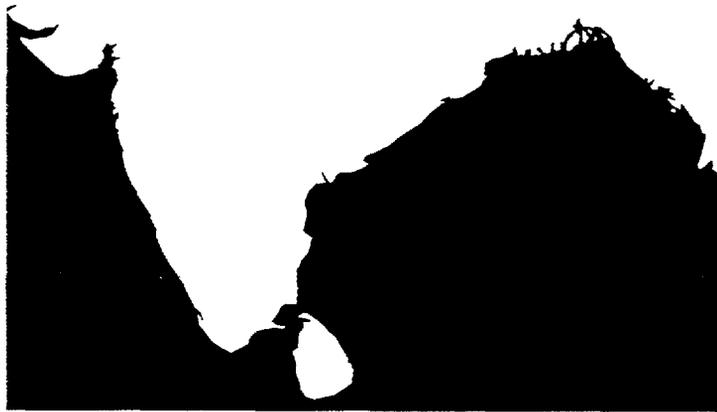


PN-ACA-509
93828



Energy Management Consultation and Training Project
INDIA

**Strategic Planning and
Management (TR-11)**



**Power Finance Corporation and
State Electricity Boards**

Bechtel Corporation

September/October 1995



Table of Contents

Section	Page
1 Executive Summary	1
2 Introduction	2-1
2.1 Background	2-1
2.2 Objectives	2-1
2.3 Pretraining	2-1
2.4 Training Providers, Dates, and Locations	2-2
2.5 Post Training Activities	
3 Course Structure and Contents	3-1
3.1 Strategic Planning and Management	3-1
3.2 Total Quality Management Training	3-2
4 Participants, Trainers, and Training Facilities	4-1
4.1 Participants	4-1
4.2 Trainers	4-1
4.3 Training Venue and Accommodations	4-3
5 Trainee Project Papers	5-1
5.1 Project Paper Development	5-1
5.2 Project Papers	5-2
6 Course Evaluations	6-1
6.1 Participant Evaluations	6-1
6.2 Instructor Evaluations	6-2
7 Lessons Learned and Recommendations	7-1
7.1 Lessons Learned and Opportunities for Improvement	7-1
7.2 Recommendations	7-1

ANNEXES

1	Class Schedule
2	Participant List for the EMCAT Financial Management/TQM Course
3	Participant Questionnaire Tabulation and Supporting Forms

Section 1

Executive Summary

In recent years, economic reform in India has brought about dramatic changes in that country's electric power sector. USAID, the World Bank, and other donors are attempting to assist India to cope with and take advantage of these changes. In particular, the effort to reform the utility sector and to restructure the State Electricity Boards (SEBs) is gathering momentum.

In response to this situation, Bechtel organized and conducted Training Course No. 11 (TR-11), Strategic Planning and Management, under the USAID Energy Management Consultation and Training (EMCAT) Project, to help the utility industry in India become an economically viable enterprise in a more privatized and competitive environment. TR-11 was conducted at a time when the U.S. utility industry was also undergoing major transformations in a climate of deregulation and fierce competition from independent power development. The participants in TR-11 were therefore able to observe firsthand the importance of strategic planning in coping with the climate of change.

TR-11 was conducted for 10 senior Indian officials drawn from the Power Finance Corporation; the SEBs of Gujarat, Rajasthan, Madhya Pradesh, Uttar Pradesh, and Andhra Pradesh; and the State Generation Companies of West Bengal, Karnataka, and Orissa. The course covered key aspects of policy formulation, legislative and regulatory frameworks, modern utility organization structures, and strategic planning and implementation processes. These topics were selected to help the participants effect institutional strengthening. Participants were also exposed to new technologies, effective management techniques, environmental issues, and energy planning techniques required for successful load forecasting and power generation planning.

The course was conducted in San Francisco, California, from September 28 to October 25, 1995 by Bechtel Corporation, with the support of the World Bank, the Electric Power Research Institute, the California Energy Commission, Pacific Gas and Electric Co., the Northern California Power Agency, Bechtel's subcontractor Price Waterhouse, and a cadre of special consultants and guest speakers. TR-11 also included total quality management (TQM) training for 3 days (October 20, 23, and 24).

In organizing TR-11, it was realized that this activity by itself will probably have a small impact in the transformation of the Indian power sector. For enhanced effect, a high-level workshop in India is being planned to follow TR-11. Top Indian officials, U.S. experts, and selected TR-11 graduates will be invited to discuss more fully key issues relating to the restructuring of the Indian power sector and to help more SEBs develop strategic plans.

Possible further activities to enhance the impact of EMCAT in the area of strategic planning are a study tour which would bring top Government of India power-sector decision-makers to the U.S. to visit and confer with key utility leaders and government officials, and a repetition of TR-11.

Section 2

Introduction

2.1 BACKGROUND

The Energy Management Consultation and Training (EMCAT) Project has been established by the United States Agency for International Development (USAID) to help the Government of India improve the performance of the national electric power sector by providing technical assistance and training to key institutions charged with the operation and partial funding of electric power utilities systems. The institutions are the Power Finance Corporation (PFC), a development bank based in New Delhi, and the State Electricity Boards (SEBs), as well as State Generation Corporations (SGCs). The SEBs and the SGCs produce over 90 percent of all electric power in India. The PFC also serves as the recipient of the USAID assistance and as the nodal agency to coordinate and execute all EMCAT activities. Bechtel Corporation is under contract to USAID to provide technical services under the Bechtel EMCAT Support Project (BESP).

In recent years, economic reform in India has brought about major changes in that country's electric power sector. Private power has become a major influence, and USAID, the World Bank, and other donors are attempting to help India cope with and take advantage of these changes. The effort to reform the electric utility sector and restructure the SEBs has accentuated the need for BESP to help the utility industry in India become an economically viable enterprise under a more privatized and competitive environment.

The TR-11 training course was given only to middle management Indian officials; top decision-makers did not take part. Consequently, plans have been made, in consultation with USAID and PFC, to follow up TR-11 with a workshop in India involving top Indian officials, with assistance provided by Bechtel under BESP Technical Assistance Module No. 22 (TA-22). To leverage the long-term effectiveness of TR-11, a study tour focused on strategic planning for the future utility industry of India and a repetition of TR-11 to cover more SEBs and SGCs are also being contemplated.

2.2 OBJECTIVES

The goal of the TR-11 training course was to equip the participants with effective strategic planning and management methods and knowledge appropriate to the changing economic and political environment of the Indian power sector, especially to the trend of privatization.

4

Course participants were made familiar with key aspects of strategic planning and organizational development. The course covered policy formulation, legislative and regulatory frameworks, modern utility organizational structures, and strategic planning and implementation processes. These topics were selected to help participants effect institutional strengthening. The participants were also exposed to new technologies, environmental issues, and energy planning required for successful load forecasting, power generation planning, and strategic management in the utility industry.

2.3 PRETRAINING

To better prepare the participants for this course, the PFC engaged the Administrative Staff College of India in Hyderabad to conduct a 1-week pretraining course for the participants from August 28 to September 1, 1995. This prerequisite course increased the participants' basic understanding of strategic planning and management in the utility industry, allowing TR-11 to focus more on the more practical aspect of the subject, and to expose the participants to more case studies of utility reform in other countries.

