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Vignette®

A Newsletter of ECIL

ECIL

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EDITORIAL

This revived premiere issue of the vignette is in your hands now! while the editorial board has worked very hard to ensure highest quality and accuracy of information that are part of this publication, nevertheless, any error and/or omission is only a testimony that we indeed are humans and to err is human. We are hopeful that in future, you will continue to receive the issues of vigenette regularly every four months three times a year. While we try to keep our promise,we hope that you will continue to send us your valuable comments and suggestions on how we may further improve the quality of this publication.

The primary motive behind invigorating the vignette is to continue the good old tradition of sharing information with engineering fraternity in general and our valued clients in particular.It is an extremely satisfying feeling to share our knowledge and experiences, successes & short-comings, vision and concerns on the state of affairs within the engineering community of Pakistan.

In this premiere issue,we would like to share the vision of ECIL for the twenty first century.

The twenty first century, as publicized in media, is not the physical gate way in the timeframe where we, as a nation, can march in with an immensity of ignorant and uneducated masses. Rather, it is going to be the age of knowledge and technology.It can be seen that only those nations are going to succeed in the next century, who have prepared themselves to face the challenges of coming time. The only strategic option for Pakistan is to recognize the needs encompassing the pressing requirements such as education, human resource development, technology, and focused research and development activities. One may argue that under the present economic scenario the above may be

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ECIL ACQUIRES ISO-9001 CERTIFICATE

By Muhammad Zulfiqar Ahmad

Saturday, 9 October 1999, the venue was a ballroom at Hotel Pearl Continental in Karachi and the company – ECIL. The ambience was glowing with the faces of those who had made the day a reality.

A day of joy and fulfillment of a vision perceived by a single man 40 years ago, Mr. Zaheer Mirza – the Chairman/CEO of Engineering Consultants International (Pvt) Ltd., Pakistan. And I remember Mr.Mirza, speaking on the occasion, "I began this Journey in 1959 as a single person from a very small office. It has been a long struggle that now we all see as 800 strong committed people at ECIL that we proudly received this quality certificate. This is a moment of great joy and thanksgiving for all of us. As we enter the new millennium, we hope that this commitment would make this company strong in the next 20 years."

ISO-9001 is a quality management system that integrates the numerous processes of a company into an effective network to serve as a management tool. At ECIL, the idea of putting the company to the test of quality began after Mr. Zaheer Mirza returned from the FIDIC annual conference in 1996. There he received a keen awareness on the importance of ISO-9000 and its role in the next century. Soon, Mr. Mirza called upon his team and gathered them in a special seminar conducted for ECIL by the Pakistan Institute of Management (PIM) in December 1996. The title of the seminar was "Introduction to ISO-9000".

QUALITY POLICY

Engineering Consultants International (Pvt) Limited is committed to provide quality consultancy service to its clients by carefully understanding their requirements, and meeting the genuine needs of the clients to their satisfaction. The objective of implementing quality is to enhance the operational performance with an aim to "do-the-right-things-right-the -first-time". This desired level of quality will be achieved through implementation and maintenance of an effective quality system targeted at continuously improving the processes and enhancing the quality of its professionals through systematic training to bring the best out of them.

The seminar and its experience boosted the confidence of the management and it was considered a need of the hour. Hence, a decision was taken to go for the certification on ISO-9001 standard for quality assurance in design, production, installation, and servicing. So the foundation stone had been laid. And thus began the journey of inspirations, pitfalls, marathon meetings, and cultural change. I consider it a leap in the pursuit of an unmitigated ambition towards sustained growth and honourable accomplishment.

I would begin the story from June 1997, when the first formal appointment was made to develop a Quality Management System. The idea was to acquire services of an in-house expert on quality.

The assigned task was to impart training and develop the required documentation in consultation with the design and management team. The ball had been set rolling and the expert commenced with the assignment. He was faced with a culture where priorities were set project-to-project and everyone had a unique mindset and planned according to the nature of assignments. A system was very much in place but needed a synthesis and uniformity.

ECIL head office was selected as the initial location for certification. So, a series of awareness sessions were planned and conducted for the staff in small groups. It was unique experience, as shoulders shrugged, heads twisted and cynical smiles were observed with expressions of doubt about the whole exercise.

The initial atmosphere was generally curious, inquisitive, and fearful besides lacking seriousness as most considered it all a whimsical experiment.

