

PRESENTED BY

Engr Debashis Das

MANAGER

POWER GRID COMNANY OF BANGLADESH LIMITED
GRID MAINTENANCE DIVISION
HATHAZARI,CHITTAGONG.
ID NO:- D-04-11606

COUNTRY FOCUSED TRAINING COURSE IN POWER SECTOR FOR PEOPLE'S REPUBLIC OF BANGLADESH.

TOTAL QUALITY MANAGEMENT (TQM)

- ***SPONSORED BY***:- **JAPAN INTERNATIONAL CO-OPERATION AGENCY (JICA)**
- ***COURSE NO***:- **J-04-20753**
- ***VANUE***:- **TIC & TEPCO FACILITIES**
- ***DURATION***:-**Jan 23,2005-Feb 19,2005**
- ***CONDUCTED BY***:- **TOKYO ELECTRIC POWER CO. INC.(TEPCO)**

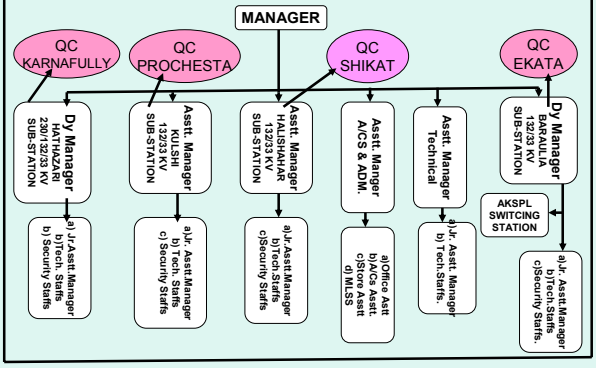
JAPAN.

INTRODUCTION

- **Bangladesh currently has the lowest per capita consumption of energy in South Asia, as well as a large unsatisfied demand. More needs to be accomplished to empower the Bangladesh energy sectors to undertake reform and run efficiently, economically,to effectively meet increasing denand and thereby contribute significantly to the nation's economy.**

TQM is a system that call on all employees to make improvements from customer's viewpoint. At the same time it is a system any motivated employee can participate in. Hence under ODA(official development asssistance) JICA is continuing to provide technical assistance and training to improve the performance of the energy sector, to support self help efforts which will lead to socio -economic progress and a better life for the citizens of Bangladesh.

ORGANIZATIONAL STRACTURE OF
GRID MAINTENANCE DIVISION,HATHAZARI,CHITTAGONG



GMD HATHAZARI AT A GLANCE

SUB- STATIONS

1. 230/132KV HATHAZARI
   230/132KV,150MVA X-FORMERS, 3NOS
   132/33KV,63 MVA X-FORMERS, 2 NOS
2. 132/33KV HALISHAHAR.
   132/33KV,63 MVA X-FORMERS, 2 NOS
   132/33KV,41.7 MVA X-FORMERS, 1 NO
3. 132/33KV KULSHI
   132/33KV,63 MVA X-FORMERS, 2 NOS
4. 132/33KV BARAULIA
   132/33KV,41.7 MVA X-FORMERS, 1 NO
   132/33KV,40 MVA X-FORMER,1 NO
5. 132 AKSPL SWITCHING STATION

- **TRANSMISSSION LINES**
- 230KV ---165 CIR-KM
- 132KV----327 CIR-KM

OBJECTIVES OF THE ASSIGNMENT

- CURRENT SITUATIONS OF THE ORGANISATION AND IDENTIFYING THE PROBLEBS
- WHY AND HOW TQM CAN HELP ORGANISATION TO SOLVE THE ISSUES
- ACTION PLAN FOR IMPLEMENTATION OF TQM ACTIVITES AT WORKING PLACE

PRESENT PROBLEMS

1. PGCB'S" MISSION, VISSION & OBJECTIVES " ARE NOT WELL KNOWN TO MOST OF THE EMPLOYEES.
2. INADEQUATE KNOWLEDGE ABOUT "ASPECT OF MANAGING TASKS"(GOAL SETTING,ORGANING,CO-ORDINATING,DIRECTING & CONTROLLING) AMONG MOST OF THE OFFICERS.
3. INADEQUATE KNOWLEDGE ABOUT,"IMPROVING TASKS "(PROBLEM SOLVING IDEAS) AMONG MOST OF THE OFFICERS
4. INADEQUATE KNOWLEDGE ABOUT"HUMAN RELATIONS "(CAPACITY OF MOTIVATING OTHERS)AMONG MOST OF THE OFFICERS
5. ABSENCE OF WILLINGNESS& ABILITY "TRAINING AND INSTRUCTION"(TO THE SUB ORDINATE) AMONG MOST OF THE OFFICERS
6. LACK OF "CORPORATE ETHICS OF CONDUCT "AMONG MOST OF THE EMPLOYEES.
7. NO PLAN FOR IMPLEMENTATION OF" ENVIROUMENT MANAGEMENT SYSTEM".

