

**KEYNOTE ADDRESS TO THE 2010 CONFERENCE OF THE INSTITUTE OF APPRAISERS & COST ENGINEERS (DIVISION OF THE NIGERIAN SOCIETY OF ENGINEERS/MEMBER INTERNATIONAL COST ENGINEERING COUNCIL) HOLDEN AT THE RAW MATERIALS RESEARCH AND DEVELOPMENT COUNCIL AUDITORIUM, 17 AGUIYI IRONSI STREET, MAITAMA, ABUJA. 1<sup>st</sup> JULY, 2010. ON THE THEME:**

**“THE NIGERIAN ENGINEER IN VALUATION AND COST ENGINEERING PRACTICE”.**

President NSE

Chairman ICEC

Hon. Ministers

DGs/CEOs

Protocols

Out of the depths of my soul, I crave to sing that immortal spiritual “oh Happy Day”. For day set apart here to discuss the issues of engineering valuation, cost engineering and engineering economy, is indeed a day one in every five black men on this planet should be merry. Our nation is now in dire need for the application of these professions, in the economic development process more than ever before. The limited achievements in the latter area can indeed be traced to the neglect, or avoidance of these specialisations in the dynamics of economic management of Nigeria. That we have the opportunity to discuss, is indeed cause for celebration.

**In the beginning**

Asset valuation was still news to me long after I had left school. But in 1988, a year after my consulting engineering firm commenced operation, a fortuitous meeting with Engr. Godwin C. Okafor FNSE, then Assistant Director Industrial

Inspectorate Department converted and baptized me into it. My firm had been appointed Management Consultant to a Technical Committee set up to evaluate bids the Federal Ministry of Industry had received for the completion of Iwopin Paper Mill. The Director of IID was to chair the committee. The incumbent, Engr. M.B. Yesufu mni FNSE was out of the country. His deputy, Engr. Okafor, earlier mentioned, stood in for him as Chairman. On the first day the committee sat, I got the opportunity to chat with Engr. Okafor. I sought for the mandate of IID. He tried to explain to me that the department carries out valuation of industrial assets, and estimates costs of industrial projects for the Federal Government. It then dawned on me that the government knew who in her service had the skills for tender evaluation. I pried further to know how the valuation done in IID related to the valuation I saw done by consultants while assessing progress of projects in my earlier years. Engr. Okafor then invited me to his home in FESTAC city so he could explain things with documents. So at the end of the first week on that assignment, on my way to the Muritala Muhammed Airport Ikeja to board a flight to Warri my base, I veered off to Engr. Okafor's house. While talking to me in his study, I was also looking through the books in his rich library. It was in this process that my eyes struck the book "Engineering Valuation & Depreciation" by Marston A. et al. I requested and Engr. Okafor agreed that I take the book for the week-end. That event sowed the appraisal seed of what has in the fullness of time fleshed out as the Institute of Appraisers & Cost Engineers.

### **PRACTICAL INSTRUCTIONS ON ASSET VALUATION/APPRaisal**

Over that week-end in Warri one applied accelerated reading on the Engineering Valuation book. One's eyes got opened to the scope and application of engineering valuation in a national economy. And thence-from, have remained

