



The Nigerian Society of Engineers

PORT HARCOURT BRANCH

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AN INTERVIEW WITH ENGR. I. Z. S. AKOBO ON THE STRUCTURAL INTEGRITY OF ENGINEERING INFRASTRUCTURE

E-Newsletter: Recently we have heard of building collapse, jetties and other marine structures collapsing before their design lives. Here in Port Harcourt bridges and culverts have failed causing untold hardship to commuters. Today we want to discuss on these issues but before we proceed, our reading audience would like to know a brief history about yourself and your contributions to the engineering profession.

Engr. Akobo: Thank you very much for coming. I am Iboroma Z. Akobo, a lecturer in the civil engineering department of the Rivers State University of Science and Technology. I have been practicing engineering since my graduation from this very university in 1981. I have also played some roles in the Nigerian Society of Engineers, Port Harcourt Branch. I was chairman of the branch in 2004/2005 and served in various committees. I also participated in some investigations on structural collapses in Port Harcourt. Basically every structure is expected to stand for a given time before it collapses or before maintenance is carried out on such structure. As engineers we design life span for each structure and that can only take place when several factors are taken into consideration like the design of that particular structure must be done by qualified engineers to achieve the expected standards and specifications. Also the construction which is the next stage after the design must also be done by qualified personnel. In Engineering we have the engineer at the apex, the technologist, the technicians and the artisans. We expect all these members of the family of engineers to be involved in any engineering project and if that is done and they are all qualified and also certified by the relevant organization like COREN and other professional engineering bodies we believe that such team will give the best of experienced and quality service. If that happens, we will not have any of such problems. However, we observe that non-professionals have taken over engineering projects for obvious reasons. It is unfortunate to find out that anybody who uses trowel calls himself an engineer. That is not the best for our society. These are some of the causes of our failures.

E-Newsletter: Considering the engineering personnel, their qualification, certification and experience and codes of practice what do think can be done in terms of additional control with respect to quality service? For instance local government will request for structural designs for every two-storey building, but they will give copied structural drawings and the calculations are not involved. Where calculations are not included, can the certifying authority accept the drawings alone? What is your opinion?

Engr. Akobo: In course of these collapses and all that, some of these issues came up. It is expected that from the beginning the government and the council should engage the services of registered and qualified engineers. But in most cases non engineers are employed to handle engineering activities. This is the source of the problems. I know very well that the Nigerian Society of Engineers over the years have cried out loud to government that this must not continue, but our social values that have degenerated would not help the situation. If that is done, one basic condition for you to register and accept any infrastructural drawing must be accompanied by calculations and must also be stamped and signed by a registered civil engineer since it is structural. Geo-technical soil report is also required for any building above bungalow.

E-Newsletter: In respect to the integrity of our structural engineering infrastructures in riverine areas it has been observed that most of the projects are executed without appropriate designs and supervisions. Contractors just go there and do what they like not up to two years the whole structure will collapse especially jetties. Are engineering procedures not followed? What are engineers doing to save cost? These are common with govern-

-ment projects and allied agencies like NDDC.

Engr. Akobo: One aspect of engineering that is now generally overlooked is the aspect of supervision. No matter how good your design would be, if you don't have a good team that will supervise that work to ensure that what ever you are building is in accordance with what you have designed, definitely you will not get what you expect to get and I think that is what we are having in our engineering practice today. So it will be proper for us to make the government and their agencies realize what have been happening. This is true. There have been cases of reports of poor jobs not only in the rural area but also the urban area as well. Some roads are done within two, three, four years almost all the work of their effort are completely gone. The surfacing is all removed and people wonder this thing that was just done because definitely NDDC has a very good intention and I don't think they will pay less as if the work was done to the required quality. So it is expected that this thing is done.



Engr. I. Z. S. Akobo

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Engr. Akobo: The whole idea of NSEPH is actually to ensure that we make use of engineers to involve in practice and a source of income for the branch and for us not to be going to anybody for any little assistance and we believe that we would achieve it. Unfortunately funding and other resource have not been at our disposal and therefore slow down progress. So we have not been able to bring in the expertise we expected and also the training but I think we have tried to see that in no distance time we will even bring out some training for the younger ones. For now we have two projects and definitely we have younger ones who are engineers and even the experienced ones who are part of the supervision, who are gaining experience. We also believe that in no distant time we will get more resource personnel who will be trained on these jobs.

E-Newsletter: Before we end the session what advice do you have for government on this important issue we have deliberated on today in the areas of integrity of infrastructure, personnel they use and saving cost? They give out the projects and expect the projects to last for fifteen years only to find out that after three years the project fails. How can there be development and the cost implication?

Engr. Akobo: Thank you very much for asking this very question because I'm actually not singing the praise of this particular government. I realize because of my close relationship with engineers in government especially ministry of works, that most of them are engaged in supervision of most of the projects that are on ground. So what I would advice government is to ensure that more engineers are employed. The engineers who supervise projects should also be courageous to follow codes, standards and specifications without considering the personality of the contractor.