PGCB'S MISSION

EFFICIENT AND EFFECTIVE MANAGEMENT OF NATIONAL POWER GRID FOR RELIABLE AND QUALITY TRANSMISSION OF ELECTRICITY THROUGHOUT THE COUNTRY

- **PGCB'S VISSION**
- *ECONOMIC UPLIFTMENT OF THE COUNTRY BY REACHING ELECTRICITY TO ALL THROUGH RELIABLE TRANMISSION*

- **OBJECTIVES**

1. TO REDUCE POWER INTERRUPTION AT 20% PER YEAR.
2. NO UNSERVED LOAD BY THE YEAR 2010
3. TO ENSURE TIMELY EVACUATION OF GENERATED POWER.
4. TO ENSURE STANDARD QUALITY OF POWER INTERMS OF VOLTAGE AND FREQUENCY BY THE END OF THE YEAR 2010.
5. TO REDUCE THE TRANSMISSION SYSTEM LOSS TO 3% BY THE END OF THE YEAR 2007.
6. TO OBTAIN ISO 9001:2000 BY THE YEAR 2005.

MEASURES TO SOLVE THE PROBLEMS

- 1. IN HOUSE TRAINING, DISCUSSIONS & DISPLAYING MISSION, VISSION, OBJECTIVES, AT CONVENIENT PLACES OF DIVISIONAL OFFICE/EVERY SUB-STATION.
- 2. SUPPLYING USEFUL TRAINING DOCUMENTS & EXCHANGE OF IDEAS ON (a)TQM, (b) HUMAN FACTORS ENGNEERING AND (c) CORPORATE ETHICS OF CONDUCT(d) ENVIRONMENT MANAGEMENT SYSTEM TO THE OFFICERS COLLECTED DURING TRAINING AT JAPAN.
- 3. INTRODUCING "7 QC" & "NEW 7QC" TOOLS FOR SOLVING PROBLEMS .
- 4. CONTINUING "QC"ACTIVITIES AT OFFICE & EVERY SUB-STATION AT LEAST TWICE A MONTH TO IDENTIFY AND SOLVE PROBLEMS FOR ACHIVING PGCB'S OBJECTIVES.
- 5. IMPLEMENTATION OF "PDCA" CYCLE ACTIVITIES TO IMPROVE QUALITY OF WORKS(OPERATION & MAINT.) FOR REDUCING "INTERRUPTIONS" AND "SYSTEM LOSS"

ACTION PLAN FOR MANPOWER DEVELOPMENT TO REDUCE INTERRUPTIONS,TRANS.LOSS,

TIME → / ACTIVITIES ↓	2005			2005	2006	2007
	MAR	APR	MAY			
1.IN HOUSE TRAINING,DISCUSSION DISPLAYING MISSION, VISSION, OBJECTIVES AT CONVENIENT PLACES OF DIVISIONAL OFFICE/ EVERY SUB-STATION.						
2.SUPPLYING USEFUL TRAINING DOCUMENTS ON (a)TQM (b)HUMAN FACTORS ENGNEERING (c)CORP. ETHICS(D) ENVIRONMENT MANAGEMENT SYSTEM TO THE OFFICERS PROVIDED BY TEPCO						
3. INTRODUCING "7 QC" & "NEW 7QC" TOOLS FOR SOLVING PROBLEMS THE OFFICERS						
4. CONTINUING "QC"ACTIVITIES AT OFFICE & EVERY SUB-STATION ATLEAST TWICE A MONTH TO IDENTIFY AND SOLVE PROBLEMS FOR ACHIVING PGCB'S OBJECTIVES						
5.IMPLEMENTATION OF "PDCA" CYCLE ACTIVITIES TO IMPROVE QUALITY OF WORKS(OPERATION & MAINT.) FOR REDUCING "INTERRUPTIONS" "SYSTEM LOSS"						
6. PLANTATION/GARDENING ACTIVITIES						

ACTION PLAN FOR ENVIRONMENT MANAGEMENT SYSTEM

OBJECTIVES	EXPENDITURE FY(2003-2004)	GOALS	MEASURES	TIME FOR PREPARATION OF CHECK SHEETS/MOTIVATION	APPLICATION
1.Reduction of Electricity Consumption	TK 37,96393.00	5%Reduction over FY(2003-2004)	a) Switching off unnecessary lights b) Proper operation of Air-Conditioners (Control Room /Switchgear Room/Office Room etc.) c) Use of energy saving lamps d) Avoiding use of electric heaters for cooking.	FEB/05-MARCH/05	FROM APRIL/05
2.Reduction of use of paper/stationary materials	TK 1,13,806.00	5%Reduction over FY(2003-2004)	a) Using back side of papers for draft. b) Avoiding unnecessary copy circulation of letters, reports. c) Sending reports,Instructions etc by e-mail.	FEB/05-MARCH/05	FROM APRIL/05
3.Reduction of use of fuels (fuel price increased about 10% from Decm/05)	TK 2,66,735.00	3%Reduction over FY(2003-2004)	a) Using diesel cars instead of octane/Petrol b) Switching off engine when idling. c) Hiring public transports if economic. d) Reimbursement of actual expenses for official journey depending on situations.	FEB/05-MARCH/05	FROM APRIL/05

ACTION PLAN FOR ENVIRONMENT MANAGEMENT SYSTEM(CONT.)