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GIS AND INFORMATION TECHNOLOGY IN ECIL

M. Moinuddin Farooqui

Geographic Information Systems (GIS) is a unique system designed for the acquisition and verification, compilation, storage, updating and changing, management and exchange, manipulation, retrieval and presentation, analysis and combination of geographic data. It is the combination of computer assisted cartography and database technology. It may include computer images, hardcopy maps, geographic (statistical) data and any other data needed for study as well as computer software and human knowledge. GIS can process data and provide the answers to questions say, the particulars of given location, the distribution of selected phenomena, the changes that have occurred since a previous viewing, the impact of a specific event, or the relationship and systematic patterns of a region.

Every GIS task has its own requirement for using hardware and software. Usually for big GIS projects, Workstations are used to handle the bulk of databases while for a simple one, desktop or PC based systems are generally used. The other hardwares may include digitizers, scanners, digital cameras, plotters, printers etc. There are a number of GIS softwares

available in the market such as, ArcInfo, ArcView, MapInfo.

GIS has been applied by a wide range of disciplines to a correspondingly wide range of problems at a wide range of scales and geographic areas. It can help everyone in making better, more informed decisions that will improve services, reduce costs and even in reaching more customers. GIS can be helpful for fire brigades, for whom rapid reliable information on the locations of fire and the pesence of hazards such as explosives would be invaluable. It can also provide details of water supply pipe network to firemen who need to know which valves to close in order to increase the water supply pressure whilst extinguishing a fire.

Insurance companies manage their risk by locating their policyholders on a map. They not only determine the risk associated with a new policy but also use it in the processing of departmental deals with the claims due to catastrophe, ensuring customers receive speedy first class services.

Head office of different banks analyses the performance of their branches by locating them on a map along with their databases.

Fisheries Department can easily design a model of fishing areas that are used extensively throughout the year, by the help of this model, they can easily divide the whole year in different time periods and then assign them to different areas for fishing activity.

Oil companies manage pipelines, well and offshore rigs.

Telecommunication companies provide improved services for their users by plotting the locations of calling problems onto a map and for printing their telephone directories.

Other applications of GIS are in natural resources, utilities, transportation, real estate, tax assessment, environmental management, demographics, crime analysis, business, agriculture, advertising and many others. Besides this, a number of GIS educational programs is growing even more faster than the use of technology. Many undergraduate GIS programs and certificate programs provide multilevel training with flexible, interdisciplinary approach. It is also very commonly used in research project.

GIS offers a wide range of benefits. It can process quantities of data far beyond the capacities of manual system. Data in GIS are stored in a uniform, structured manner, as opposed to manual systems in which data are usually stored in various archives and files, in various agencies and organization, on file cards, on various maps or in long reports. Therefore, in GIS data may be retrieved and superimposed far more rapidly than data in manual systems. In addition, data are quickly compiled into documents using techniques that include automatic map making and direct report printouts. The potential gains from switching from manually prepared maps and ordinary files to computerized GIS are considerable, both for public and private users. Projects completed by ECIL are listed below.

GIS for Shell Pakistan Limited: Developed a decision support system for the cities of Lahore, Rawalpindi and Islamabad.

Lahore Urban Transport Project : Developed a digital map of Lahore for providing engineering services for Roads and Streets Maintenance in Zone-5 For Municipal Corporation, Lahore.

Pakistan Defence Officers Housing Authority (DHA) : The project comprised of developing a detailed database for dimensioning and locating existing roads, water and sewer pipelines and manholes.

Pakistan Election Information System (EIS) : Developed an Election Information System (EIS) financially assisted by the UNDP. The system included districts information, National Assembly and Provincial Assembly constituencies. The system had also automated database for male, female, Muslim and Non-Muslim voters population attached to their respective coverages. The system had also upto date information of election 1997.

The GIS Department of ECIL uses state of the art technologies in digital Surveying & Mapping and GIS data collection. ECIL is one of the very few organizations in Pakistan fully equipped with high tech and most modern hardware facility, which include AO Scanner, Plotter and digitizer and their compatible Computers.

Provincial Forest Resource Inventory (PFRI) : Developed GIS layers for roads, settlements, landmarks, rivers, administrative boundaries, major towns etc.

Geological Atlas of Pakistan : Contributed in digitizing and developing GIS layers of Geological maps of Pakistan.

NDT EQUIPMENT USED FIRST TIME IN PAKISTAN BY ECIL

Engr, Syed Akbar Ashfaque

Prior to taking a decision regarding the reconstruction of any structure it is better to conduct a diagnostic survey to evaluate the load carrying capacity and the ability of the structure to remain serviceable after undergoing some strength degradation, due to the natural hazards such as earthquakes and strong currents of winds or fire. And it can only be done by employing Non-Destructive Testing (NDT) as after having the information about the material strength, area of reinforcing steel and some other specialized investigations it is possible to evaluate the load carrying capacity of any structure.