ranging on their ever increasing relevance. Two weeks after, the Technical Committee visited the plant site at Iwopin. While going through the documentation made available for the Committee's attention, I sighted an asset valuation report on the Pulp and Paper Mill, prepared by an estate surveying firm. From what I had learnt in Marston's book, I could pick many holes in the report. I had enough grounds to impeach the report. One then took the report to Engr. Okafor and complained about the gaps between the report and the standards prescribed in the Engineering Valuation book. As that was not the issue before the Committee, Engr. Okafor advised that after the Committee has successfully completed the bid evaluation assignment, I could come to his office for tutorials. I took the advice and went over to his office in August 1988. He took me through the materials of the training course his colleagues and he underwent in the US in the early 1970s. The course was prepared and presented by the American Appraisal Inc., the largest appraisal firm in the world. The materials were in two thick files and spanned engineering, financial and real property disciplines of valuation. I was humbled; and then overwhelmed. When Engr. Okafor noticed I was getting drowned in the vastness and depth of the education, he asked me to go home with the two files and to return them when I was done with them. That was how I got initiated to the American Appraisal Inc. standard of valuation, and introduced to the American Society of Appraisers. In December 1988, one was elected Secretary General of the Nigerian Society of Engineers, and I started dreaming of formalizing a qualification procedure for accrediting or certifying engineers as appraisers/valuers. Before this time one learnt that the late Engr. Kunle Okunoren FNSE was leading a struggle to entrench engineering firms in the valuation of the assets of the Nigerian Ports Authority. One went over to him to

practically learn at his feet the art of the field which Engr. Okafor had so lavishly supplied me the theory. Engr. Okunoren took me as a kid brother, and went out of his way to give me a robust practitioner orientation. He taught me both technical procedures, communication style and commercial tactics. I got guidance from him on how to convince the Council of the Nigerian Society of Engineers to establish an Accreditation and Certification Board for certain specialist fields. When the Engineering Valuation Certification course commenced in 1989, he was one of the main instructors. He taught “Inventory Preparation” and “Depreciation in Valuation”. Engr. Okunoren led the successful struggle to involve Engineering firms in the valuation of NEPA assets in 1990. Engr. I.K. Inuwa President NSE 1989-1990 also was an instructor, teaching valuation of automotive vehicles.

## **LEGISLATIVE FIREWORKS FOR ENGINEERS TO VALUE**

### **THE COMPANIES LAW**

In August 1988, Engr. Ife Akintunde President NSE sent Dr. Chris Onwugbolu (now Dr. Bolu) and my humble self to represent the Nigerian Society of Engineers in the deliberations of the Consultative Assembly on the Reform of Companies Law. The 1968 Companies Law was being reviewed. On going through the draft new companies law, one of the things observed was that “Engineer” was not included in the definition of “valuer” in Sec. 137. When I brought that to the attention of President Akintunde, he directed that Minority Report be prepared if the Assembly failed to include “Engineer” in that definition during its sitting. At the end, the NSE had to resort to a Minority Report which could not be submitted to the Attorney General of the Federation till March 1989 after President Akintunde had left office.

Engr. (Brig.) M.S. Toki FNSE had complained to Engr. (Gen.) Jim Ishaya Bakut FNSE PSO to CGS that we were having problems getting the AGF to receive our minority report. On a day in April 1989 when Engr. Akintunde came to the NSE Secretariat for a meeting of the first ever Codes/Standards/Legislations Committee of NSE; the meeting had just commenced when Brig. Toki the ES was called out to take an important call. At the other end was Prince Bola Ajibola SAN KBE the Hon. AGF. He urged that NSE could come right away to submit her Minority Report to him. President Inuwa who was at that moment in Kano was briefed of the development. He requested that Engr. Akintunde kindly lead a delegation of all the engineers then available at the secretariat to make the submission to the Hon. AGF. Engr. Akintunde then introduced me to the AGF as the Society's contact person on the matter and that I would be visiting the AGF for follow up. I did call on the AGF on five other occasions in his office. The last time I was in Prince Ajibola's office he told me that he would soon leave for the World Court Bench in the Hague, but that he would grant our prayers that had merit before he leaves.