OBJECTIVES	EXPENDITURE FY(2003-2004)	GOALS	MEASURES	TIME FOR PREPARATION OF CHECK SHEETS/MOTIVATION	APPLICATION
4)Saving gas by reduction of mis-use of Natural Gas for Household purposes	Fixed rate	Saving natural gas	a) Switching Burners just before cooking. b) Switching off Burners just after cooking. c) Not using gas for warming rooms in winter.	FEB/05-MARCH/05	FROM APRIL/05
5) Reduction of uses of water	TK 42,953.00	5%Reduction over FY(2003-2004)	a) Controlling water tape at sub-station,residence b) Repairing of leakage pipes immediately c) Controlling water for Garden uses. .	FEB/05-MARCH/05	FROM APRIL/05

Presentation of Action Plan

Country Focused Training Course on "Power sector for People's Republic of Bangladesh Total Quality Management (TQM) & Power Distribution"

By Baig Nasir Jahan.
Assistant Director (Security & Investigation)
Central Stores.
BPDB,Tongi,Gazipur.
Bangladesh.

In this presentation I shall describe some points what I have learned from this training & existing in Japan and at the same time describe how I shall implement it in my work place, for training purpose as a trainer, for the betterment of our organization.

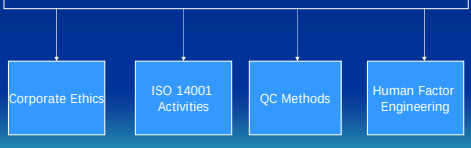
Problems of my work place.

- (A) Time consuming delivery system of materials.
- (B) Non-cooperation to some extent.
- (C) Negligence of duty.

Objectives & Goals.

- (A) Provide better service for our internal customer.
- (B) Ensure ethical behavior in work place.
- (C) Create moral obligation to be dedicated to the organization.
- (D) And finally improve the existing situation of work place.

To fulfill the objectives and goals the following concept will have to be implemented in our work place. Some of those have already been introduced by TQM activities



Corporate Ethics has in practice in our organization. But we have been committed to expedite the real implementation of corporate ethics avoiding 'boil the frog' policy.

- How to implement
  (A) By training.
  (B) Introducing it in 4 QC circles in my work place.

ISO 14001 Activities

- As a part of ISO 14001 activities in our office we ensure proper use of the following items as we have seen at Shibuya Branch office of TEPCO.
- (A) Electric power.
- (B) Tap water.
- (C) Vehicles for official purposes.
- (D) Afforestation facilities.

- How to implement:
  - Create awareness by training and motivation.

QC Methods

We have time consuming material delivery system as mentioned earlier. By using such tools as 7 QC Tools, New 7 QC Tools and Problem Solving Theory, we would be able to find the root causes of problems and countermeasures will be taken to solve the problems.

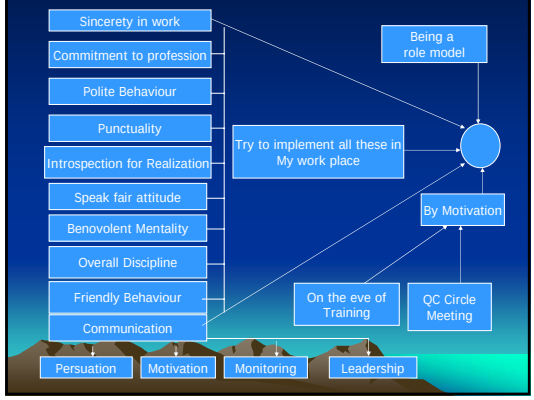
Human Factor Engineering

- Human errors are universal because:

(A) Human perceptions are weak.
(B) Cognition is unreliable.
(C) Memory is forgetful and alterative.
(D) Judgement may be affected etc.

So human factor engineering will be introduced among the QC circles of my office to mitigate errors.

Learning from interaction:
Japan has a history of 2000 years and distinct culture. So it's not possible to realize a lot of things within this short period. However, the major things of Japanese culture those enchanted me are given below.



Thank you

Country Focused Training Course In Power Sector, Bangladesh

Action Plan to Create Work Place In Such a Way Where Officers & Staffs
1) Will be Bound Together By Trust
2) Enjoy Their Work
3) Improve as a Human Being

Presented by
Md. Abdul Whab Khan
Deputy Director
RTC, Tongi, BPDB

Current Situation

- Lack of
  - Motivation Among Officers & Staffs
  - Proper Work Supervision by Subordinate Themselves
  - Time Management
  - Commitment
  - Awareness of Company Goal
  - Taking Responsibility
  - Coordination & Co-operation

Target

- To Motivate Officers and Staffs to Create an Environment, Bound Together by Trust to Enjoy Work Place and Improve as Human Being

Measures

- To Develop Activities by Motivation
- On-the-Job Training
- Daily Management
- Enhance QC Circle Activities

Action Plan

Motivation by
- Encouraging their Desire and will for Their Work
- Boosting up Persons' Self-Respect & Confidence
- By Focusing on Concrete Facts Rather than Personal Characters
- By Listening to Persons' Feeling & the Reason, Showing Sympathy
- Reinforce Encouragement for Better Behavior
- By Building a Relationship Where People can Talk Freely & Follow The Relationship
- By Direct Counseling
- By Communication Through Mutual Interaction
- Applying Proper Leadership Style

On-the-Job Training

- Systematic Approach to Work
- Boosting up Readiness Level
- Training for QC Activities

<Sample> Check-sheet for Daily Work

Check Sheet For Work Confirmation

Item to be Checked / Name of Persons	Pending File	Pending Class Routine	Pending Lecture Sheet	Collection of Nomination
SDE				
AE				
SAE-1				
SAE-2				