In most of the instances full scale testing may not be economically viable and practically desirable due to its destructive nature.

Because of the above mentioned reasons interest in in-situ testing of hardened concrete has increased considerably over recent years, mainly due to the number of concrete structures, especially those of relatively recent origin, that have been showing signs of deterioration .In under developed countries like Pakistan, NDT has more significance as with the limited resources it is sometimes difficult to provide new facilities. Therefore, it is essential that the existing facilities serve their function up to their design life and even longer.

Realizing its responsibilities and commitment to preserve the national infrastructure, Engineering Consultants International (Pvt). Ltd. (ECIL) is the first organization in Pakistan who has introduced this State- Of- The Art Technology.

ECIL is using the following facilities for the evaluation of concrete compressive strength

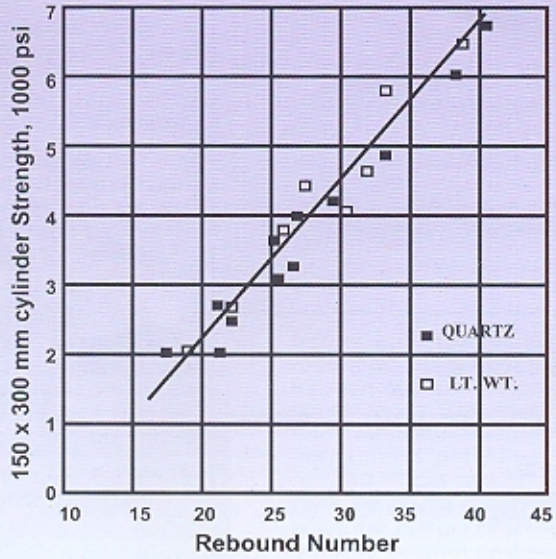
1. Core Testing
2. Rebound Hammer
3. Pullout Testing

1. Core Testing:

Core tests are frequently used to verify the quality of in-place concrete. ACI 318 provides acceptance criteria when using cores to investigate low-strength concrete. Although cores are used on many projects, the ACI provisions are sometimes misinterpreted. Also some of the ACI provisions are unclear. In addition to the above facts, core testing may not be conducted on main load carrying members like beams and columns owing to its Semi-destructive nature.

2. Rebound Hammer:

This system is composed of a spring-driven steel hammer to determine the uniformity of in-place concrete, strength and to delineate zones of poor quality or deteriorated concrete in structures.



It is an effective tool for:

i) checking the uniformity of concrete quality.

ii) comparing a given concrete with a specified requirement.

iii) estimation of compressive strength of concrete as previously explained.

iv) abrasion resistance classification.

3. Pullout Testing:

The test measures the force required to pull out a specially designed steel insert which has been cast into the concrete. The pullout test is also very useful for monitoring strength development of a newly placed concrete. Known as CAPO (cut and pull-out) this device is excellent in examining the existing concrete structures.

The CAPO-TEST has been evaluated by CEN standard (Central European Norm.), British standard, GBL Standard (Denmark), CIRIA (The construction Industry Research and Information Associates,U.K.) and designated as " probably the most reliable in-situ test method for concrete assessment."

SPECIALIZED INVESTIGATIONS

Corrosion Activity Measurement in reinforcing steel bars:

Concrete usually provides reinforcing steel excellent corrosion protection. The high alkaline environment (ph range of 12 to 13) in concrete results in the formation of a adhering film (Oxide layer) which provides passivity to the steel resulting in the loss of its chemical reactivity and protects it from corrosion.

But when carbonation progresses and chlorides ingress to the depth of the steel owing to the poor quality of concrete,the protective passivating oxide layer is no longer valid. At this lower ph level (below 9.5), corrosion is now able to begin, ultimately resulting in cracking and spalling of concrete. Spalling of the cover layer and the formation of cracks provides an access to the moisture and other environmental agents to deteriorate the concrete structure.

Realizing its responsibility and commitment to preserve the national Infrastructure, Engineering Consultants International (Pvt.) Ltd. (ECIL) is the first organization in Pakistan who has introduced this state-of-the-art technology.

Therefore, it is necessary to investigate the extent of corrosion activity before corrosion damage occurs, it can be devastating and costly to repair.

Corrosion Activity Measurements:

The areas of reinforcement corrosion can be detected by measuring the potential of the reinforcement with reference to a copper/copper sulphate reference electrode which enables potential contour maps to be plotted. The measurements are taken on a grid system on the surface of concrete. The results obtained are evaluated to the areas of active corrosion in rebars. Computer aided, wheel mounted, half

cell equipment have been developed in which readings are printed and displayed on viewing screen as it is wheeled along a grid line.

