



Coal and Energy Development Department ,
GOVERNMENT OF SINDH

**GOVERNMENT POLYTECHNIC INSTITUTE, MITHI,
THARPARKAR, SINDH, PAKISTAN**

I. Back Ground of the Project

1.1. Government Polytechnic Institution is located at Mithi, district Tharparkar, in the southern part of the Sindh. The district of Tharparkar has over one million population and is spread over an area of around 22,000 square kilometers. The region is distinguished by its low and erratic rainfall, high atmospheric aridity, abundant sunshine and heat. High sand dunes and sandy plains cover 70 per cent of its surface. With low socio-economic indicators, Tharparkar is ranked by UNDP as having the third lowest level of human development of all districts in the country.

1.2. Polytechnic Institution Mithi was established to harness the skills of young work force and thereby to contribute in the initiatives aimed at improving the overall situation of human development in the region. Particularly, the focus of setting an institution was to complement and harvest the immense potential and opportunities generated by Thar Coal mining and power projects in the benefit of local population.

1.3 Presently, Sindh Technical Education and Vocational Training Authority (STEVTA), is responsible for operation and management of the polytechnic institute Mithi. The Institution offers 3-years diploma courses in two disciplines: electrical technology and mining technology. The courses in electrical technology were started since the inception of institution, whereas the mining courses developed by Association of Canadian Community Colleges were added later on, in 2003 with ADB funding. The current student strength is 235 of whom 50 are enrolled in the mining technology diploma. Some 1,000 students have received the diploma in electrical technology while 93 have received the mining technology diploma. Currently, there are only two instructors in electrical technology and one in mining technology. The building of institute stands over 36700 square feet, and is equipped with furniture, fixture and necessary equipment.

1.4 The Thar coalfield was discovered in the early 1990's through a joint effort by the Geological Surveys of Pakistan and the USA. The Thar coalfield has estimated 175 billion tons of lignite coal over 9,100 km² area. Since the discovery of the Thar Coalfield, both the Provincial government of Sindh and the Federal Government have shown a strong interest to develop the lignite resources for power-generation, offering individual mining blocks to domestic and international investors, inviting them to develop an integrated mine to power projects over a specified leasing period. So far a number of projects for opencast lignite mining and mine mouth power generation as well as underground coal gasification are in different stages of development in 6 blocks of Thar coal field. The initiation of mining work in these blocks within coming years would create thousands of job opportunities in a range of mining, power generation and their ancillary disciplines.

2 Objective of Project: The ultimate objective of the project is to produce Human Resources of such high standard who can compete internationally for jobs in coal mining and power generation sectors.

3. Scope of the Project

In order to facilitate Human Resource requirement for coming years when large number of skilled and semi skilled workers will be required as the projects of mining and power plants come to maturity, the Coal and Energy Department has prepared a scheme of establishment of mining Institute with foreign collaboration.

The Coal and Energy Development department Government of Sindh plans to upgrade the Polytechnic Institute Mithi by affiliating it with some international institute of repute which shall confer its certification degree to and offer more avenues of skill development, value addition and creative careers for the youth of the province, as well as can meet job demand created by development of Thar Coal Industry.' It comprises two thematic areas;

3.1 To impart quality education and transfer of skills to the prospective students and artisans in a range of disciplines that can meet job demands generated by Thar Coal mining and power generation projects.

3.2 To develop a modern technical institute by practicing internationally recognized standards of operation and management.

4. Terms and Conditions

4.1 Develop and impart training courses/certificates in trades/disciplines covering, but not limited to, areas given in Annex I and updating and increasing them in line with the requirements of opportunities created by mining and power generation in different phases of projects development.

4.2 Develop curriculum and syllabus for identified trades and provide framework for such courses including course duration, credit hours required, designing of teaching

methodology and plans for awarding degree, diploma and certificate courses for skilled and semi skilled workforce engaged in mining and power generation projects.

4.3 Confer certification degree to and offer more avenues of skill development, value addition and creative careers for the youth of the province, as well as can meet job demand created by development of Thar Coal Industry.

4.4 Identify the faculty requirements, select the faculty and administer and manage their affairs to ensure timely and effective delivery of identified education and training requirements.

4.5 identify needs for additional civil work if required so, in order to create enabling environment including, but not limited to, well equipped, state of art library, workshops and labs and other academic facilities.

4.6 Identify the equipment and tools required to meet the educational and training activities planned at the institute e.g simulators etc.

4.7 Design and implement capacity building plan to develop local faculty of same caliber as that of affiliated institution.

4.8 Developing and implementing Operation and Management system in line with international standards, highlighting clear goal, strategy and operational plans and identifying human, physical and financial requirements necessary for fulfilling the envisaged plan.

4.9 Developing and implementing Standard Operational Procedures (SoP) and establishing a clear and well defined process for performance evaluation of teaching and administrative staff.

4.10 Developing and implementing 'Incremental Plan', highlighting schedule for training need assessment and on-the-job training, reviewing and updating syllabus and expanding physical and human resources in accordance with requirements of incoming projects and technology used in them.

Annex I

**PROPOSED TRADES FOR INTERNATIONAL INSTITUTE IN THE FIELD OF
MECHANIZED OPEN CAST MINING AND COAL BASED POWER
GENERATION AT MITHI, SINDH, PAKISTAN**

S#	TRADES	DURATION	Job Category
01	<ol style="list-style-type: none"> 1. Electrical Technician 2. Mining Technician 3. Mechanical Technician 	Preferably 6 months	Operating Staff
02	<ol style="list-style-type: none"> 1. Mechanical Technology 2. Information Technology 	Preferably 6 months	Supervisory Staff
03	<ol style="list-style-type: none"> 1. Mine Surveying 2. Hydro Geology 3. Exploration & Reserve Estimation(Drilling, Logging & Digital Modeling) 4. Digital Mapping(Auto Cad, Mine Design Software) 5. Slope Stability in Soft Rock Mining 6. Coal Gasification 7. Coal Analyst (Ultimate & Proximate) 8. Coal Preparation for Power Plant 9. Mine Rescue & Safety 10. Clean Coal Technology 11. Environmental Control 12. Soil & Rock Mechanic/Testing 13. Heavy Duty Machine Maintenance 14. Mineral Economist 15. Mining Civil Works 16. Haul Road Maintenance 17. Mine Electrician 18. General Electrician 19. Auto Electrician 20. Auto Mechanic 	Preferably 6 months	Supervisory staff

	<ul style="list-style-type: none"> 21. Agriculturist (reclamation Process) 22. Mine Management 23. Ergonomics 24. Electric Generation 25. Electric Transmission 26. Electric Distribution 27. Electric Protection 28. Workshop 29. Data analyst 30. CC Monitoring System 		
04	<ul style="list-style-type: none"> 1. Crane operator 2. Drill Machine Operator 3. Spreader/Recamier Operator 4. Mine water pump operator 5. Shovel operator (all types) 6. Dumper operator 7. Dozer operator 8. Conveyor belt operator 9. Mine truck operator 10. Scraper operator 11. BWE (Bucket wheel operator) 12. Drag line operator 13. Drafts man for Mapping 14. Sampler 15. Short firer 16. Charge man 17. Plumber 18. CC Monitoring system operator 19. Workshop tools 	Preferably 3-6 months	Worker/ Labour