Schedule for Action Plan

Month / Item	March,05	April,05	May,05	June,05
Motivation				
On Job Training				
Daily Management	Preparation			
QC Activities				

Thank You

Country Focused Training Course in Power Sector for People's Republic of Bangladesh

Action Plan

Enhance TQM Activities in BPDB

Presented By
Anisul Islam Mazumder
Deputy Director
TQM Promotion Office
BPDB
Date: Feb'18, 2005

Objectives Of TQM in BPDB

- To Ensure Reliable & Quality Supply of Electricity
- To Improve Customer Service
- To Make BPDB Financially Stable
- To Empower the Employees & Their Skills
- To Encourage the Employees Innovative Ideas

Goal of BPDB

- To Make BPDB Focused on Customers
- To Develop Creative Leadership at All Levels of the Employees
- To Reduce System Loss
- To Ensure Quality & Consistent Supply of Electricity
- To Make BPDB Financially Strong

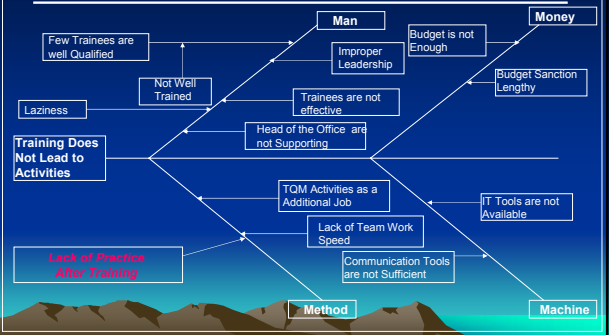
Present Position of TQM Activities in BPDB

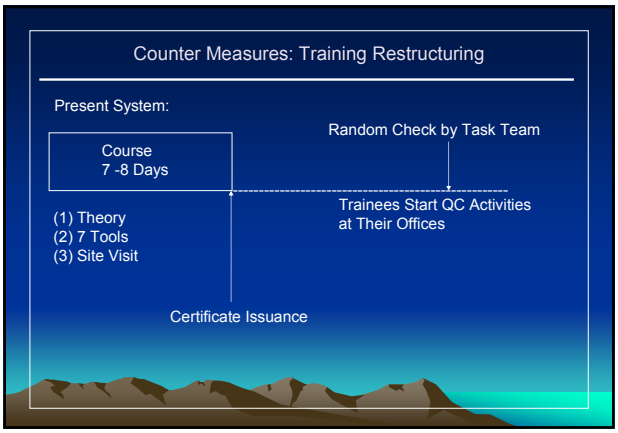
July' 2002	Establishment of TQM Offices
August' 2002	TQM Activities Started
Total No. of Offices Selected Up to Sep' 2004	140
Total No. of QC Circles Up to Dec' 2004	614
Total No. of Steering Committees Up to Dec' 2004	94
Total No. of Trainings Given Up to Dec' 2004	750
Total No. of JICA Trainees Up to Dec, 2004	26 (TQM:14, Distribution:12)
Follow-up Activities by TQM Office	Continuing as per Schedule

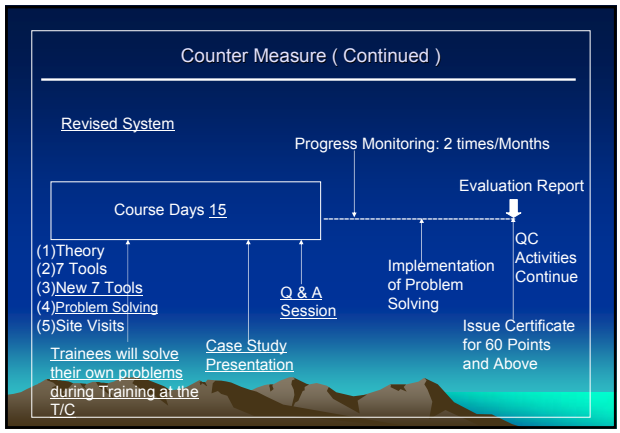
Problems Identified

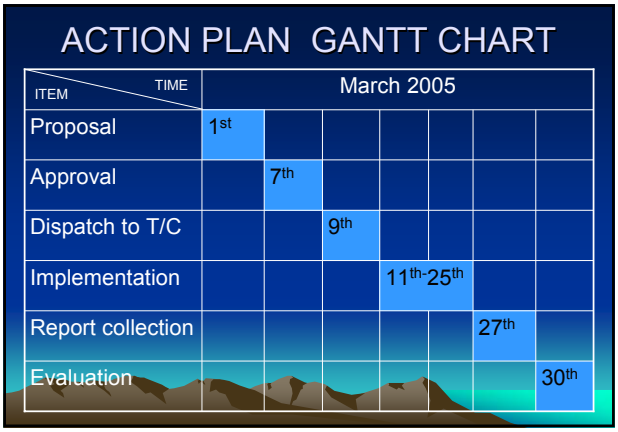
- Reports of Activities from QC Circles are not reliable
- Trainings do not always Lead to Actual Activities
- Information Sharing System is not Adequate
- Lack of Training Facilities (Only 4 T/Cs)
- Shortage of Experienced Trainers
- TQM Promotional Organization Structure is not Appropriate (Lack of Manpower and Participation by Branch Offices)

