



IEAP NEWSLETTER

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From the Chairman's Desk

RAINS AND STORM WATER




After a fierce summer, the first showers give much sought-after relief to people, in particular to the urban dwellers. People in rural areas welcome the rains and those depend on rainfed agriculture greet it in fervor. Rains bring water and water is lifeline for all. But the issue related to waste water or storm water becomes a problem. In rural areas excess rains damage the road systems, swelling streams cut off access from and to the villages. Sometimes low lying areas are inundated and even dislocate the people. The urban dwellers face untold miseries, if proper drainage arrangements are not made for storm water. Hyderabad is facing at present a similar problem. A short spell of showers result in inundation of roads and consequent traffic jams, submergence of localities and entry of water into houses is seen very often.

Let us look at the possible solutions to the problems faced in urban areas, with Hyderabad as a case study. The storm water drains for Hyderabad were designed for a projected population of 6.0 lakhs and about an area of 168 Sq. Km with 440 Km of storm water drains. With rapid growth of the city, particularly in the last 3 decades, in terms of building surface, road surface etc., these storm water drains have become totally incapacitated and with a moderate rainfall they are overflowing and inundating the roads and low lying habitations. Extinction of water bodies, land development without consideration for the sewerage and storm water disposals, are adding to the problem.

Another major factor is neglect of maintenance and pre-monsoon actions like silt clearance and repairs to choked drains.

The immediate task before the authorities is to prepare a comprehensive plan based on factual study on the requirement of the storm water drains for the year, say 2050; vis-à-vis the existing system and future requirements and make a gap analysis. The project can be planned to be taken up in phases like short range plans to be implemented within next 2 to 3 years, mid range plans in next 5 years and long range plans within 10 years. Resource mobilization also needs to be planned accordingly.

If the problem is identified and analysed properly, solutions are easy to be found and implementation becomes possible. This needs a strong political will, methodical approach and pragmatic solutions if the citizens are to be relieved of this menacing problem.


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The Institution of Engineers (India)
Andhra Pradesh State Centre

PAST EVENTS

Er A P Ranganatha Swamy Thirteenth Endowment Lecture on "Lift Irrigation Schemes: Is Micro-Irrigation only a viable option in the Command Areas?"

July 27, 2010 :- Er. M. Shyam Prasad Reddy, Executive Engineer(Rtd), I& CAD Dept., Govt. of AP. delivering Er A P Ranganatha Swamy Thirteenth Endowment Lecture on "Lift Irrigation Schemes : Is Micro-Irrigation only a viable option in the Command Areas?" said that there are still challenges relating to the development of water resources, in Andhra Pradesh. Even The potential for the waters of the major rivers in the state, the Krishna and the Godavari is very high; but to bring them for full utilization where the elevation separation is a major problem as in case of Telangana the lift irrigation is only the solution. The available water resources should be tapped and husbanded properly, particularly through intensive irrigation efforts to increase the water use efficiency. The water to the user reaches after all losses viz., seepage and percolation losses through the conveyance system, evaporation losses throughout the exposed water surface, application losses in the field and operational losses due to the lag in the time management. This causes the water use efficiency of the irrigation projects to only 30-40%. Modern methods of application like sprinkler and drip irrigation systems have proved to be the best water saving technologies even in the arid areas. But, they are not the unique solutions to increase the water use efficiency as they are costly and design variant because they are crop specific, location (slope and terrain) specific, vary as per size of the farm and portability. Rather to discourage the wet land cultivation, the encouragement of innovative flow irrigation practices like SRI cultivation for rice can be adopted for existing rice crops. Lining to the canal profile will reduce the seepage losses in the conveyance system. Wherever possible, the conduit system will help in reducing the seepage losses as well as evaporation losses. Management Information Systems (MIS) and Decision Support Systems (DSS) will help in minimizing the losses in Operation& Maintenance. ***The most important determinants of micro-irrigation adoption include access to groundwater, the prevailing cropping pattern, level of education, financial resources, the social stratum of the household, and the wealth or poverty status of the farmer.***



A view on the dias from L-R : Prof. T. Narayana, Er. M Shyam Prasad Reddy, Er Chandra Mohan, Er A V Appa Rao and Prof G Chandra Mohan Reddy