DETERMINATION OF CONCRETE COVER, REINFORCING

Steel Diameter And Their Spacing

Concrete Cover

Inadequate concrete cover to the reinforcing steel is one of the prime causes of corrosion of reinforcing steel and subsequent deterioration of concrete. Therefore, measurement of concrete cover during a condition survey is essential to establish the adequacy of protection to steel.

Reinforcing steel Diameter and their Spacing

In order to workout the load carrying capacity of any structural element, one should have an idea about the area of reinforcing steel provided.

In case of old structures, when there are no previous records, such as construction drawing, calculation etc. available, rebar locators which are working on the electromagnetic principle are the effective tools to get the above stated information.

DETECTION OF VOIDS, CRACKS, HONEY COMBING AND OTHER FLAWS IN CONCRETE

Detecting flaws under the surface concrete have always been difficult. But not any more, thanks to recent development in instrumentation and computer technology through which it is possible to create miracle.

Impact Echo Method for Flaw detection

Impact-Echo types of test method are relatively new techniques for detecting concrete defects. This method is also useful in determining depth of buried structures and thickness of pavements.

Testing Principle

A short duration stress pulse is introduced into the test object by mechanical impact on the surface.

A compression wave, the P (primary)-wave, travels into the object and is reflected by internal defects or external boundaries, propagates back to the surface and again into the test object by which a transient resonace condition is set up as multiple reflections occur.

The signals received are converted into a frequency spectrum and are displayed on a computer screen. Artificial intelligence software is used to analyse these signals predicting the probability and depth of defects.

NON DESTRUCTIVE TESTING (NDT) PROJECTS COMPLETED BY ECIL

S. No.	Building Projects
1.	Faiza Height Apartment in North Karachi (7 Blocks each having ground + 4 floors).
2.	Structural stability of the Sindh Assembly Building, Karachi.
3.	Farooq Textile Mills for Extension of Building.
4.	Smith Kline & Beecham of Pak. (SITE), Karachi for vertical expansion.
5.	BASF Factory, Landhi, Karachi, for stability of structure.
6.	Pakistan Refinery Ltd., Korangi Creeks for application of further loads.
7.	Office building at Port Qasim for vertical expansion.
8.	PIC Building at M.A. Jinnah Road, Karachi.
9.	ADB 2nd Highway Project Rehabilitation of 50 bridges & 150 culverts.
10.	Provincial Highway Project NDT of 15 bridges & 25 culverts.
11.	Bridge for P.M.O. Housing Complex

Getting Ahead----

UNCONVENTIONAL SURVIVAL SKILLS Survival in today's workplace may mean following unconventional wisdom.Here are some examples of conventional views and why they're obsolete:

- **"strive for** that promotion." The unconventional view: "Don't scoff at lateral moves." Reasons: Moving up may commit you even more to a rigid career path that could vanish in a downsizing thicket. A lateral move can lead to new skills-and new career choices.
- **"Don't broadcast** your ambitions." The unconventional view: " openly say you want a chance to grow in a new assignment." Strategy: use a mentor to help. also, seek jobs that deal with the organization's core bussiness.Reason: If jobs are cut, those jobs will remain.
- **"Study today's** job market." The unconventional view:' predict the future and create a match between you and the new job market." Pointers: Look for trends such as these; Federal funds-and jobs-will likely shift to states. The number of elderly needing medical and other services will increase.
- **Most organizations** will recognize and reward good work." The uconventional view: "You are your primary career manager." Strategy: Amass more knowledge either through your organization or on your own. Knowledge is not only power but also portable. You can take it with you to any job.

SOURCE: Pamela J.Kidder and Bobbie Ryan, writing in Journal for Quality and Participation.

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a wishful thinking. Nevertheless, those nations who do not set difficult goals for themselves may not find themselves in the successful league-of-nations.

In order to meet the challenges, serious efforts and initiatives are required from both, public and private sector. The Government must commit its resources on formulation of policies, and their true implementation, to meet the desired objectives.

ECIL is playing its due share of role to meet the challenges. We have recognized and placed high priority to knowledge-based technologies that are considered appropriate to our Country. ECIL has prepared, and is in the process of implementing, a pragmatic plan to prepare its professionals to face the challenges of a competitive global village so that they may participate effectively in the development of our Pakistan. In this respect, initiatives have been taken to develop expertise in the fields of Geographic Information Systems, Global Positioning Systems, Remote Sensing, Non- Destructive Testing, Mathematical Modeling,Water Conservation and Resource Management, Mechanistic Pavement Designs, and Bridge Modelling.