2.4 TRAINING PROVIDER, DATES, AND LOCATION

The TR-11 course was given from September 28 to October 25, 1995, by the International Consulting Group of Bechtel Corporation with the support of the World Bank, the Electric Power Research Institute, the California Energy Commission, Pacific Gas and Electric Co., the Northern California Power Agency, and Bechtel's subcontractor Price Waterhouse and a cadre of special consultants and guest speakers. It was held in the Bechtel world headquarters building in San Francisco. The training also included TQM training for 3 days (October 20, 23, and 24).

5

Section 3

Course Structure and Content

3.1 STRATEGIC PLANNING AND MANAGEMENT

Overall Structure and Methodology

The 4-week TR-11 course was designed for 20–25 participants, but only 10 candidates were ultimately cleared by the Indian authorities to participate. Because of the delay in the clearance, the total quality management (TQM) course had to be rescheduled and was given after instead of before the strategic planning course, thereby diminishing somewhat the TQM's course intended impact and effectiveness. The 4-week program is shown in Annex 1.

The experience gained in the past training courses and the inputs from past TR graduates were used to develop the following structure and methodology for TR-11:

- **Subject presentations** – industry professionals and discipline experts made relevant informational and experience-based presentations and discussed how they apply their knowledge to handling and solving problems.
- **Case studies** – extensive use was made of case studies that highlight the practical importance of strategic planning and management in the utility industry.
- **Relevance to Indian context** – during the preparation stage of TR-11, presenters were briefed orally and through the use of a handbook on the status of the Indian electric utility sector. Wherever possible, actual Indian data and information were supplied to help structure the presentations.
- **Discussions and exercises** – additional discussions and exercises enabled the participants to understand how planning and management practices are used in the climate of utility restructuring and reform both in the U.S. and throughout the world.
- **Site visits** – TR-11 included site visits to key government agencies as well as utilities involved in utility restructuring and reform to obtain exposure to strategic planning and management in the current very demanding and challenging environment. Other site visits included innovative and renewable power facilities deemed to be important for future generation planning in India.
- **Discussions of lessons learned and group projects** – participants were given class assignments to prepare papers on practical ideas to apply lessons learned when they return to India. Two discussion sessions were devoted to helping them formulate their ideas.
- **Training the trainers** – it was emphasized from the very beginning that each participant was expected to take the experience gained from the training and the class materials provided to train his peers and subordinates upon his return to India.

Course Content

The course was designed to cover strategic planning, policy formulation, organizational and technological change, growth strategy, strategic management and information technology as applicable to electric power utilities.

The main topics covered were as follows:

- Global overview of utility trends
- Legislative and regulatory frameworks
- Corporate policy formulation
- Organizational structures and functions
- Strategic planning and implementation processes
- Risk management
- Management performance measures
- Business reengineering methods
- Utility financial analysis
- Planning for and managing private power
- Restructuring, competition, and power pooling
- Load forecasting and capacity expansion planning
- Planning for renewable and innovative power technologies
- Clean coal technologies
- Planning for power facilities siting
- Environmental impact assessment planning
- Air quality improvement
- Software and database as planning and management tools
- Managing distribution systems
- Energy efficiency and demand side management

Field Visits

As an integral part of the training course, a number of field trips were included. These trips allowed the participants to interact directly with utility industry practitioners, both in the public and private sectors, to discuss planning and management issues in the electric utility business. Firsthand observation of innovative technologies also provided a practical and realistic perspective for future planning for use of such technologies in India. The visits included:

- Northern California Power Agency (Sacramento, California) – an association of 11 municipal electric utilities, a rural electric cooperative, an irrigation district, and a public utility district, all in Northern California.
- PVUSA Photovoltaic Power Plant (Davis, California) – an experimental grid-connected solar-photovoltaic power plant to test various types of cells and power modules intended for utility power applications.
- California Energy Commission (Sacramento, California) – a state government regulatory body setting energy policies and dealing with utility restructuring issues.

- Redwood Securities Group, Inc. (San Francisco, California) – an investment banker dealing with financing of public and private utilities.
- Kenetech Wind Power Plant (Altamont Pass, California) – an international leader in the wind energy industry.
- Gilroy Cogeneration Power Plant (Gilroy, California) – a highly efficient and successful independent power project serving a food processing plant.
- Pacific Gas & Electric Co. Pacific Energy Center (San Francisco, California) – a facility dedicated to customer service in energy conservation.
- Electric Power Research Institute (Palo Alto, California) – a private institution established by U.S. electric utilities to provide R&D support to its U.S. and international utility members.

3.2 TOTAL QUALITY MANAGEMENT TRAINING

Overall Structure and Methodology

TQM is a general philosophy of management that has become increasingly popular in recent years. It is a model of management that contrasts sharply with the hierarchical command-and-control model that evolved during the industrial age. Its key features are:

- Focusing on work processes and their continuous improvement, rather than on specific problems and solutions
- Satisfying customer needs and expectations as the unvarying standard of successful process performance
- Using statistical methods for work process analysis and for testing and evaluating the results of process changes
- Addressing process improvement using teams whose members are responsible for carrying out the process successfully and empowered to change the process
- Monitoring the group process in the teams using coaches employing modern behavioral science concepts to facilitate positive, effective, results-oriented teamwork

TQM teams address ongoing work processes, analyzing the whole process and each component step, with all of its inputs and outputs and supplier-customer relationships. Using statistical and other methods of analysis, teams attempt to continuously improve these work processes, ensuring that each step adds value for its internal or external customer.

The TQM course relies extensively on active participant involvement. It provides participants with the knowledge and skills necessary to implement work process improvement initiatives in all areas of their work.

Course Content

- **Brief review of TQM concepts and history**
- **TQM methodology** – Plan, Do, Check, Act (PDCA) cycle; roles of team members
- **TQM in the workplace** – brainstorming, affinity diagrams, group techniques

8

- **Choosing a process to improve** – divergence/convergence model of decision-making, evaluation criteria, nominal group technique
- **Effective meeting skills** – five-step process for holding successful meetings
- **Describing the current process** – deployment flowcharting for work processes
- **Functional styles** – individual styles and patterns of action; ways to direct interpersonal behavior to enhance interaction
- **Work process analysis** – cause and effect diagram
- **Group dynamics** – the five stages of group development
- **Purpose statement development** – statement of a team’s work process improvement goal
- **Statistical thinking** – tools for process performance analysis
- **Data collection planning**
- **Data analysis** – Pareto charts and histograms
- **Presentation skills**
- **Team building**

9

Section 4

Participants, Instructors, and Training Facilities

4.1 PARTICIPANTS

Participant Profile

A total of 25 candidates were originally nominated by PFC for this training course, but the Government of India eventually cleared only 10 candidates – 2 from the PFC; 5 from the SEBs of Gujarat, Rajasthan, Madhya Pradesh, Uttar Pradesh, and Andhra Pradesh; and 3 from the SGCs of West Bengal, Karnataka, and Orissa. The participants were experienced officials occupying middle to upper management positions within their respective organizations. The eight participants from the SEBs and SGCs hold degrees in engineering (seven electrical and one civil); the two from PFC were trained in accounting and economics. None of the participants are directly responsible for strategic planning for their organizations, but their jobs involve planning support to some degree.