With the above background, the government of AP, have issued G.O. Ms. No.34 for implementation of micro-irrigation in all lift irrigation projects. Three pilot projects were taken up in AMRP lift scheme and when the fate of the pilot projects is in the air and is already well known to the all the concerned higher authorities, the government have issued orders, for the reasons best known to it, for implementation of micro-irrigation in AMR Project vide G. O. Ms. No.36, Dt.21.02.2009 for Rs.309.50Crores. Even after tenders have been floated under EPC System, the government not considering the studies in pilot projects, again retreating back to the concept of field channels and issued orders in G. O. Ms. No. 386, Dt.14.06.2010 to construct the field channels in all lift irrigation schemes in lieu of micro-irrigation. One can draw inferences from the above history right from the issues of G.O. Ms. No.34 to 386, that the government is not serious in implementing the new technologies in the right direction. In using or adopting a new technology for agriculture development, a governing body should formulate an agenda with the following characteristics: **Established preconditions, Comprehensive& Differentiated studies, Sustainable and Feasible systems.** ***The studies have to be conducted for implementation of new technologies in the pilot areas and new technologies have to be adopted for the development of the society and not to be seen as a business development activity. To carry out these interdisciplinary studies, an institution like WALAMTARI can be engaged to have the better co-ordination among local departments and to evolve with the best solution. Finally, reforms cannot be achieved in a day.***

Popular Lecture on “A Brief History of Cement and Concrete”

August 9, 2010: Prof. D S Prakash Rao, FIE, Professor, The University of the West Indies, St Augustine, Trinidad and Tobago delivering a Popular Lecture on “A Brief History of Cement and Concrete” said that Construction industry depends upon widely available low cost materials for building blocks and as binder. The use of cementitious materials dates back to the early civilisation extending to over 14 000 years. Indeed, civilisation must have commenced only with the development of materials and buildings for suitable shelter. Though Portland cement was invented in its present form in the early nineteenth century, concrete in its primitive form was used for thousands of years by ancient Romans. Lime mortars in construction are believed to have been used in Crete, Cyprus, Greece and the middle east from 12 000 to 6 000 B. C. Never the less, those materials are a far cry from the wide range of materials presently in vogue. However, cement and concrete technology developed since only about the last two centuries, and extensively in the last half a century. The earlier experiences with cement concrete construction extend to the creation of durable and sustainable practices. The historical developments in cement and concrete, and their structural applications are discussed briefly in this lecture. Dr S Nagabhushana Rao, FIE, Chairman, IEI, APSC presided.

Popular Lecture on “Geometric Dimensioning and Tolerancing for Engineering Components”

August 25, 2010: Er S Satyanarayana, FIE, Former Principal Director, CITD and Principal, Malla Reddy Institute of Technology, Hyderabad delivering a Lecture on “Geometric Dimensioning and Tolerancing for Engineering Components” said that The primary purpose of the Dimensioning and Tolerancing on an engineering drawing is to completely and unambiguously define a finished part’s functional and geometric requirements. Geometric Dimensioning and Tolerancing (GD&T) has been around in one form or another since World War-II. The need to define ever more complex part geometry and the need to guarantee interchangeability of parts has contributed to its wide spread use. Today it can be found nearly in all manufacturing industries , from the very small geometry found in integrated circuits to the very large geometry found on Rockets, the Aircrafts and the Satellites. It has found its greatest application in mass production, in R&D and one of a kind components and assemblies. From a dimensional management point of view , we need to recognize that there are several types of geometry in the world of drawings, models , parts and assemblies. On the one hand it is the perfect, mathematically precise, as- modeled, as -designed, as -intended geometry of the CAD system. This is the embodiment of the part geometry in its perfect form, our design intent , it is what we want. On the other hand is the imperfect, as-produced geometry of the actual part. It has the imperfection and variation allowed by the tolerances specified on the drawing and the process capability. GD&T links the perfect geometric world of models and drawings to the imperfect world of manufactured parts and assemblies. There are fourteen different Geometric Tolerances defined in ASME Y14.5M. The Geometric Tolerances are divided into five categories based on the type of control each Tolerance provides. The five categories are Form Tolerances, Orientation Tolerances, Location Tolerances, Run-out Tolerances and Profile Tolerances. Some Geometrical Tolerances control more than one Geometric Characteristic of a Feature. For example, an Orientation Tolerance applied to flat surface may control the surface’s Form as well as its Orientation ; a Positional Tolerance applied to hole may control the hole’s Orientation as well as its Location. Specifying the GD&T symbols on a drawing, its interpretation and measurement are briefly discussed in this presentation.