Meanwhile as we were sensitizing various publics on the role of the engineers as valuers, Dr. F.A. Shonubi FNSE who was then 1<sup>st</sup> Vice President of NSE called me to the side, and informed me that the first job he did as a consultant was on asset valuation. He urged that I do not relent in the struggle to safeguard the engineers' turf in valuation in Nigeria, and offered his assistance anytime it was needed. Up till the time of submission of the Minority Report, our complaint had been that Sec. 137 of the draft companies law did not recognize engineer as "valuer" whereas Sec. 41(3) of Companies Decree 1968 being reformed recognized

“Engineer” for the purpose of statements in prospectus for shares or debentures. About the middle of 1990, Dr. Shonubi called me, and to my greatest delight informed me that Sec. 554 of the Companies & Allied Matters Decree No. 1 of 1990, still recognized “Engineer” as expert for statements in prospectus. On going through C.A.M Decree No. 1 of 1990 clause by clause, I discovered that Sec. 603 also recognizes Engineer’s report, opinion or statement for bid under a take-over bid or director’s circular.

Our strategy then had to change. Dr. Shonubi suggested, and it was adopted that we now argue that since prospectus inviting people to subscribe for securities in a company, take-over bid and director’s circular expect valuation reports or opinions from the engineers, that Sec. 137 dealing with payment other than in cash, should be amended to include engineer in the definition of “Valuer”, in alignment with Sec. 554 and Sec. 603. We thus mounted the roof top saying it loud “Engineer is Valuer”.

Fittingly, I had sauntered into the Council Chambers of the Council of Registered Engineers of Nigeria in Alausa, Lagos State, some time in 1992 and Dr. Shonubi was beaming with smiles telling me he has been looking forward to seeing me, to inform me that Sec. 137 of the companies law had been amended. He then handed me a copy of C.A.M (Amendment) Decree No. 46 of 1991. That was one of my happiest days.

### **Engineers (Registration etc) Amendment Law**

One of the assignments I was given as the Chief Strategic Adviser to President Akintunde, was to survey the laws of the Federation and identify those that had

impact on Engineering. It was while carrying out this assignment that one discovered that “Practice of Engineering”, and “Registered Engineer” were not defined in the statute books. A recommendation was then made to President Akintunde to take steps to get these terms defined in law. The Special Presidential Advisory Group on Strategies (SPAGS) which I chaired, prepared definitions which were passed on to COREN from NSE. COREN set up an ad-hoc committee to finalise the definitions which were to be included in the amendments to the COREN DECREE No. 55 of 1970, then pending with the Federal Ministry of Works. Dr. Shonubi was Chairman of the committee with yours truly as a member. The definition of “Practice of Engineering” adopted by the committee includes any professional service or creative work in the form of “valuation” among others. This definition entered the laws as Sec. 12 of Engineers (Registration, etc) (Amendment) Decree No. 27 of 1992.

### **State of the Practice of Engineering Valuation in Nigeria**

There are four laws that empower the engineer to practice valuation in Nigeria.

These are :

- a) Industrial Inspectorate Decree No. 53 1970 read in conjunction with the Scheme of Service, IID FMI. Sec. 3.0
- b) Companies & Allied Matters Decree No. 1 1990, Sec 554 & 603 and section 137 as amended by
- c) Companies & Allied Matters (Amendment) Decree No. 46 1991 Sec 3.
- d) Engineer (Registration, etc) (Amendment) Decree No. 27 1992

Before these laws were in place, Engineers had been practicing engineering valuation in the private sector with appreciable resistance from real estate valuers. As had been alluded to earlier, engineering firms took part in the valuation of NPA, DSC and NEPA assets nationwide. At about the time of the DSC valuation in 1989, Engr. Inuwa OFR succeeded in persuading the leadership of the then Technical Committee on Privatisation & Commercialisation (TCPC) to use engineering firms for the valuation of plant property of state owned enterprises being privatized or commercialized. When TCPC metamorphosed to Bureau of Public Enterprises, the latter registered some engineering firms for asset valuation, but has been using them more for Technical Advisory Services. TAS although by definition a form of valuation, is shorn of monetary figures, and more of condition assessment. In 2000 the Director General of the Nigerian Stock Exchange gave a keynote address at the NSE International Conference Abuja, where she explored the nexus between engineering and securities management. She complained about the poor quality of engineering valuation reports Nigerian Stock Exchange has been receiving from non engineering valuers. She then urged engineers to stand up and claim their rights on valuation of assets. President Habu Gumel promptly set-up the Engineering Valuation & Privatisation Committee of the Council of NSE in 2001. This committee continued with the work of training and organizing of the certification courses in Engineering Valuation. In 2002 NSE Council approved the formation of the Engineering Valuation & Cost Engineering Division, to more properly promote the advancement of these professions. The Division's name was changed to the Institute of Appraisers & Cost Engineers in 2003.