Training Does Not Lead to Activities




Counter Measures: Training Restructuring
Present System:
Course
7 -8 Days
Random Check by Task Team
Trainees Start QC Activities
at Their Offices
(1) Theory
(2) 7 Tools
(3) Site Visit
Certificate Issuance


Counter Measure (Continued)
Revised System
Progress Monitoring: 2 times/Months
Evaluation Report
Course Days 15
QC
Activities
Continue
(1)Theory
(2)7 Tools
(3)New 7 Tools
(4)Problem Solving
(5)Site Visits
Q & A
Session
Implementation
of Problem
Solving
Issue Certificate
for 60 Points
and Above
Trainees will solve
their own problems
during Training at the
T/C
Case Study
Presentation


ACTION PLAN GANTT CHART
ITEM
TIME
March 2005
Proposal
1st
Approval
7th
Dispatch to T/C
9th
Implementation
11th-25th
Report collection
27th
Evaluation
30th


THANK YOU

WELCOME

1

Country Focused Training Course in Power Sector, Bangladesh.

TOTAL QUALITY MANAGEMENT (TQM)

SPONSORED BY:- JAPAN INTERNATIONAL CO-OPERATION AGENCY (JICA)
COURSE NO:- J-04-20753
VANUE:- TIC & TEPCO FACILITIES
*DURATION:-*Jan 23,2005-Feb 18,2005
CONDUCTED BY:- TOKYO ELECTRIC POWER CO. INC. (TEPCO) JAPAN.

2

Action Plan on Expanding and Improving TQM Activities in PGCB

Presented by

Bazlul Munir
Manager
Power Grid Company of Bangladesh Limited

February 18, 2005
JICA, TOKYO, JAPAN

3

Prologue:

Concept of globalization have changed the way customers are conducted. Maintaining customer loyalty through creative means is the philosophy of most service providers. There is no scope of error, mistake or excuse for failures. Customers are interested in quality of performance and quality is human centered and more concerned with attitude of people. Thus, businesses need to concentrate more on people building activities in order to delight its customer. People working in those visionary workstations are embracing the concept of Total Quality Management.

4

Presentation Outline

- About PGCB
- TQM Activities in PGCB
- Current challenges
- Future Program for expanding TQM activities
- Schedule of Action
- Feasibility of the action
- Epilogue

About PGCB

"Economic upliftment of the country by reaching electricity to all through reliable transmission". With this vision Power Grid Company of Bangladesh Limited (PGCB) started its mission in 1996 as a Public Limited Company.

Entrusted with the responsibility of Operation, Maintenance and Development of the transmission system of the country, PGCB is also fully responsible to construct new transmission lines and grid sub-stations.

In future PGCB is likely to become the single buyer of electricity from the generation entities and will be the seller to the distributor or marketing companies.

6

About PGCB (contd.)

At present PGCB has 1466 Ckt Km of 230 KV, 4991 Ckt Km of 132 KV and 167 Ckt Km of 66 KV transmission line.

PGCB has 11 nos. of 230/132KV and 76 nos. of 132/33KV Grid sub-stations with total sub-station capacity of 10,295 MVA under Sixteen Grid Maintenance Divisions in Five Grid Circles.

From the very beginning, PGCB management is keen to establish PGCB as an efficient first rate organization whose all activities will be customer focused and in the process PGCB will utilize all its resources efficiently and effectively.

To facilitate the process of fulfilling its goal, PGCB management has declared its objectives and to achieve the stated objectives the methodologies/strategies selected is involvement and participation of employee through practicing Total Quality Management.

7

TQM Activities in PGCB

- A TQM promotion office under the Managing Director has been established in the Head Office.
- A TQM steering committee headed by the Managing Director as Chairman has been established.
- Four training courses on TQM has been implemented.
- Action plan is under the process of development and will be deployed at all levels by TQM promotion office.
- Self enlightenment and mutual development of employees and improving their creativity through Quality Circle, 5-S and other activities have already started in Grid Maintenance Division, Dhaka-East.
- Out of 16 Grid Maintenance Divisions, 4 have already started TQM activities and 4 others are under process.

8

Current Challenges :

- ❖ To create awareness about the changes.
- ❖ Orientation to corporate culture.
- ❖ Concept of TQM is not known to all.
- ❖ Inability to differ QC activities from daily management activities.
- ❖ Peoples are not well motivated to practice TQM

9

Future Program for expanding TQM activities

- ❖ Creation of awareness among the employees about the concept of globalization and customer focused service.
- ❖ Orientation to the corporate culture and ethics.
- ❖ Creation of awareness among the employees about the concept of induced human errors.
- ❖ To start TQM activities in all grid maintenance divisions .
- ❖ Collect and keep case study reports for future reference, to reduce the time required to solve a problem.

10

Schedule of action

- ✓ Start TQM activities in remaining 12 Grid Divisions.
- ✓ Preparation of course materials by ranks for specific TQM training in PGCB.
- ✓ Conduct TQM training in different field offices.
- ✓ Conduct training program on induced human errors.
- ✓ Conduct rank specific Basic Management training.
- ✓ Monitor TQM activities more precisely and to give proper guidance in necessary cases.

11

Schedule of action (contd.)