Despite the apparent lack of direct planning responsibility and experience, all 10 participants exhibited remarkable awareness of the changing political and economic climate in the Indian power sector (and thus the need for strategic planning). They expressed a strong interest to learn and contributed positively to the group interaction.

Participant List

A complete list of participants, indicating professional titles and organizational affiliations, is given in Annex 2.

4.2 INSTRUCTORS

The strategic management and planning course was designed by Dr. Ernest Y. Lam, manager of the Bechtel EMCAT Support Project (BESP) from May 1993 to June 1995. Dr. Lam also organized the faculty and supervised the implementation of TR-11 overall, and worked with the participants to guide the development of their project papers. This was done to foster their discipline to apply what they learned to improve the strategic planning and management process within their respective organizations upon their return to India.

A highly experienced faculty, drawing from the senior staff of Bechtel, its subcontractor Price Waterhouse, and the World Bank, was assembled for this course. Special guest speakers were also invited. Principal instructors included:

Magdalena Manzo. Mrs. Manzo is a senior operations officer of the World Bank, responsible for the Bank's activities in South Asia. She is actively involved in the reform and restructuring of the electric utility sector in India. She held previous senior positions in the Bank in the Technical Department dealing with China, India, and Fiji. Before joining the World Bank, she was Treasurer of the National Power Corporation in the Philippines.

Luis E. Gutierrez. Mr. Gutierrez is a senior energy economist of the World Bank. He has been involved in the reform and restructuring of the electric utilities worldwide. His career has included positions as the energy director for the Secretary of National Wealth, Mexico, advisor to Citibank-Mexico, economist at the InterAmerican Development Bank, and CFIA Fellow at Harvard University.

Robert E. Borgstrom. At the time of TR-11, Mr. Borgstrom was a principal consultant in the Price Waterhouse Finance and Economics Group (he has since joined Bechtel). As a management consultant to the utility industry (1977–present), he has held project management-level responsibilities on a wide range of assignments supporting policy-making in the areas of corporate reorganization, capital investment, operations management, and supply planning. Most recently, his primary focus has been the restructuring of utilities and support for privatization throughout the former Soviet Union.

Alberto G. Lapuz. Mr. Lapuz is a principal consultant at Price Waterhouse specializing in business process reengineering as applied to commercial and government institutions, with a particular focus on financial intermediaries and regulatory agencies. Initially trained as a banker, he has worked with chief executives and senior management on how to achieve better financial results. He has consulted in the areas of strategic planning, organizational effectiveness, business process redesign, profit performance and productivity improvement, training, and skills transfer.

Robert T. McWhinney, Jr. Mr. McWhinney has been a consultant to management for over 20 years and has been involved with the energy industries for over 30 years. He specializes in providing economically based advice to clients involved with major resource commitments such as acquisitions, system expansions, innovative pricing, or conflict resolution. He was a Managing Director of Arthur Andersen Economic Consulting, helping U.S. firms develop new businesses and assisting governments in developing countries in preparing for and attracting foreign investment.

Mr. Pradeep C. Gupta. Mr. Gupta is a consultant specializing in demand forecasting and strategic planning for electric utilities. He was Director of Competitive Markets and Restructuring Division of Synergic Resources Corporation. He also served as a utility planner at Southern California Edison Company and a researcher at the Electric Power Research Institute, and was a lecturer at the University of California at Berkeley, Cornell University, and Argonne National Laboratory.

Aditya B. Mukerji. Mr. Mukerji is the founder, president, and CEO of Redwood Securities Group, Inc. He has 25 years of experience as an investment banker, including research and advisory work for portfolio managers as well as fixed-income trading. He is well versed in the financial changes currently taking place in the utility industry in the U.S. in the climate of restructuring.

Walter Scott. Mr. Walter Scott has 40 years of experience doing consulting and engineering for electric utility transmission and distribution systems. He has assisted utilities in the application

of computerized technologies in the fields of integrated resource planning, demand-side management, optimizing losses, increasing reliability, upgrading quality of service, and implementing automated distribution.

Geoffrey L. Smith. Mr. Smith is Manager of Energy Efficiency Programs in Bechtel's International Consulting Group, responsible for developing and managing projects in this area. He is responsible for directing and supervising the USAID/Cairo Energy Conservation and Efficiency Project (ECEP), which focuses on industrial energy efficiency. Mr. Smith has conducted demand-side management assessments in Egypt and Hungary. In the U.S., he has provided energy services to PG&E; in the international arena, he has evaluated the capabilities of energy service companies (ESCO).

Irina P. Torrey. Ms. Torrey has 30 years of experience in project management, assessment of environmental impacts and mitigation, land use, transportation and social analysis, community involvement, facility and master planning, alternatives analysis and site selection, and urban design. Currently, she is the Manager of Environmental Services for Bechtel's International Consulting Group. She has engaged in environmental planning for a major U.S. public agency, major engineering, architectural, and environmental consulting firms and has run her own environmental planning and design consulting firm. Ms. Torrey has trained many environmental planning professionals in various disciplines.

Floyd E. Davis. Mr. Davis is Power Systems Manager for Bechtel's International Consulting Group. He has over 20 years of experience in electric utility power system planning for clients worldwide. He is experienced in integrated resource planning, tariff analysis, technology assessment, and power system economics. Currently, he is managing a transfer pricing and retail tariff study in Slovakia. This study includes a review of the load forecast and least cost development plan, revenue requirements analysis based on revaluation of assets at replacement value, cost-of-service analysis, and long-run marginal cost analysis.

Miljenko Bradaric. Mr. Bradaric is a power systems planner in Bechtel's International Consulting Group. He performs supply- and demand-side management, load forecasting, rate analysis, economic evaluations and training. Mr. Bradaric has participated in a number of planning projects in the U.S., the Middle East, and Eastern Europe. He recently consulted for the Japanese Ministry of International Trade and Industry on a comprehensive power development study for the Indochina region.

Thomas W. Simpson. Mr. Simpson is a power system planning specialist in Bechtel's International Consulting Group. He has 10 years of experience in generation planning, inter-utility contract negotiation, and generation and transmission operations at Bechtel and at Pacific Gas & Electric Company. His recent work includes developing an electric resource plan for a utility in the state of Washington, assessing independent power opportunities for the southern region of Brazil, and developing the EMCAT training course Techniques of Financial and Economic Appraisal and Monitoring of Power Projects.

12

Jeffrey W. Blee. Mr. Blee is responsible for providing a range of international project financing services through Bechtel's merchant banking arm, Bechtel Financing Services, Inc. He is involved in quantitative modeling and evaluation, risk analysis, commercial and financial structuring, and arranging bank financing commitments for Bechtel and client projects. He has developed financing for LNG facilities in Europe, directed the analysis of a 900 MW coal-fired power project in Turkey, performed feasibility studies for Indonesian power projects, and consulted on power privatization in the Philippines.

4.3 TRAINING VENUE AND ACCOMMODATIONS

The entire TR-11 training course was conducted in a state-of-the-art conference room at Bechtel's world headquarters building in downtown San Francisco. The room is equipped with audiovisual aids and flexible seating arrangements to optimize the group dynamics of various training formats.