Meanwhile, the other valuation organisation in Nigeria, the Nigerian Institute of Estate Surveyors & Valuers waged a media campaign claiming exclusivity in valuation based on Rule 2, of the Federal Official Gazette No. 5 Vol. 76 dated 19<sup>th</sup> January, 1989, Government notice No. 9. EV&CE Division (Later IA&CE) countered, and educated the public on the different classifications and disciplines in valuation and their qualifications routes. The media war got so hot that the Association of Professional Bodies of Nigeria (APBN) had to intervene in 2001. Engr. Gumel, then President NSE designated this speaker as Delegate Plenipotentiary to the APBN hearings.

The hearings spanned the Presidencies of Engrs. Gumel/Seke Somolu/Mustapha Bulama. On the 13<sup>th</sup> February, 2004, APBN ruled that the laws on valuation in the country gave no exclusivity to either party in the practice. Even though it was agreed on this date by NSE and NIESV to bury differences and get misunderstanding over with, one Estate Surveyor had dragged this speaker to court over related matters and the case is still on-going. A judgment on the motion on notice against the claimant (the Estate Surveyor) is in the Special 2010 Conference Edition of the "The Appraiser & Cost Engineer"

Engr. Somolu provided the funds for the take-off of the Engineering Valuation & Cost Engineering Division. He engaged in several media articles and interviews in defense and promotion of the Engineer's role in Asset Valuation.

### **Engineers & Securities/Privatisation of SOEs**

There is yet to be achieved a perfect fit between engineering valuation providers and the securities issues and financing markets. The same gap also exists with the insurance market.

On the question of the privatisation or commercialisation of State-Owned-Enterprises, BPE (the Bureau for Public Enterprises) had been organized to look down upon engineering. That is why no engineer has been a Director or Director General there. That also is why they refuse to understand that what they describe as the scope for technical advisory service is what you need for valuation of the same engineering based assets.

Engineers are not included in the statute list of professionals required for privatization, and that in a programme where 83% of the enterprises are engineering infrastructure.

### **Engineering Valuation & Taxation**

Normally Local, State and Federal Governments ought to be concerned with the value of assets that are subject to assessment for ad valorem taxes. For purposes of proper determination of the taxation to apply, the governments should retain Engineering Valuation Companies for the job of establishing the basic information upon which assessed values are determined according to relevant tax laws.

FIRS is interested in private property related to the establishment of proper depreciation rates for income taxation purposes and for excess profits taxes

where applicable. This duty can only be effectively performed by FIRS if she avails of the services of Engineering Valuation Companies.

### **Engineering valuation & Utility Rate Making**

Engineering Valuation actually evolved from the regulation of public utilities. Regulatory agencies and commissions deal with operational procedures. For example the Nigerian Broadcasting Commission in regulating the radio and television industries, considers the problems of licensing stations and allocating the available frequencies in the broadcasting bands, in order to accommodate fairly the interests of individuals, business enterprises and the general public. Immediately these operational issues are settled, the commission has to determine the compensation for services performed. This is usually done with fair value basis of rate regulation, which automatically puts the valuation/appraisal engineers in the middle of the rate regulation problem. The refusal of NCC to get involved and answer the question “what are just and reasonable rates which a public utility can charge its customers?” really alienated the Commission from the Engineering Valuation Community. Both parties need to engage, the same goes for DPR, PPPRA, NERC, Gas Regulatory Commission etc.