ISO Certificate (cont. from page 1)

But like all good things the effort continued and a draft set of documents was developed comprising a Quality Manual and certain work procedures on the available system. The new situation highlighted the importance of involving members of the core team in order to enable them to own the system. Realising the need, the management was quick to hire services of an experienced solo consultant to provide a lead advisory role. In February 1998 Mr. Khalid Mirza, Director (Transportation Engineering Division) was nominated as Management Representative (MR) fulfilling a mandatory requirement of the ISO-9001 standard Element 4.1 Management Responsibility.

The MR was supported by a co-ordinator and a council of core members of the company, all of which constituted as the ISO-9000 team. The responsibility was to oversee the development, implementation and operation of an adequate quality management system. The march had rebegun after a momentary pause with renewed spirit and commitment. As such a thorough review of the available draft was conducted besides ensuring a deeper involvement of the whole team.

In August 1998, the consultant conducted full time training sessions of two days each at the Karachi Sheraton Hotel. The participants included about 22 selected members of the company, young and old, all in a single team. The objective of training was to create in-house expertise on two vital control and monitoring mechanisms of ISO-9001, i.e., Element 4.17. Internal Quality Auditing and 4.20 Statistical Tools besides catering to Element 4.18 Training. The trainees were to be responsible to ensure implementation and monitoring of the system as qualified Internal Quality Auditors.

Elements of ISO-9001

1. Management responsibility
2. Quality system
3. Contract review
4. Design control
5. Document and data control
5. Purchasing
6. Control of customer supplier product
7. Product identification and traceability
9. Process control
10. Inspection and testing
11. Control of inspection, measuring & testing equipment
12. Inspection and Test Status
13. Control of Nonconforming Product
14. Corrective and preventive Action
15. Handling, Storage, Packing, Preservation & Delivery
16. Control of Quality Records
17. Internal Quality Audits
18. Training
19. Servicing
20. Statistical Techniques

From August 24 to 27, 1999, Main initial Assessment Audit was done by LRQA.

In the end, I would like to acknowledge the efforts of our Chairman/CEO, Mr. Zaheer Mirza, who provided us the vision to pursue, the guidance to act, the patience to bear and the perseverance to sustain the process to the benefit of the engineering sector and the company. Mr. Ashraf Usman, our consultant, who remained with us as a member of the ECIL family rather than an outsider. Mr. Amir Qureshi, our initial consultant, who brought us fresh ideas and kindled the motivation to pursue, Dr.Akber Khan, our in-house expert, who initiated at the grass roots and provided the basic insight about the system and last but not the least, all of the company members who carry the zealous dedication and support of their team members, at each level of the company.

The Quality Policy of the company is documented, communicated and understood by the staff members at all levels. The management is committed to implement the Quality Policy through its Quality Management system to achieve customer satisfactions. This includes assigning trained personnel and equipment for management and performance of work and verification activities including internal quality audits.

The single aim is 'success and sustainability' with hard work, continued improvement, and teamwork. And that is exactly what the people of ECIL did, and shall continue to do so in order to support and continuously improve their own quality management system.

Personality Profile

PROFESSIONAL WITH A MISSION

Friendly, cooperative and sympathetic Yusuf Ahmed is a true professional. A man of commitment and dedication he is always interested to set new records of successes in his profession. The way he teaches and guides his juniors and colleagues is appreciated by all. He is really very humble and lovable. Completing the assignments and meeting the dead lines on time is his passion.

Yusuf Ahmed is the Head of Highway Department at the Head Office in Karachi. Diminutive, smart & possessing a friendly nature, he has earned his position and respect through hard work, commitment and sincerity thereby setting very high standards in the field of highway design.

Transportation Engineering Division is one of the mainstay in ECIL growth of stature over the last 22 years. The Division is managed by a group of specialists in the field of highway design, transportation planning, geo-technical and pavement design, hydrology, contracts and structural design.

Yusuf Ahmed was born on November 28, 1961. He passed his Matriculation from St. Patrick High School in 1976, securing First Class First from the Sindh Board of Technical Education Karachi. He completed his Pre-Engineering in 1978 from St. Patrick Govt. College, graduated from NED in 1984 and was among the top 20 students in his batch. His final year thesis was related to the design of Link Road connecting Super Highway with National Highway and because of this, he started his career as a Junior Engineer in ECIL Highway Department.