The participants were housed at the Geary Courtyard Apartments located in the Theater District of San Francisco. Participants were each issued a Muni Pass. This enabled them to have an unlimited number of free rides on city buses, thus facilitating commuting and allowing them to enjoy the sights, shops, and services of the city more readily.

Field visits were incorporated into TR-11 to avoid prolonged confinement to a classroom environment and to allow the participants to visit neighboring cities in the Bay Area of San Francisco. Chartered buses and vans were made provided for the field trips and for airport transfers.

Section 5

Participant Project Papers

5.1 PROJECT PAPER DEVELOPMENT

A special feature of TR-11 was the development of participant project papers. The purpose of this effort was twofold: to provide a structure for the participants to help them apply what they learned when they returned to India; to allow the instructors to gain an appreciation of the Indian power sector so that follow-up EMCAT activities could be more effectively designed and implemented. In particular, some of the participant project papers are good candidates for presentation at a workshop in India that will involve the participants' superiors and senior officials. The workshop will serve as a forum for these senior officials to voice their ideas about structuring and managing the SEBs of tomorrow and will also feature ideas offered by U.S. EMCAT consultants, thus promoting a significant cross-fertilization of ideas and critical examination of policy issues leading to actions by decision-makers of India.

The formulation of the participant project papers during TR-11 went through several stages:

1. At the inception of TR-11, the participants were alerted to the requirement of a project paper from each one of them. Each was required to choose a paper idea and topic that relates TR-11 to an application in India. This requirement was deliberately left open to avoid the stifling of any creative ideas. The participants were given a great deal of room within the broad spectrum of TR-11 topics to create their own paper ideas.
2. In the third week of the training, the participants were asked to submit their project paper topics, accompanied by a paper abstract. Each participant was given 5 minutes to present the idea and be given the benefit of comments by their peers as well as by the TR-11 coordinator, Dr. Lam. This led to the refinement of the topics and the ideas. In most cases, the participants were encouraged to make their ideas more specific and to link them to their particular SEBs or SGCs.
3. During the last week of the training, each participant had to submit an outline of his paper and give a 10-minute presentation on its contents. Comments from the class and Dr. Lam further helped each participant to improve the content and logic of the presentation.
4. The participants were asked to complete the papers and submit them to Dr. Lam, care of PFC, 1 month after their return to India. It was felt that the participants needed resource materials in India to complete their paper research and writing.
5. At the conclusion of TR-11, a preliminary outline for the related workshop in India (designated as TA-22 under EMCAT) was discussed with the participants to obtain their inputs. This also allowed preliminary planning to incorporate the participants' papers into the workshop.

5.2 PROJECT PAPERS

The following are paper synopses developed by the participants:

Karnataka Power Co., Ltd. (KPCL) Vision – 2005 A.D.

by H. M. Raghunatha Rao, Karnataka Power Corporation, Ltd.

This paper describes the current status of KPCL in terms of key technical performance indicators such as generation capacity, plant availability, and auxiliary consumption. A vision for the new KPCL by the year 2005 is presented, showing improvements in these technical indicators. A discussion follows on how strategic planning can bring this vision to fruition. This planning is proposed in two phases: Phase 1 focuses on remedial actions, both technical and institutional; Phase 2 deals with more fundamental structural changes and the launching of greenfield projects and new ventures. The author concludes that to achieve this vision in a liberalized economic environment, KPCL needs a new business approach, a commercial orientation, a higher sensitivity to the environment, and an enhanced productivity in its operation.

Restructuring of the SEBs - Challenges and Tasks Ahead

by A. Haldia, Power Finance Corporation

This paper begins with a strategic framework of a new policy, then proceeds to propose how this new policy should be implemented. Lessons learned to date in the various attempts of SEB restructuring are reviewed and discussed. The practical aspects of restructuring are analyzed, and specific tasks are proposed to meet the challenge. A committed, systematic, and sustained effort is urged to gain public and consumer acceptance, to gain support and commitment of decision-makers, to translate commitments into concrete decisions and actions on key issues, to implement a program of privatization, and to understand and address technical and institutional issues. Learning from international experience is also urged.

Role of Multinational Corporations in India's Power Sector

by B. Garnaik, Orissa Power Generation Corporation

The projected generation capacity growth in India will outstrip the available resources of the Indian Government. There is a need for effective development of private power with the participation of multinationals. India needs to establish clear terms for private power transactions and to cultivate mutual trust in such dealings with the multinationals. Terms to be made clear must include definition of project scope, transparent bidding process, prohibition of outdated and polluting technologies, implementation schedule requirement, and bid evaluation criteria. Proper planning will facilitate the investment by multinationals and eliminate unacceptable players.

Restructuring of the SEBs

by V. K. Agrawal, Madhya Pradesh State Electricity Board

Restructuring of any SEB must start with a clear understanding of its present status and shortcomings. Other key issues include customer requirements, free market conditions, collaborative opportunities with other power sector players such as the Power Grid Corporation. The need for unbundling of its generation business from its transmission and distribution business must be analyzed and understood. Privatization policy and strategy regarding these businesses must be delineated, and service to the highly subsidized agricultural customers must be rationalized.

Utility Reengineering

by D. Ray, Power Finance Corporation

This paper discusses the management of change in the utilities in India. The topics include a model/process recommended for organizational change; strategies for survival adaptation and growth; decisions to reduce environmental uncertainties; overcoming organizational/individual resistance to change; unbundling of business units; rationalization of manpower; training, and development implications; societal implications of change; and a case study of utility restructuring.

Environment for Private Sector Investment

by P. K. Bandyopadhyay, West Bengal Power Development Corporation

This paper focuses on what the SEBs must do in order to create an environment to attract private sector investment. Topics discussed include plant siting and permitting, project financing and investment incentives, construction codes and standards, environmental requirements, technical quality control, project scheduling, and incentive for early completion.

Competitive Bidding in Electricity Sector

by D. Prasad, Uttar Pradesh State Electricity Board

This paper traces the history of private power in India and identifies the shortcoming in the current negotiation process between the SEBs and the private power developers. It proceeds to analyze the more recent trend towards competitive bidding for private power projects, where major issues need to be more adequately addressed. These include site selection, electricity pricing, fuel supply and transportation, statutory clearances, development of model power purchase agreements, and bid evaluation process and criteria. Recommendations to streamline the process are delineated.

It Is Enough – Now Through Strategic Planning

by D. P. Chirania, Rajasthan State Electricity Board

This paper traces the historical background of RSEB and analyzes the current management deficiencies and root causes of the problems the organization faces. Reform through strategic

planning is proposed. A key feature of the proposal is a training program to create a team of thinkers and planners dedicated to reform. Strategic planning is to be undertaken with a strong focus on satisfying customer needs. It must also prepare RSEB to operate in a new climate of competition and private participation.

Need for Independent Power and Restructuring of Utilities in India in Comparison with the U.S.

by H. A. Shah, Gujarat State Electricity Board

This paper compares a typical SEB with a typical investor-owned utility company in the U.S. The comparison includes the organizational structure, capitalization, regulatory controls, growth incentives, and scope and quality of consumer services. The need for IPP in both cases is discussed and compared.