Activity date	Mar 05	Apr 05	May 05	Jun 05	Jul 05	Aug 05	Sep 05	Oct 05	Nov 05
Submission of plan									
Start TQM activities in remaining 12 Grid Divisions									
Preparation of course material by ranks for specific TQM training									
Conduct TQM training in different field offices									
Conduct training program on induced human error									
Conduct rank specific Basic Management Training									

12

Feasibility of the action

- Quality performance needs quality people who are not easily available in the job market. They need to be developed through the organizational process. Practicing quality improvement tools in organizations appropriately develops quality of human resources which in turn improves product or services.
- All actions described here focuses only on developing quality human resource. As PGCBs all present and future activities are customer oriented, aforementioned action plan will be very much appropriate for PGCB.

13

Epilogue:

Power Grid Company of Bangladesh Limited was formed under Power Sector Reforms Program and presently owned by the Government of Bangladesh.

PGCB was established with a window of opportunity. It is expected to play a leading role in the future. Trend has been set for effective and efficient operation of PGCB. It is our responsibility to lead the enterprise towards excellence.

14

THANK YOU

15

Country Focused Training Course on "Power Sector for People's Republic of Bangladesh- Total Quality Management (TQM) and Power Distribution

Action Plan

Presented by
Dr. Md. Rezaul Bashar Siddique
Senior Assistant Secretary, Power Division, Ministry of Power, Energy and Mineral Resources

Objectives of Action Plan

- To enhance the image of the organization.
- To solve the existing problems and improve the current situations through participation of all employees.
- To encourage the employees to put their best efforts in improving their services, works and working environment.
- To reduce the cost and making the environment less hazardous.
- To provide better services to its clientele in better ways.
- To improve interpersonal relationship within the organization and maintain better relationship with other organizations.

Goals

- To make the Power Division more efficient organization.
- To increase the satisfaction of its clientele.

Problems

- TQM methods are not in practice.
- The standards of behavior of corporate ethics are not always practiced.
- Inefficient use of resources and energy.
- Sometimes human error delays the works and the employee who commits the error faces problems.

Action for introducing TQM

- Quality Control (QC) circles will be established in each branch of the Division.
- Data will be gathered & then be analyzed for finding the root cause of the problems. QC methods will be applied.
- All employees will be given QC training in phases.
- Managing and improving the works through circle activities.

Action to introduce Corporate Ethics

- A corporate ethics committee will be established.
- This committee will prepare a booklet on "Standard of behavior of corporate ethics" in consultation with all employees.
- Booklets will be distributed to all employees for application.
- The following things *intrer alia* will be included in the booklet:
  - Observance of laws, rules and regulations;
  - Respect for human life and dignity;
  - Appropriate handling of information and
  - Interaction with other organizations.

Value sharing type approach will be applied for corporate ethics- Self regulation in which one complies with the standards of his/her choice.

Resource Management

- Environment and resource management committee will be established.
- Committee will monitor the efficient use of following resources- electric power, tap water, vehicles, paper and waste material.
- Following things will be considered to be implemented with the participation of all employees:
  - Use of natural light as much as possible during day time;
  - Switching off the lights and office machines when not in use;
  - Rational use of elevator;
  - Water saving request will be posted on the relevant places;
  - Minimize the use of vehicles and converting them into CNG driven;
  - Sharing meeting materials and utilizing backside of rough paper;
  - Sorting of waste for recycling; and
  - Carrying out cleaning by all at least once in every four months.

Human Error

- Human always commits error because of error inducing factor.
- Human errors are caused when the characteristics of human being do not put together well with the environment in a broad sense, which surround the man.
- Huaman errors are not a cause but a result.
- Employees will have to be trained on how human errors occur and how those can be checked.
- Training on SAFER (Systematic Approach For Error Reduction) method will be imparted to the employees to identify the cause of human error and countermeasures for preventing human errors.

Tackling safety (human error) is long term guerilla warfare with no end.

So continuous and relentless efforts are needed.

Constraints

- Day to day operations in Power Division are influenced by other Ministries/ Divisions/ Departments.
- Data base are not strongly built up, so management by fact (data) is difficult.
- Resistance to change and implement the reform measures.
- Existing bureaucratic system does not always permit the lower level employees to ventilate their opinion or innovative idea.
- Frequent transfer and posting of officials.

Thank you

Country-Focused Training Course in Power Sector for People's Republic of Bangladesh.

Action Plan on Revenue Collection- an Acute Problem of West Zone Power Distribution Co. Ltd.

Feb.18, 2005
JICA,TIC, Tokyo

Presented by
Md. Mokbul Ahmed
Addl. Director, WZPDCL, Bangladesh.

Present Situation of Revenue Collection

- A huge amount of outstanding arrears.
- A remarkable amount is un-traceable.
- Collection is very poor.
- Collection/Import ratio is too low approx. 75% per month.
- 13 (Thirteen) equivalent month against outstanding arrears.

Goal/Target

- To increase collection thereby reducing outstanding arrears to the desired level.
- To make monthly collection/import ratio to be 105% (Monthly bills 100% + outstanding arrears 5%) thereby reducing equivalent months to 7 months by Dec/05.
- To trace out untraceable and dead accounts.