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Engr. Akobo & Engr. Dr. Ujile

When engineering jobs are not done well, the life of everybody is at stake. Because you don't know when you will be in that facility and there will be a collapse or a failure that will cause a problem. So I will advice government that they encourage more engineers in design and supervision. We also will have experience because if we don't use our people, even sometimes you bring in a qualified contractor like Julius Berger, all the expatriate from outside, you pay money, he does a good job for you but if you don't bring in local expatriates, we've lost a transfer of experience from that job. That is why in Asia, they bring in this big time contract in engineering and make sure that they use to train their younger ones and by that you will be able to get experience. Today Indonesia that learnt the making of fertilizer from us is now the biggest fertilizer producer and we are now buying from them. Whenever we get contractor from outside, we should as well get our younger ones involved, so that they can benefit from it. If we don't do that, no matter what facility we get, we have also lost one aspect of the investment we've made. So these are the aspects that I will like government to look into and ensure that at the end of the day the younger engineers benefit and even we may be looked at as having some experiences should be able to benefit.

E-Newsletter: Thank you very much for the audience you've given us. We hope when we call upon you next time the same concession will be granted. Thank you.

Energy, Sustainability & Safety

Biofuels industry unhappy with EPA regulations on new ethanol plants

The biofuels industry is working to convince the EPA to scale back its conclusion that biofuels, though intended to help the environment, may wind up hurting it by causing deforestation. Under the EPA's revised regulations, existing ethanol plants would be allowed to keep operating, but new plants would be in question. *(Curled from the National Public Radio)*

Many fear fallout from proposed changes to ethanol-gasoline mix

The EPA's consideration of a request from the ethanol industry to increase the maximum amount of ethanol that can be added to gasoline has drawn concern from groups including consumer advocates, engine manufacturers and service station owners. Consumer advocates say a change may void car warranties that warn against the use of fuel with more than 10% ethanol; engine manufacturers say 300 million engines would be affected. *(Curled from The New York Times)*

Materials & Nanotechnology

Nanotechnology process may improve benefits of zeolite

Researchers have found a nanotechnology approach to help with the practical application of fine zeolite powders in complex multiphase systems. The approach allows for separating spent sorbent powders from treated streams. *(Curled from AIChE SmartBrief May 19, 2009)*

As nanotechnology advances, so do the concerns of consumer groups

As more companies use nanotechnology to make their products, consumer groups are raising concerns about potential health effects. Groups such as Friends of the Earth say nano-particles are so small that they could penetrate human skin or cells in ways that larger particles cannot. *(Curled from AIChE SmartBrief May 19, 2009)*

NSE EXCO's Visit to NLNG Bonny Island on 21st & 22nd May 2009



A cross section of NLNG engineers, (NSE prospective candidates).



Engr. B. M. Ogariawo, NSE PH Branch Chairman talking to the candidates at the NLNG Bonny Island



Engr. Prof. H.I. Hart, FNSE, chief examiner, delivering a talk at NLNG Bonny to prospective engineers



Across section of NLNG engineering staff including the only female having a meeting with the branch EXCO



NSE EXCO in a discussion with the top management staff of NLNG at Bonny Island



Engr. Tony Ogbuigwe (2nd from right) with other top management staff of NLNG Bonny during the visit of the EXCO to NLNG Bonny Island

EFFECT OF NIGER DELTA CRISIS ON THE ECONOMY

The Federal Government revealed recently that the renewed Niger Delta crisis is costing the nation over one million barrels of crude oil per day. At the present price of \$60 per barrel, and at the current exchange rate of N145 against the dollar, Nigeria is losing about N8.7 billion daily, it said. Nigeria's oil production capacity is about 3.2 million barrels of crude oil per day but it has dropped following the attacks on oil installations. Briefing State House correspondents after the weekly Federal Executive Council (FEC) meeting, at the Presidential Villa, Abuja, the Minister of State for Petroleum Resources, Mr. Odein Ajumogobia (SAN), said the fall in the production was sad and should be of concern to all. "Nigeria has a production capacity of 3.2 million barrels a day. Today we are down to about less than half of that in terms of production. There are over one million shut in. I think it is something that should concern all of us. Ajumogobia lamented that the huge loss comes from onshore production which is the most lucrative source of revenue to the government. "To take one example, Shell has lost most of its production in the East; is completely shut down. The irony of it is that onshore is the cheapest to produce and therefore the return on that investment is greater but that is where we have most of the shut-ins," he said. E-Newsletter is advising all well meaning Nigerians and perhaps foreigners to find lasting and sustaining peace in the region. *(Curled from Petro21Worldwide Daily News May 22,2009)*



NOTICE! NOTICE!! NOTICE!!!

All members of NSE PH should pay their **annual branch dues** of N4000 and **compulsory levy** of N5000 towards the Engineer Resource Center to UBA ACC. NO: 0802080000194 (Port Harcourt main Branch). Also pay **National Annual Subscription** of N5,500.00 directly to AFRIBANK ACC No. 1420202215613 & forward all tellers to the secretariat for reconciliation. All payments should be made at the Bank