### **Nigeria Electricity Regulatory Commission**

Sec. 32 of the Electric Power Reform Act 2005 assigns to the Nigerian Electricity Regulatory Commission the function “to ensure that the prices charged by licensees are fair to consumers and are sufficient to allow the licensees to finance their activities and to allow for reasonable earnings for efficient operation.

This they can achieve through adequate Engineering Valuation, to determine the values of the Generation, Transmission & Distribution assets of operating entities.

Some weeks ago an advertisement emanated from the Commission asking for Expressions of Interest for Financial Valuation on assets of GenCos and DisCos spun from PHCN. As these companies are not really quoted on the Stock Exchange, nor do they have public share-holders, it is doubtful that a Financial Valuation is what is required. But since the Commission does not have internal capacity for Engineering Valuation, nor did it seek External Expertise in the field, the advertisement is perceived among allied professionals as saying one thing, and meaning another. NERC and IA&CE need to engage urgently.

### **Engineering Valuation & Enterprise Administration, Sale or Transfer**

In the private sector, when a business is sold or transferred in a merger/acquisition, or when it changes hands due to retirement of personnel, or for other reasons, an engineering valuation may be made for the purpose of defining a basis of sales or transfer negotiation. From engineering valuation of the assets of a company, trends of the replacement cost of the property, investment and rates of depreciation afford useful information to Board and Management in determining financial policy, competitive position and selling prices.

**Let us now leave Appraisals for a while.**

### **Cost Engineering in Nigeria**

When I joined the NNPC (Petrochemicals Division) in November 1980 my colleagues made tract of a talk given by the Manager of the Division, Dr. Ejike Onyia FNSE PPNSCHE, on the subject of negotiation. He had summarized a new

book on the subject which he read travelling to America from Nigeria. With that there was costing in the air. I read the 'tract' too, like everyone else. Within days I met a gentleman named Dr. Festus Uwandulu, Chemical Engineer. Out of curiosity I asked to know what his role was on the Petrochemical Phase 1 Project. He told me he was a Cost Engineer. I had seen that title in Dr. Onyia's paper. My imagination was fired and I kept close to Dr. Uwandulu to observe what he did as Cost Engineer.

In December 1984, Dr. Onyia on invitation presented a paper titled "Project Cost Estimates & Control" to the annual conference of the Nigerian Society of Engineers in Kano. The theme of the conference was something, like "Challenges for Development of Iron & Steel in Nigeria". Dr. Onyia opined in that paper that Iron & Steel development was settled technology globally, and that challenges around those had been battled and defeated. He then proceeded to discuss project cost estimates and their effects on budgeting and project delivery. He took on the issue of phantom project cost "Inflation", and explained the differences between screening, budget and definitive estimates. Budget estimates have error of margin of up to  $\pm 50\%$ , while definitive estimate has error of margin of  $\pm 5\%$ . Before one can arrive at definitive estimate, about 60% of engineering scope would have been achieved. This means that a contract would have been awarded, usually based on a budget estimate. It is thus expected that when the scope of the project is fully defined, the project cost would increase. On the issue of high costs of project in Nigeria compared to other countries, Dr. Onyia raised the issues of inflation, currency parity and localization factors as contributory to high costs of project here. This 1984 paper was the first treatise in the annals and

transactions of the great and honourable the Nigerian Society of Engineers to deal with the issue of Project Costs.

In 1985, one was in a team from NNPC that went for an assignment at the El Paso Polypropylene Plant at Odessa and Bayport Texas USA. While at the Bayport Plant, the maintenance Superintendent in discussing some Maintenance Management matters, introduced accurate cost estimating as critical and asked if we do practice cost engineering at NNPC. I remembered Drs. Onyia and Uwandulu, as I answered yes! He then showed me the course material for the recent Cost Engineering Training he had undergone. I voraciously flipped through the pages of the bound documents. Noticing my enthusiasm he promised to make a copy of the entire course material for my use. He did and from self study, I brushed myself up in Project Planning, Scheduling, Cost Estimating, Cost and Progress Control- the Elements of Cost Engineering.