In the initial stages, Yusuf worked under the guidance of Senior Engineers and was involved in preparing inventory of existing roads, preparation of highway drawings, calculation of survey data and roadway quantities. In appreciation to his hard work, he was promoted as Senior Engineer in 1986. As a Senior Engineer, he was responsible for the reconnaissance survey, route alignment studies, horizontal and vertical alignment in plain, hilly and mountainous areas. He also completed feasibility studies and detailed design of Hyderabad-Naushero Feroze and Ubauro-Rahimyar Khan Section of N-5 under World Bank Funding. He was also involved in the design of roads in Yemen Arab Republic and the design of mountainous roads in NWFP.

In 1990, Yusuf Ahmed received a scholarship from Asian Institute of Technology (AIT), Bangkok to undertake Master's Degree in Transportation Engineering. In AIT also, he showed excellence and was the top student in the field of Geotechnical & Transportation Engineering with a GPA of 3.91. He is married, and is blessed with two pretty daughters.

> Smart and possessing a friendly nature, he has earned his position and respect through hard work, commitment and sincerity thereby setting very high standards in the field of highway design. He is dynamic, creative and innovative in his domain and believes in sharing and exchanging his views constructively.

After completing his Master's, he came back and joined ECIL as Principal Engineer. The detailed design of Islamabad-Peshawar Motorway was about to start. Mott MacDonald (MMIL) were the associates in the design of the project. Yusuf received specialized training of MOSS and UNIX and was in charge of the MOSS systems. On hand job training was provided to other colleagues and now all the design engineers are capable to use MOSS in the design of motorways, highways, interchanges and master plan of towns. He was the Task Manager for the feasibility studies and detailed design of Provincial and National Highways. M/s Pacific Consultants (PCI) and Ital Consult were the associates in the design work.

Yusuf Ahmad's special distinction is that he has worked as a team leader for a number of projects.

His leadership qualities and services for designing and planning highways, motorways and interchanges have been aptly appreciated. He is equally well versed in the preparation of drawings and documents. As in charge of MOSS System, he has done excellent job in managing the diverse activities.

Yusuf Ahmed

As head of the Highway Department he prepared diversified technical reports. To sort out various problems he has never hesitated to meet the clients and the various departments. He has successfully represented ECIL on different forums and demonstrated his innovative skills. As a member of the Quality Council for ISO-9001 System Implementation, he has done full justice to his responsibilities. Because of his innovative approach, he hates stagnancy and lethargy.

Yusuf possesses an optimistic outlook of life. He is dynamic and practical in his plans and objectives. His vision is not restricted just to his profession, he is multidimensional and takes an active part in social & literary activities.

He loves to learn new techniques and technologies. To quench his intellectual and professional thirst he has attended various courses and seminars. He is an active and dynamic member of ECIL's continuous training programmes.

He is mobile and motivating, frank and friendly, humble and honest and always in search of the best.

Yusuf Ahmed is a mild natured, soft spoken but determined person. He has strong nerve and does not get panicy in demanding circumstances. He avoids indulging in heated controversies and tries to adopt conciliatory attitude focusing more on the substance of the discussion. His meetings and presentations on high level forums have earned respect and reputation for himself as well as the company.

Recently, he devoted his much time and efforts in formulating ECIL Quality Policy Manual and the subsequent acquiring of ISO-9001 certificate. He is always sharing his knowledge and expertise with his junior colleagues and never hesitates to impart them the training in the art of the technology. He keeps himself informed with the new technology and advises the Management for the procurement of new software and the literature.

It is mainly due to his deep interest and hard work together with the full support and cooperation from the Management that the highway design team of ECIL is now regarded as the best-organised and talented team.

Yusuf Ahmed continues to be one of the principal architects in contributing to ECIL growth and reputation as the leading Consulting Organisation of Pakistan.