Institutional and Technological Innovations for APSEB

by G. V. Kumar, Andhra Pradesh State Electricity Board

This paper outlines a plan to apply to APSEB the institutional improvements as well as the technological advancements taught during TR-11. The plan begins with a review of APSEB's operational bottlenecks, long-term energy requirements, and the projected growth pattern in its distribution system. Streamlining of the MIS system plus the increased use of computers, elimination of redundant work, improvements in metering and billing, and demand-side management are key features of the plan. Innovative technologies such as wind power are to be examined for potential applications.

Section 6

Course Evaluation

6.1 PARTICIPANT EVALUATIONS

All ten participants participated in the course evaluations for both the strategic planning and management course and the TQM course by responding to the questionnaires as shown in Annex 3. The results are summarized in Table 6-1.

Strategic Planning and Management Course Evaluation

Table 6-1
Course Evaluation

	Very Satisfied	Moderately Satisfied	Not Satisfied
Program Content and Delivery	5	5	0
Relevance of TR-11 to Job	4	5	1
Applicability to Indian Conditions	3	7	0
Balance of Theory and Practice	4	5	1
Competence of Instructions	4	6	0
Adequacy of Facilities	5	5	0
Chance to Meet Americans	4	3	3
Administrative Arrangements	7	3	0

The participants expressed a desire that more pretraining preparations be done in future training courses, such as advance reading assignments to better prepare people for the course. They also would like to have reference publications and books to be provided with the training.

Five participants indicated that they were very satisfied; the other five indicated that they were moderately satisfied with the course. None indicated dissatisfaction.

On the question of what were the greatest benefits from TR-11, the factors ranked the highest were:

1. Enhanced professional capabilities
2. Extended professional contacts
3. Increased exposure to other another culture and its social system

On the question of what contributions the participants would be prepared to make upon return to their organizations, the highest ranking areas were:

1. Improve operational procedures, programs or services
2. Manage a project, office, division, or company
3. Train others

Total Quality Management Course

This 3-day course was well received. The questionnaire has 15 line items grouped under the following headings:

1. Information/content
2. Presenter/speaker
3. Group interaction
4. Course design
5. Benefits of the TQM training course

Half of the class rated the TQM course as excellent, while the other half rated it as good in the overall rating. None rated it as fair or poor.

All answered yes to the question of whether the objectives of the course had been met.

On the specific ratings of the rest of the 14 line items, 62 were marked excellent, 67 good, 10 fair, and 1 poor.

6.2 INSTRUCTOR EVALUATIONS

When the resumes of the participants were first reviewed by the instructors, there was a concern that most of them appeared not to have been sufficiently engaged in strategic planning and management in their respective organizations, and that it was also questionable whether they would be assigned to key positions in these areas of responsibility upon completion of TR-11. This concern was eased to a significant extent when it became apparent to the instructors in the classroom that most of the participants were quite up to speed in having a management-vantage perspective of their organizations, and they also exhibited a good knowledge of the dynamic changes that are taking place in the power sector of India.

The instructors also observed that although the participants perceive the changes that are gaining momentum to transform the SEBs, they still show a great deal of inertia and skepticism in their views of whether change is possible. There is a tendency to say, "This is the way things have always been done, and I don't think it will change." The participants were encouraged to free themselves from this confining mind-set, open themselves to the ideas presented to them, and explore (at least conceptually) new ideas, creative options, and bold suggestions. A change in their frame of mind was noticeable as the 4 weeks progressed. This was most evident in the project papers they presented at the end of the course, when they became quite open in suggesting changes they might have thought inconceivable at the outset of the training.

The participants conducted themselves very professionally throughout all the activities associated with TR-11. They were attentive and interacted with their instructors in a lively manner. Good questions were raised constantly, and thoughtful and insightful comments were offered. They even engaged in friendly debates among themselves. Their participation greatly enhanced the quality of TR-11, which was designed to optimize the benefits of interactive and hands-on teaching. It also allowed the instructors to learn more about the SEBs.

Although most participants were meeting for the first time, they quickly formed strong bonds, both academically and socially. There was no detectable disharmony. They made good use of after class and weekend time to explore San Francisco either in groups or individually. Some even managed to make out-of-town and even out-of-state excursions. They all became experts in the public transportation systems and visited many of the city's attractions.

20

Section 7

Lessons Learned and Recommendations

7.1 LESSONS LEARNED

1. During the planning stage of TR-11, the major difficulties encountered were associated with the stop-and-go decisions due to uncertainty about approval of the course and its participants. The very nature of TR-11 required complex orchestration of many speakers from different sources and the cooperation and courtesy of participating institutions. It was difficult to hold together a coherent program when firm approvals were not forthcoming until the last minute.
2. The second difficulty related to the small number of participants who were ultimately cleared by Government of India. While many speakers and participating organizations were given the understanding that there would be 20–25 mid-level to senior Indian power sector managers and officials, some disappointment was unavoidable when only 10 showed up. This small number also greatly compromised the cost-effectiveness of the training course.
3. The preparation of participant handbooks and briefing materials proved to be instrumental in the smooth running of TR-11. Rules were clearly enunciated and boundaries were set firmly on how the group should cooperate to get the most out of the training. The participants responded positively, and exhibited admirable cooperation throughout TR-11. No one individual emerged as the group's leader, as occurred in some of the previous training courses, but the requests of the group were communicated well to the instructors and coordination between the participants was done largely in a collegial fashion. Mutual respect and courtesy were evident.
4. TR-11 was organized with industry practitioners as its instructors. They were encouraged to blend their lectures with discussions. By means of inductive questioning, they elicited comments and stimulated creative thinking of the participants. The course materials made extensive use of case histories and actual hands-on experiences. Field trips were an integral feature of TR-11 to lend even more realism. This approach went well and contributed to the success of TR-11.
5. The approach of assigning a project paper to the participant was a fresh one in BESP. The participants appeared to embrace the idea well and took on this rather demanding challenge with a high degree of intellectual energy. The close interaction with the instructors in developing these papers was highly appreciated. The participants appeared to enjoy the exercise.
6. The participants were reminded frequently that they were expected to become instructors themselves and to share the knowledge they gained with their peers and subordinates. A copy of all the classroom teaching materials and handouts was given to them so that they are free to use these resources to construct their own training activities in India.

7.2 RECOMMENDATIONS

1. A concerted effort with all EMCAT decision-makers should be made to ensure that future training courses are firmly in place at an early date to allow smooth planning and execution of the training. Making a firm and timely commitment will go a long way toward maintaining the credibility of EMCAT as a significant training vehicle for the Indian power sector.
2. The number of participants for future training courses should be set at a minimum of 20, depending on the subject materials and available venue to maintain the cost-effectiveness of EMCAT. More importantly, a larger class will allow the impact of the training to be spread out to cover more SEBs.
3. Candidates for training should be subjected to a more critical review to ensure that there is no mismatch between the background of any participant and the course content. Any such mismatch will lead to the frustration of both the instructors and the participants.
4. The practice of providing participant handbooks and briefings, along with the early establishment of ground rules, should be continued and refined. This proved to be instrumental in the smooth running of TR-11, and helped to maintain the morale of the group.
5. Future training under EMCAT should continue to emphasize practical hands-on experience transfer from instructors to participants. Since most participants are experienced professionals, they can absorb and relate the training to on-the-job application much more readily with this approach.
6. The project paper approach should be followed in future training courses. More classroom time should be devoted to this aspect of the training.
7. The TR-11 graduates should be surveyed a year after the completion of TR-11 to obtain their feedback on the effectiveness of TR-11.