Action Plan

Time : From Mar/05 to Dec/05

- To update Ledgers.
- To identify dead accounts.
- To serve notice to big defaulters.
- To increase public awareness for payment of arrear electricity bills through newspapers, TV, radio, video centers, posters, banners, miking etc.
- To disconnect.
- Magistrate drive.
- Taking help of law enforcing agency.
- To arrange spot installment if necessary.

Implementation

- Submit Action Plan to Managing Director, WZPDCL.
- Start Action Plan with the Generous Support of the Management of WZPDCL.

Presentation on

To Increase the Quality & Reliability of the power supply and to make *Distribution Division, Sylhet* Economically viable by reducing the system loss & increasing the revenue collection by applying TQM activities.

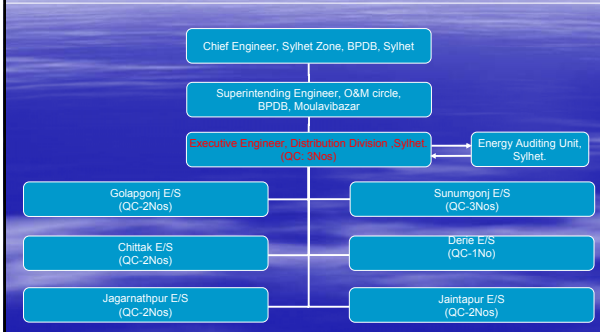
18th February, 2005.
JICA,TOKYO,JAPAN.

Presented By
Engr. RATAN KUMAR BISWAS.
Executive Engineer
Distribution Division,BPDB,Sylhet,
Bangladesh.

Presentation outline

- ⇨Existing structure of present system (i.e. Distribution Division, BPDB, Sylhet.).
- ⇨Existing problems of present system.
- ⇨Targets/goals to improvement.
- ⇨Action plan for improvement.
- ⇨Measures to be taken for implementation.

Existing functional structure of Distribution Division ,BPDB, Sylhet.



Distribution Division, BPDB, Sylhet at a glance. (contd..)

No. of Electric Supply unit	06
No. of Employees	147
No. of QC circles formed	15
No. of 33/11kv sub-station	04
33kv line (km)	160
11kv line (km)	540
0.4/0.23kv line (km)	2680
No of consumers	22000
System loss (%)	27
Collection/Import ratio(%)	81
TQM training taken by Employee	12

Existing problems of the system

- Most of the employees are not sincere to their duties & responsibilities and have no idea about "Time Management".
- High technical & Non-technical system loss.
- Revenue collection against Electricity is not satisfactory i.e. huge outstanding.
- Low voltage & low power factor in some areas.
- Unwanted interruption of 11kv feeders for troubleshooting.
- Over loaded system.

Action Plan for improvement

- TQM is to implement in all sides of the system.
- 11kv feeder metering & single point metering system is to introduce.
- Setting up the transformers at the load center and installing of capacitor banks at low power factor area.
- Replacement of faulty meters by quality meters and non standard service drops by standard wires.
- Sealing of non -sealed meters considering PDCA cycle.
- Human resource development is to introduce for better development in the office by QC circle activities so that each Electric supply unit can operate under cost & profit basis.
- A meter inspection and testing room is to introduce for verification of new & old meters as TEPCO.
- Old meter replacement system is to introduce like TEPCO.
- Motivating the consumers to pay the bills by meter readers like TEPCO.
- OJT on responsibility and improvement in human relation will be introduced.

Measures to be taken for the implementation

- To have class for providing the knowledge –why it is necessary to promote TQM in Distribution Division, BPDB, Sylhet from 1st March 2005.
- We have to pick up the existing problems which causes in-efficiency in work place from 15th March 2005.
- Collection of suggestion from QC circle for problem solving from 21st March 2005.
- Creation of self-development culture in the employees by holding meetings once in every two weeks (running).
- Find the causes of high system loss and low C/I ratio by creating PDCA Cycle from 1st April, 2005
- Reduce the system loss by 0.5% per month and collection revenue 103% of billing per month from May, 2005

THANKS TO ALL

Country-Focused Training Course in Power Sector for Peoples Republic of Bangladesh

Reduction of System Loss

Presented by

Engr. Md Oisur Rahaman
Executive Engineer, S & D Division, Soloshahar
BPDB, Chittagong
Date: Feb' 18, 2005

Objective & Goal

- To Make the Division Financially Viable
- To Reduce the System Loss(Technical & Non-Technical) to 14% by Dec. 2005

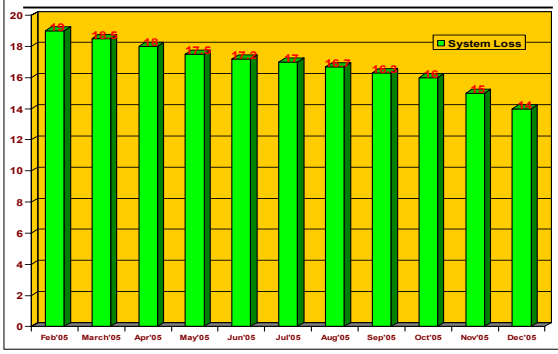
Brief Description of the Division

- Consumer : 17500
- Capacity of 33/11KV S/S : 52 MVA
- 33KV Line : 45 Km
- 11KV Line :100Km
- 0.4KV Line :150 Km
- Max. Demand :
  - Winter Peak : 18 MW
  - Summer Peak : 21 MW
- Avg. Monthly Import : 11.5 MKWH
- System Loss : 19%
- Bill Collection : FY'03-04: 108%
- Total Employee : 77