Dr G Ramachandra Reddy, Principal, Malla Reddy College of Engineering for Women, Hyderabad presided.



The Institution of Engineers (India), Andhra Pradesh State Centre celebrated 64th Independence Day Celebrations. The Imm. Past Chairman, **Er D Hanumantha Chary**, FIE hoisted the National Flag. The Imm. Past Hon. Secretary, **Prof. G Chandra Mohan Reddy**, FIE, SCC Member, **Er S Jagan Mohan Reddy**, FIE, students of AMIE Guidance Classes and Staff of IEI, APSC have participated.

IEI INDUSTRY EXCELLENCE AWARD 2010

The IEI Industry Excellence Award had been instituted to recognize industry leaders for their innovation, excellence in engineering operations and for contribution of national growth.

Applications for this prestigious award are invited from the Industries. The last date for receipt of application is 15th September 2010. For details please visit IEI website : <http://www.ieindia.org> or contact Mr Sudeep Chakraverty, Assistant Director (Technical) at (033) 40106218, e-mail : technical@ieindia.org

PROGRAMMES SEPTEMBER, 2010

Date & Time	Event	Chief Guest
04.09.2010 Saturday 1730 hrs.	Dr Narla Tata Rao Ninth Endowment Lecture	Er D J Ramesh , FIE Chairman, M/s Vijai Electricals Ltd., Somajiguda, Hyd.
05.09.2010 Sunday 1730 hrs.	TEACHERS' DAY CELEBRATIONS	
08.09.2010 Wednesday 1730 hrs.	Er Matur Gopala Rao Thirteenth Endowment Lecture on " Earthen Embankment Construction - Quality Control & Quality Assurance "	Prof. M Venkataratnam , FIE Formerly Chairman, Civil Engineering Dept., NIT, Warangal
15.09.2010 Wednesday	43rd ENGINEERS' DAY CELEBRATIONS (in commemoration of 150 th Birthday Celebrations Bharat Ratna Sir Mokshagundam Visvesvaraya)	
28.09.2010 Tuesday 1730 hrs.	Er Atluri Venkateswara Rao Ninth Endowment Lecture	

Eighteenth IEI Convocation and Technicians'/ Students' Convention October 29 – 31, 2010, Hyderabad

**Theme : Energy Conservation :
A Necessity for Development**

For further details, please contact :

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The Institution of Engineers (India),
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Hon. Secretary

ALL INDIA SEMINAR ON ENHANCED ENERGY EFFICIENCY

November 24 & 25, 2010

A unique Seminar with a focus on the National Mission on
Enhanced Energy Efficiency

Constituted by the Prime Minister's Advisory Council on
Climate Change and

"SAVE ENERGY – 2010 (EXHIBITION)"

Highly energy efficient and star labeled products with
attractive prices and exchange offers from
November 24-27, 2010.

Venue for both events:

Visvesvaraya Bhavan, Khairatabad, Hyderabad.

Members are earnestly requested to participate and ensure
participation by delegates, exhibitors and advertisers.

43rd ENGINEERS' DAY CELEBRATIONS

(in commemoration of 150th Birthday Celebrations
of Bharat Ratnam Sir Mokshagundam Visvesvaraya)

Theme:

**IMPENDING PARADIGM SHIFT IN
ENGINEERING SCIENCES AND FUTURE
CHALLENGES"**

PROGRAMME

0900 hrs Garlanding the Statue of SIR M V by
Chairman, IEI, A P State Centre

1400 - Engineers' Day Seminar on "*Impending
Paradigm Shift in Engineering
Sciences and Future Challenges*"

Chairman: **Shri M Gopala Krishna**, IAS (Retd.)
Former Chairman, Rural Electrification Corpn., GOI
and Former Chairman, AP State Financial Corpn.

1700 hrs. HIGH TEA

1730 hrs. **MAIN FUNCTION**

Chief Guest:

Guest-of-Honour : **Dr A Ramakrishna**, FIE
Former Vice President &
Dy. Managing Director, L & T

Speaker of Life & **Dr TULASI RAM DAS**
Achievements of Registrar, JNTU, Hyderabad
SIR MV

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