22

Annex 1
TR-11 Agenda

TR 11 - Strategic Planning and Management

Bechtel Building - 50 Beale St., San Francisco
8th Floor / Conference Room A65

AGENDA Week 1

<u>Date</u>	<u>Time</u>	<u>Course</u>	
Sept 28 Thurs.	8:00	Introduction and Course Overview Creating an Efficient Electric Sector for India	E. Y. Lam--Bechtel M. Manzo--World Bank
	Noon	Lunch	
	1:00	Risk Management and Strategic Planning	P. Gupta--Consultant
Sept 29 Fri.	8:00	Inter-Utility Contracting	T.Simpson--Bechtel
	Noon	Lunch	
	1:00	Load Forecasting and Tariffs	F. Davis--Bechtel

TR 11 - Strategic Planning and Management

Bechtel Building - 50 Beale St., San Francisco
8th Floor / Conference Room A65

AGENDA
Week 2

<u>Date</u>	<u>Time</u>	<u>Course</u>	
Oct 2 Mon.	9:00	Utility Management - Legislative and Regulatory Framework - Corporate Policy Formulation - Organization Structures and Functions	R.Borgstrom--Price Waterhouse A.Lapuz--Price Waterhouse
	12:30	Lunch	
	2:00	Strategic Planning - Planning Methodologies - Organizational Requirements	R.Borgstrom A.Lapuz
Oct 3 Tues.	9:00	Strategic Planning - (Cont.) - Implementation Process - *OFAP as Planning Tool (*Operation Financial Action Plan)	R.Borgstrom A.Lapuz
	12:30	Lunch	
	2:00	Management Performance Measure - Standards and Benchmarks Business Planning and Budgeting	R.Borgstrom A.Lapuz R.Borgstrom A.Lapuz
Oct 4 Wed.	9:00	Business Reengineering Methodologies	R.Borgstrom A.Lapuz
	12:00	Lunch	
	2:00	Group Exercises	R.Borgstrom A.Lapuz
Oct 5 Thurs.	8:00	Reinventing the Electricity Supply Industry in Developing Countries - The Past - The Open Competitive Trend - Emerging Industry Models - World Bank Approach	L. Gutierrez--World Bank
	Noon	Lunch	
	1:00	Reform and Pricing Issues: How to Manage the Political Fallout of Reform - with case studies of reform Lessons Learned from Reformed Countries: What not to do!	L. Gutierrez L. Gutierrez
Oct 6 Fri.	9:30-12:30	Field Trips--NCPA Energy Control Center (Sacramento)	Jim Whalen--NCPA
	2:00-4:00	PVUSA Photovoltaic Power Plant (Davis)	D.Shipman/T.Townsend--Bechtel

TR 11 - Strategic Planning and Management

Bechtel Building - 50 Beale St., San Francisco
8th Floor / Conference Room A65

AGENDA Week 3

<u>Date</u>	<u>Time</u>	<u>Course</u>	
Oct 9 Mon.	8:00-5	Software and Data Base as Planning & Management Tools - Generation Expansion - Integrated Planning - Demand Side Management - Workshop	M. Bradaric--Bechtel J. Steury--EPS " " " "
Oct 10 Tues.	9:30-12:00 3:00	Visit to California Energy Commission (Sacramento) Departure for return to San Francisco	Gitte Jensen--CEC
Oct 11 Wed.	All Day	Field Trip - Windfarm Power (Altamont Pass) Cogeneration Power Plant (Gilroy)	Scott Healy-- Kenetech Dick Stanley-- Bechtel
Oct 12 Thurs.	8:00 Noon 1:00 - 6	The Challenge of Private Power Development and Market Forces - with case studies in the UK, US, Europe and Latin America Lunch Utility Financial Analysis (Ritz Carlton Hotel) - Application of Finance Theory - Security Analysis - Rating Agency's Role - Public Financing - Financing for Different Utilities	R. McWhinney-- Consultant A. Mukerji et al-- Redwood Securities
Oct 13 Fri.	8:00 Noon 1:00	Competitive Bidding for Electric Power Lunch Planning for and Managing Private Power Financing Private Power in India	Ed Kahn--Lawrence Berkeley Laboratory J. Blee--Bechtel " "

TR 11 - Strategic Planning and Management

Bechtel Building - 50 Beale St., San Francisco
8th Floor / Conference Room A65

AGENDA
Week 4

<u>Date</u>	<u>Time</u>	<u>Course</u>	
Oct 16 Mon.	8:00	Planning for Power Plant Siting	N. Kudlu--Bechtel
	Noon	Lunch	
	1:00	Customer Choice and Open Access - Panel discussion	B. Barkovich-- Consultant
Oct 17 Tues.	8:00	Planning for Renewable and Innovative Technologies	R. Dracker--Bechtel
	Noon	Lunch	
	1:00	Managing Distribution Systems	W. Scott--Consultant
Oct 18 Wed.	8:00-9:30	Clean Coal Technologies	V. Chari--Bechtel
	10:00	Energy Efficiency and Demand Side Management	G.Smith/B.Wood-- Bechtel
	Noon	Lunch	
	1:30-4:30	Energy Conservation in the PG&E System Location: PG&E Pacific Energy Center (Mission St.)	L. Grossman--PG&E
Oct 19 Thurs.	9:00-1:00	Field Trip - EPRI (Palo Alto)	M. Lieberman--EPRI
	12:00-1:00	EPRI Luncheon	K. Van Orsdol-EPRI
	1:00	Return to Downtown SF (Bechtel Bldg./50 Beale)	
	2:00	Group Exercises (Recommendations for Follow-Up Workshop in India)	E.Y.Lam--Bechtel
Oct 20 Fri.	8:00 - 5	Bechtel Total Quality Management Course	M. Rezek--Bechtel

TR 11 - Strategic Planning and Management

Bechtel Building - 50 Beale St., San Francisco
8th Floor / Conference Room A65

AGENDA Week 5

<u>Date</u>	<u>Time</u>	<u>Course</u>	
Oct. 23 Mon.	8:00 - 5	Bechtel Total Quality Management Course	M. Rezek--Bechtel
Oct 24 Tues.	8:00 - 5	Bechtel Total Quality Management Course	M. Rezek
Oct 25 Wed.	8:00	Environmental Impact Assessment Planning and Management Air Quality Improvement	I.Torrey--Bechtel D.Ballanti--Consultant
	Noon	Luncheon	
	1:00	Concluding Remarks and Graduation Ceremony	E.Y. Lam

EMCAT - TQM Training
 October 20, 23, & 24, 1995

DAY 1	TOPIC	TIME	DAY 2	TOPIC	TIME
	Welcome/Agenda/Housekeeping/ Training Overview - Daily Agenda Review - Systematic Process of Training - Roles of Facilitators	8:00		Welcome/Agenda	8:00
	Introductions			Functional Styles	
	BREAK	9:00		BREAK	9:30
	CI Concepts			Describing the Current Process	
	Leadership Alliance - Methodology, Brainstorming, Affinity, Prioritization, Evaluation Criteria			LUNCH	11:30 -12:30
	LUNCH	12:00- 1:00		Group Dynamics	
	Effective Meeting Skills			BREAK	2:00
	BREAK	2:30		Analyze the Process	
	Team Roles & Team Formation			Develop a Data Collection Plan	
	Issue Bin Review & Session Evaluation			Issue Bin Review & Session Evaluation	
	Adjourn	3:30		Adjourn	4:30