Present Problem

- Both Technical & Non-Technical Losses are High
- Present Environment is not up to the Mark
- Interference by Vested Parties
- Logistic Supports are Inadequate
- Interruption of Electricity is Notable

Monthly Action Plan to Reduce System Loss



Measures to be Taken

- Following COP
  - Monitoring of Random Checking of Meters
- Meters More Than 10 Years Old Must be Replaced
  - Customer Notice (7days Notice)
- In- House Customer Meters to be Installed Outside
  - 100% outside metering by December
- Implementation of QC Circle Activities
  - -11/0.4KV Transformer Load to be Balanced (Weekly)
  - Surprise Evening Visit Against illegal Users

Monitoring & Motivation of the Workforce

✓ Unspecified & Bare Conductor to be Replaced
✓ Capacitor Bank to be Installed at 33 & 11KV Feeders


Thank You

Enhance Quality and Reliability of Power Supply and the Utility Financially Viable by Reducing System Loss (Central Zone, BPDB)

February 18, 2005
TIC, Tokyo

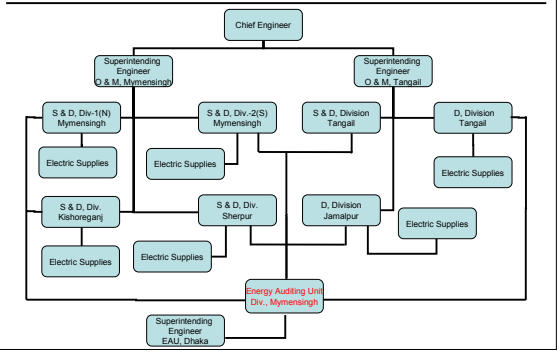
Presented by:
Engineer Md. Nizamul Haque Sarker
Assistant Engineer, EAUD, BPDB, Mymensingh

Outline

- Existing Conditions of the System
- Existing Problems of Power System
- Targets/Goals of Improvement
- Process of Implementation of the Measures

Existing Condition of The System

(Current Structure of Central Zone)



Existing Condition of Power System

• Total Number of 132/33KV Grid Sub-Station	:	5 Nos.
• Existing Capacity of 132/33KV Grid S/S	:	360 MVA
• Total Number of 33/11KV Sub-Stations	:	17 Nos.
• Total Capacity of 33/11KV S/S	:	450 MVA
• Total Number of LT Consumer	:	4500
• Total Number of HT Consumer	:	110
• Distribution Lines	:	
✓ 33KV Distribution Lines	:	600 Km
✓ 11 and 0.4KV Distribution Lines	:	7000 Km
• System Loss	:	20%

Existing Problems in Power System

- Shortage of Power Against Demand
- Over-Loaded System
- Low Voltage
- High System Loss
- Interruption due to Fault
- Energy Theft

Targets/Goals of Improvement

1. Increase the Quality and Reliability of Power Supply

And

2. Financially Viable Utility by Reducing the System Loss

Measures to Improve the Power System

- PDCA System is to be introduced for Improving the Quality and Reliability of Power Supply.
- ✓ Testing and Sealing all Types of Low Tension and High Tension meters.
- ✓ A Meter Inspection and Testing are to be Introduced for verification of all meters before using on Consumer side.
- Export/Import Meters and HT,LTI Consumers Meters must be the Quality Electronic Programmable 3 Element Meter.
- Replacement of Faulty Meters and Non-standard Service Drops & Sealing of Non-sealed Meters.
- Regularization of illegal Consumer.

Process of Implementation of the Measures

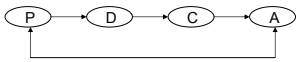
- Schedule of Checking the LT and HT Meters
  - To Reduce System Loss
  - To Reduce Energy Theft

Monthly Schedule up to Dec, 2005

	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
S & D-1 Myn.										
D. D. Sherpur										
D. D. Tangail										
D. D. Jamal.										

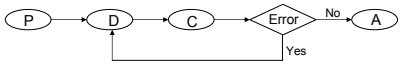
Process of Implementation of the Measures

1. PDCA System is to be Applied
   - Problem Solving Method



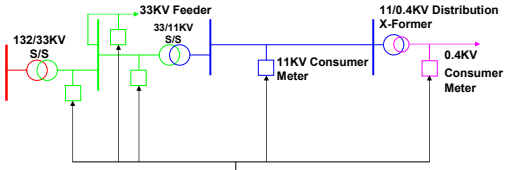
P- Plan, D- Do, C- Check, A- Action

- In Energy Auditing Unit Division



Process of Implementation of the Measures

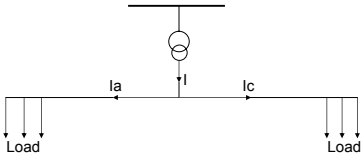
2. Utilization of 3 Element Electronic Programmable Meter
   - -To Ensure Day-to-day Right Information
   - -To Ensure Accurate Measurement of Energy



3 Element Programmable Electronic Meter

Process of Implementation of the Measures

3. Setting up the Transformers at the load Center
   - -To Reduce The Power Loss.
   - -To Decrease Amount of Outage.



Ia + Ic = I

Thank You