Projects In Hand

SR. NO.	PROJECT
A.	**ARCHITECTURAL PLANNING & INFORMATION DIVISION.**
A-1	**ARCHITECTURAL & URBAN PLANNING DEPARTMENT.**
1.	Al Yasmeen Hospital Project (300 beds) at Riyadh, Kingdom of Saudi Arabia for Saudi German Hospital Group.
	Consulting Services: Detailed Design and Construction Supervision.
2.	Extension of Liberty Mills for adding Finishing Shop at S.I.T.E., Karachi for Liberty Mills (Pvt) Ltd.
	Consultancy Services: Detailed Design and Top Supervision.
3.	Development & Strengthening of Academic Facilities (Lecture Halls & Labs. Etc.) at NED University, Karachi.
	Consultancy Services: Detailed Design and Top Supervision.
4.	Contract for Urban Plan of Greater Peshawar. Signed with Department of Physical Planning & Housing, NWFP.
5.	Primary Education Programme in Malakand, Kohat & Bannu Division (986 Schools) for Government of NWFP.
	Consultancy Services: Construction Management and Supervision.
6.	Primary Education Programme in Mansehra, Battagram and Kohistan Districts of Hazara Division (1063 Schools) for Govt. of NWFP.
	Consultancy Services: Construction Management and Supervision.
7.	Primary Education Programme in Abbottabad & Haripur District of Hazara Division (196 Schools) for Govt. of NWFP.
	Consultancy Services: Construction Management and Supervision.
8.	Primary Education Programme in Peshawar, Charsadda & Nowshera Districts of Peshawar Division (694 Schools) for Govt. of NWFP.
	Consultancy Services: Construction Management and Supervision.
9.	Primary Education Directorate Building at Hayatabad, Peshawar for Education Department, Govt. of NWFP.
	Consultancy Services: Detailed Design and Construction Supervision.
A-2.	**INFORMATION TECHNOLOGY DEPARTMENT.**
1.	Prepared Digital Atlas of Pakistan (DAP) for Pakistan Resource Development Services (PRDS) with 21 layers of Information on Pakistan. Version 2 of DAP being finalized with 1998 census data and 10 additional files of Information. DAP marketed internationally by PRDS.
2.	Geo-Referenced Digital Road Map of Lahore City by Satellite Image Processing for Trakker Pvt. Ltd.
	Consultancy Services: Digital Mapping and Geo- Referencing.
3.	Digital Road Map of Lahore and Islamabad by Image Processing (for Shell Pakistan) highlighting all Gas Stations for Marketing Strategy.
4.	Developed System for Automated Mapping and Facility Management for Utility Services at Local and National level.
B.	**TRANSPORTATION ENGINEERING DIVISION.**
1.	Karaganda - Astana Road Rehabilitation Project (233 km) in Kazakhistan for Ministry of Transport and Communications, Republic of Kazakhistan.
	Consultancy Services: Feasibility & Detailed Design. Islamic Development Bank financed.
2.	Islamabad - Peshawar Motorway, M-1 (154 km) for National Highway Authority, Ministry of Communication, Government of Pakistan.
	Consultancy Services: Detailed Design and Construction Supervision as Lead Consultant for Pakistan Motorway Consultants Consortium.
3.	Additional Carriageway; Ubauro - Rahim Yar Khan Section (82 km) of N-5 for National Highway Authority, Ministry of Communication, Government of Pakistan.
	Consultancy Services: Detailed Design and Construction Supervision.
4.	Additional Carriageway; Hala - Moro - Kotri -Kabir Section (114 km) for National Highway Authority, Ministry of Communication, Govt. of Pakistan.
	Consultancy Services: Detailed Design and Construction Supervision.
5.	Four Lane Bypasses at Bahadurpur Chowk (6.5 km) And Sanjarpur (2.5 km) of N-5 for National Highway Authority, Ministry of Communication, Govt. of Pakistan.
	Consultancy Services: Detailed Design and Construction Supervision.
6.	Provincial Highway Project. ADB Financed for NHA in co-ordination with C&W Dept. of 4 Provinces.
	Consultancy Services: Feasibility and Detailed Design For 1200 km and Supervision of 600 km of priority sections of Provincial Highways in 4 Provinces.
C.	**INFRASTRUCTURE DIVISION.**
1.	Strategic Port Planning of Port Qasim at Karachi for Port Qasim Authority.
	Consultancy Services: Strategic Port Planning Study for future development.
2.	Water Supply & Sewerage System of Karachi Bar Association Cooperative Housing Society (100 Acres) at Karachi for Karachi Bar Association.
	Consultancy Services: Detailed Design and Bid Documents.
3.	IBRD Funded Flood Protection & Control Study for National Flood Commission.
	Contract signed as one of the 6 Consultants Consortium.
4.	On-Farm-Water Management Phase IV for Irrigation Dept., NWFP.
	Negotiations completed.
5.	Naltar Hydro Power Project in Gilgit
	Presentation made, draft contract submitted.
	Consultancy Services: Topographic Survey.
D.	**RESEARCH AND DEVELOPMENT DIVISION.**
1.	Alternative system for 2-lane road Lowari Tunnel (8.6 km long) for an affordable cost effective project. Cost reduction by over 60%.
2.	Alternative affordable and cost effective system for Corridors of Karachi Mass Transit.
3.	Participatory Developed Program System for Rural access roads with 40% savings.
4.	Research on high escalation on cost of construction in Pakistan for addressing the problems at National level.
5.	On going research for systematic, fast and cost effective development of the Karachi Metropolis.