EMCAT - TQM Training
October 20, 23, & 24, 1995

DAY 3	TOPIC	TIME
	Welcome/Agenda/Overnight Questions/Keepers	8:00
	Analyze the Data	
	BREAK	9:45
	Facilitation Skills	
	LUNCH	11:30 -12:30
	Develop the Purpose Statement	
	Completing the Methodology	
	BREAK	1:30
	Action Plan	
	Review Issue Bin, Expectations, & Final Session Evaluation	
	Adjourn	4:00

**EMCAT - TR-11 TQM Training
October 20, 23, and 24, 1995**

DAY 1	TOPIC	TIME	DAY 2	TOPIC	TIME
	Welcome/Agenda/Housekeeping/ Training Overview - Daily Agenda Review - Systematic Process of Training - Roles of Facilitators	8:00		Welcome/Agenda	8:00
	Introductions			Functional Styles	
	BREAK	9:00		BREAK	9:30
	CI Concepts			Describing the Current Process	
	Leadership Alliance - Methodology, Brainstorming, Affinity, Prioritization, Evaluation Criteria			LUNCH	11:30 -12:30
	LUNCH	12:00- 1:00		Group Dynamics	
	Effective Meeting Skills			BREAK	2:00
	BREAK	2:30		Analyze the Process	
	Team Roles & Team Formation			Develop a Data Collection Plan	
	Issue Bin Review & Session Evaluation			Issue Bin Review & Session Evaluation	
	Adjourn	3:30		Adjourn	4:30

EMCAT - TR-11 TQM Training
October 20, 23, and 24, 1995

DAY 3	TOPIC	TIME
	Welcome/Agenda/Overnight Questions/Keepers	8:00
	Analyze the Data	
	BREAK	9:45
	Facilitation Skills	
	LUNCH	11:30 -12:30
	Develop the Purpose Statement	
	Completing the Methodology	
	BREAK	1:30
	Action Plan	
	Review Issue Bin, Expectations, & Final Session Evaluation	
	Adjourn	4:00

Annex 2
Participant List for the EMCAT
Strategic Management and Planning Course

List of Participants

Name	Title	Organization
V. K. Agrawal	Additional Secretary	Madhya Pradesh SEB
P. K. Bandyopadhyay	Manager (Civil)	West Bengal Power Development Corporation
D. P. Chirania	Senior Executive Engineer	Rajasthan SEB
B. Garnaik	General Manager (O&M)	Orissa Power Generation Corporation
A. Haldia	Deputy General Manager(OFAP)	Power Finance Corporation
G. V. Kumar	Divisional Engineer(Electrical)	Andhra Pradesh SEB
D. Prasad	Executive Engineer(Planning)	Uttar Pradesh SEB
H. M. Raghunatha Rao	Executive Engineer(Electrical)	Karnataka Power Corporation Ltd.
D. Ray	Manager (EMCAT)	Power Finance Corporation
H. A. Shah	Additional Chief Engineer	Gujarat SEB

Annex 3
Participant Course Evaluation Questionnaires

EMCAT EVALUATION QUESTIONNAIRE

(Please print)

NAME: _____
(optional)

1. Are you returning to the same position you occupied before training?

Yes () No () No Prior Job ()

If no, what is your new position?

Job Title	Dept/Agency/Company
-----------	---------------------

2. Did the training you receive fulfill its designated objectives?

Yes () No ()

If no, please explain why: _____

3. Which of the following orientations, if any, did you attend in preparation for your training program?

- () Pre-departure orientation in home country
- () Arrival orientation in country of training
- or
- () Did not attend an orientation

4. Were you adequately prepared for your training program?

Yes () No ()

If not, what would have helped you to become better prepared?

36

5. To what extent did you encounter any social or cultural adjustment problems:

No Problems 1	Some Problems 2	Many Problems 3

If many problems were encountered, please explain: _____

6. Did you have English language training either in the United States or prior to departure for training?

- Had English language training prior to departure
- Had English language training in the United States
- Did not have English language training.

7. To what extent did you experience problems with the English language?

Speaking

Understanding

Writing

Reading

No Problems 1	Some Problems 2	Many Problems 3

8. How satisfied are you with the following aspects of your training program?

	Very Satisfied	Moderately Satisfied		Not Satisfied	
	1	2	3	4	5
Program Content and Delivery (technical level, length amount of information)					
Relevance of Training to Job					
Applicability of Training to Host Country Conditions					
Balance of Theory and Practice					
Competence of Instructions					
Adequacy of Training Facilities					
Administrative Arrangements					
Chance to meet Americans (or nationals of country of training)					

If not satisfied with any aspect, please explain: _____

9. How satisfied are you with your overall training experience?

Very Satisfied	Moderately Satisfied		Not Satisfied	
1	2	3	4	5

10. What have been the greatest benefits from your training program? (Please number in rank order. Rank no more than three items)

- Enhanced professional capabilities
- Career advancement/better job opportunities
- Exposure to other culture(s) and social system(s)
- Professional contacts
- Obtaining a degree or certificate

Other: _____
(specify)

11. As a result of your training, what contributions are you now prepare to make upon return to your organization/job? (Please number in rank order. Rank all that apply).

- Manage a project, office, division, or company
- Initiate new projects or services
- Improve operational procedures, programs or services
- Influence or make policy
- Train others (workshops, on-the-job training, etc.)
- Participate in research activities
- Did not return to a specific organization/job

Other: _____
(specify)

Additional Comments: _____

Thank you for your cooperation and good luck with your career in India

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	3	4	
Practical Value	1	2	3	4	
Introduction of New Ideas	1	2	3	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	4	
Organization of Materials	1	2	3	4	
Amount of Interest Generated	1	2	3	4	
Quality of Questions/Discussions	1	2	3	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	3	4	
Balance Between Lecture and Group Activities	1	2	3	4	
Value of Training Exercises	1	2	3	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	3	4	
Were Objectives met?	YES		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	3	4	
Improvement of Management Skills	1	2	3	4	
Opportunity of Team Work	1	2	3	4	
OVERALL RATING OF THE COURSE	1	2	3	4	

40

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	3	(4)	
Practical Value	1	2	(3)	4	
Introduction of New Ideas	1	2	(3)	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	(4)	
Organization of Materials	1	2	3	(4)	
Amount of Interest Generated	1	2	3	(4)	
Quality of Questions/Discussions	1	2	3	(4)	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	(3)	4	
Balance Between Lecture and Group Activities	1	2	3	(4)	
Value of Training Exercises	1	2	(3)	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	3	(4)	
Were Objectives met?	YES		NO	YES	
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	3	(4)	
Improvement of Management Skills	1	2	3	(4)	
Opportunity of Team Work	1	2	3	(4)	
OVERALL RATING OF THE COURSE	1	2	3	4	

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	(3)	4	
Practical Value	1	(2)	3	4	
Introduction of New Ideas	1	(2)	3	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	(3)	4	
Organization of Materials	1	2	(3)	4	
Amount of Interest Generated	1	2	(3)	4	
Quality of Questions/Discussions	1	2	(3)	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	(2)	3	4	
Balance Between Lecture and Group Activities	(1)	2	3	4	
Value of Training Exercises	1	(2)	3	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	(3)	4	
Were Objectives met?	(YES)		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	(2)	3	4	
Improvement of Management Skills	1	2	(3)	4	
Opportunity of Team Work	1	2	(3)	4	
OVERALL RATING OF THE COURSE,	1	2	(3)	4	

1 5 8

42

Name: A. Venaya Kumar

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	3 ✓	4	
Practical Value	1	2	3 ✓	4	
Introduction of New Ideas	1	2	3	4 ✓	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	4 ✓	
Organization of Materials	1	2	3 ✓	4	
Amount of Interest Generated	1	2	3 ✓	4	
Quality of Questions/Discussions	1	2	3 ✓	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2 ✓	3	4	
Balance Between Lecture and Group Activities	1	2 ✓	3	4	
Value of Training Exercises	1	2	3 ✓	4	
COURSE DESIGN					
Clarity of Course Objectives	1 ✓	2	3 ✓	4	
Were Objectives met?	YES ✓		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2 ✓	3	4	
Improvement of Management Skills	1	2	3 ✓	4	
Opportunity of Team Work	1	2	3	4 ✓	
OVERALL RATING OF THE COURSE,	1	2	3 ✓	4	

3 8 3

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	(3)	4	
Practical Value	1	2	(3)	4	
Introduction of New Ideas	1	2	3	(4)	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	(4)	
Organization of Materials	1	2	(3)	4	
Amount of Interest Generated	1	2	(3)	4	
Quality of Questions/Discussions	1	(2)	3	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	(3)	4	
Balance Between Lecture and Group Activities	1	2	3	(4)	
Value of Training Exercises	1	2	(3)	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	(3)	4	
Were Objectives met?	YES	✓	NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	(3)	4	
Improvement of Management Skills	1	2	3	(4)	
Opportunity of Team Work	1	2	(3)	4	
OVERALL RATING OF THE COURSE	1	2	(3)	4	

*leave some reservations about culture specific
of training as raised earlier have no solutions
for this problem ready 1 9 4*

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	(3)	4	
Practical Value	1	2	(3)	4	
Introduction of New Ideas	1	2	(3)	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	(3)	4	
Organization of Materials	1	2	(3)	4	
Amount of Interest Generated	1	2	(3)	4	
Quality of Questions/Discussions	1	2	(3)	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	(2)	3	4	
Balance Between Lecture and Group Activities	1	2	(3)	4	
Value of Training Exercises	1	2	(3)	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	(3)	4	
Were Objectives met?	(YES)		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	(2)	4	
Improvement of Management Skills	1	2	(3)	4	
Opportunity of Team Work	1	2	(3)	4	
OVERALL RATING OF THE COURSE	1	2	(3)	4	

1 13 0

45

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	3	④	
Practical Value	1	2	③	4	
Introduction of New Ideas	1	2	③	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	④	
Organization of Materials	1	2	③	4	
Amount of Interest Generated	1	2	③	4	
Quality of Questions/Discussions	1	2	③	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	③	4	
Balance Between Lecture and Group Activities	1	2	3	④	
Value of Training Exercises	1	2	③	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	③	4	
Were Objectives met?	✓ YES		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	3	④	
Improvement of Management Skills	1	2	3	④	
Opportunity of Team Work	1	2	③	4	
OVERALL RATING OF THE COURSE,	1	2	③	4	

9 5

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
INFORMATION/CONTENT	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<u>Excellent</u>	COMMENTS
Relevance of Training to Job	1	2	3	(4)	
Practical Value	1	2	(3)	4	
Introduction of New Ideas	1	2	(3)	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	(4)	
Organization of Materials	1	2	3	(4)	
Amount of Interest Generated	1	2	3	(4)	
Quality of Questions/Discussions	1	2	3	(4)	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	(3)	4	
Balance Between Lecture and Group Activities	1	2	(3)	4	
Value of Training Exercises	1	2	(3)	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	3	(4)	
Were Objectives met?	YES ✓		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	3	(4)	
Improvement of Management Skills	1	2	3	(4)	
Opportunity of Team Work	1	2	3	(4)	
OVERALL RATING OF THE COURSE	1	2	3	(4)	

5 9

69

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	3	4	
Practical Value	1	2	3	4	
Introduction of New Ideas	1	2	3	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	4	
Organization of Materials	1	2	3	4	
Amount of Interest Generated	1	2	3	4	
Quality of Questions/Discussions	1	2	3	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	3	4	
Balance Between Lecture and Group Activities	1	2	3	4	
Value of Training Exercises	1	2	3	4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	3	4	
Were Objectives met?	YES		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	3	4	
Improvement of Management Skills	1	2	3	4	
Opportunity of Team Work	1	2	3	4	
OVERALL RATING OF THE COURSE	1	2	3	4	

7 7

Handwritten initials

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	3	✓4	
Practical Value	1	2	3	✓4	
Introduction of New Ideas	1	2	✓3	4	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	✓4	
Organization of Materials	1	2	3	✓4	
Amount of Interest Generated	1	2	3	✓4	
Quality of Questions/Discussions	1	2	✓3	4	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	3	✓4	
Balance Between Lecture and Group Activities	1	2	3	✓4	
Value of Training Exercises	1	2	3	✓4	
COURSE DESIGN					
Clarity of Course Objectives	1	2	3	✓4	
Were Objectives met?	YES		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	✓3	4	
Improvement of Management Skills	1	2	3	✓4	
Opportunity of Team Work	1	2	3	✓4	
OVERALL RATING OF THE COURSE,	1	2	3	✓4	

3 11

67

COURSE EVALUATION FORM

Please take a few minutes to give us some valuable feedback on the TQM Training Course. Circle the appropriate box.

	1	2	3	4	
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>	COMMENTS
INFORMATION/CONTENT					
Relevance of Training to Job	1	2	3	(4)	
Practical Value	1	2	3	(4)	
Introduction of New Ideas	1	2	3	(4)	
PRESENTER/SPEAKERS					
Clarity of Lecture/Presentation	1	2	3	(4)	
Organization of Materials	1	2	3	(4)	
Amount of Interest Generated	1	2	3	(4)	
Quality of Questions/Discussions	1	2	3	(4)	
GROUP INTERACTION					
Opportunity to Interact with Others	1	2	(3)	4	
Balance Between Lecture and Group Activities	1	2	3	(4)	
Value of Training Exercises	1	2	3	(4)	
COURSE DESIGN					
Clarity of Course Objectives	1	2	3	(4)	
Were Objectives met?	(YES)		NO		
BENEFITS OF THE TQM TRAINING PROGRAM					
Strengthen Professional Capabilities	1	2	3	(4)	
Improvement of Management Skills	1	2	3	(4)	
Opportunity of Team Work	1	2	3	(4)	
OVERALL RATING OF THE COURSE	1	2	3	(4)	

1 13

50