The Observer
Tuesday, June 6, 2000

ISLAMABAD The Minister of Science and Technology, Dr. Atta-ur-Rahman, Monday said the government is working on a package of incentives for software exporters.

He was addressing the Launching ceremony of first "Digital Atlas of Pakistan": at a local hotel here.

The launching ceremony was followed by a detailed presentation on Digital Atlas of Pakistan by Naved Zaheer in which he demonstrated how DAP can be used in a variety of applications.

DAP has been developed by ECIL. The product integrates a comprehensive Geo-Spatial database of Pakistan in a Geographic Information System.

The News
Tuesday, June 6, 2000

Atta-ur-Rehman launches 'Digital Atlas of Pakistan'

ISLAMABAD The Minister of Science and Technology, Dr. Atta-ur-Rahman, formally launched the first indigenously developed IT product of its kind, "Digital Atlas of Pakistan (DAP)" in an impressive ceremony at a local hotel. During the ceremony, the representative of federal and provincial governments, foreign missions, financial institutions, and IT/Software Industry were present to grace the occasion.

In his welcome address, ECIL Chairman Zaheer Mirza said the Digital Atlas of Pakistan can be used by policy makers and planners in diverse fields.

The honorable Chief Guest emphasized the role of Information Technology, and its application, in the twenty-first century. He appreciated the efforts by the Pakistani professionals to bring out a quality product on Pakistan that will significantly contribute towards positioning Pakistan on international IT map-which is the need of the hour. The launching ceremony was followed by a detailed presentation on DAP by Mr. Naved Zaheer in which he demonstrated how DAP can be used in a variety of applications.

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Problem Solving ------

THE NONDEFENSIVE DEFENSE you can defend an attack on your methods or ideas without getting defensive. Here's how:

- **Assume the** attack will come and raise the issue before an attacker can.

EXAMPLE: Your new marketing plan fails to boost sales.Don't wait for others to point that out. Instead,say the results disappointed you but you learned a lot that will help you do better next time.

- **Think interview,** not rebuttal.Respond to a harsh critique with something such as, " what did I do exactly?" " what would you have done?" By showing that you are listening, you lessen the accuser's aggression.

- **Don't shift** the blame to others. Doing so will resolve nothing.Better:adopt an inquistive,fact-finding mode, and join the attacker's attempt to find out what happened and why.

- **Point to** a shared goal. Example: other team members attack your idea even though it has merit. Don't argue about details. Instead,say something such as,"let's not lose sight of the whole point of this project-to serve customers better." That will give you a chance to stress how your idea ties to the team's main goal.

SOURCE: Investor's Business Daily.

Achievements

Syed Mohammad Ali (Design Engineer) along with Atif Mahmood Sheikh (Junior Engineer) were nominated for International Roads Federation scholarship program for the year 1999 as primary and secondary candidates respectively from all over Pakistan. Due to personal reasons Syed Mohammad Ali could not go for study. However, Atif Mohammad Sheikh got this opportunity. Mr. Zulfiqar Ahmad was nominated for the (IRF) Scholarship for the year 2000.
ECIL has the distinction that four out of five of its employees have so far been selected for IRF scholarship.

The Nation
WEDNESDAY
October 13, 1999

ECIL acquires ISO Certification

KARACHI-Zaheer Mirza, Chairman / CEO of Engineering Consultants International (Pvt) Ltd. Pakistan, formally received the ISO-9001 Certificate on quality assurance in a function held at a local hotel. Previously Lloyd's Register Quality Assurance (LRQA) the world's leading certification body had audited the quality system of the company for ISO-9001 on Aug 24-27.

The audit report recommended the company for ISO-9001 of civil engineering and allied services. M. Rizqi, Country Manager of Lloyd's Register presented the certificate and expressed his confidence that the company would continuously improve upon this achievement.

International
The News
Wednesday
October 13, 1999

ECIL acquires ISO-9001 certificate

KARACHI: Engineering Consultants International Limited (ECIL) Pakistan has acquired ISO-9001 certification for quality assurance. The world's leading certification body Lloyd's Register Quality Assurance (LRQA) of UK has issued ISO-9001 certificate after conducting the complete quality audit of the company in the field of design of civil engineering and allied services. The ECIL has been providing engineering consultation in Pakistan for the last 40 years. –APP

Obituary

- Mr.Muhammad Shakir Khan, G.M. who expired on 16th January,2000 due to sudden heart attack.
- Mr. Arif Hussain who passed away after prolonged illness on 8th May, 2000 in Lahore.
- May the departed souls rest in peace and may Allah give the bereaved families the courage to bear this loss.