By 1988, my Consulting Firm was organizing Cost Engineering Training for Delta Steel Company, Nigerian Gas Company, Chevron Nigeria Ltd., Warri Refining & Petrochemicals Co. By the early 1990s, one identified an Engineer in the WRPC that had attended a training course in the United States, and tried to work with him to establish an Association for Cost Engineers. That could not move forward because overtime I discovered that the gentleman was averse to seeing more people become like him.

One recalls an event that occurred in 1988 during the sitting of the Technical Committee on the Completion Proposals of the Iwopin Pulp and Paper Mill. The Committee had just returned from the visit to the plant site, and as the Management Consultant to the Committee, one was collecting his thoughts together about the bid analysis and evaluation report. Since these are cost

engineering issues, I thought that I should see Dr. Onyia to let him know what I was doing, and seek his advice and guidance. He was then Managing Director of Nigeria LNG. I contacted him, and he asked me to come to his office after close of work on a particular day.

On that day at about 4.30 pm I informed Engr. Okafor that I was going to visit MD NLG. He exclaimed “Dr. Onyia! Give him my regards. We were contemporaries at CKC, and professional colleagues. He studied Chemical Engineering in Italy, while I did mine in Ireland”.

I had known Dr. Onyia as alumnus of CKC, my alma mater, but did not know up till that moment that Engr. Okafor passed through the College. I met Dr. Onyia as planned, and explained to him the nature of the assignment, and the methodology I proposed to adopt for solution. He reviewed the information and suggested elements, criteria, weights, and scores that could be applied to evaluate the tenders. I took copious notes, while palpably feeling a big load lifted off my shoulders. The evaluation was accordingly carried out, to the admiration and commendation of the Chairman and other members of the Committee.

In 2001, Engr. Gumel asked if I could organize a course on Cost Engineering for the Ministry of Works. I agreed and he worked out an arrangement with the Ministry to send about 20 Engineers for the training. That was at the peak of the period when Quantity Surveyors were eager to make an in-road, or to take over Cost Estimation on Highway Projects. The training was successfully conducted under the auspices of the Engineering Valuation and Privatisation Committee.

### **Focusing on Cost Engineering**

When the time came for applying to Council of NSE, for Charter for a Technical Division to promote the advancement of Engineering Valuation, one thought that other economic disciplines or specialisation of engineering to wit Cost Engineering, and Engineering Economy, should be taken on at the same time even though they are practiced as different professions. Thus the application to Council for charter was for Engineering Valuation & Cost Engineering Division. The application was expeditiously granted by Council sitting under the chairmanship of President Seke Somolu FNSE FA Eng A. Val, AEEcon.

In 2003 members of the Division drafted a constitution that was specific to the mandate areas of Appraisal/Valuation, Cost Engineering & Engineering Economy, and changed their name to Institute of Appraisers & Cost Engineers (a Division of the Nigerian Society of Engineers).

Art. VI of the constitution shows that the Institute is dedicated to the tenets of furthering the concepts of Total Cost Management and Cost Engineering. It defines Total Cost Management as:

“The effective application of professional and technical expertise to plan and control resources, costs, profitability and risks,... a systematic approach to managing cost throughout the life cycle of any enterprise, programme, facility, project, product or service. This accomplished through the application of Cost

Engineering and Cost Management Principles, proven methodologies and the latest technology in support of the management process”.

The same article also defines Cost Engineering as “that area of Engineering practice where engineering judgment and experience are utilized in the application of scientific principles and techniques to, problems of business and programme planning; cost estimating; programme and project management; planning and scheduling; and cost and schedule performance measurement and change control”.

In 2006, IA&CE applied to be admitted to the International Cost Engineering Council (ICEC) as a full member. This was realised in 2007. Thus in June 2008 the Institute participated in the 36<sup>th</sup> Council meeting of ICEC in Toronto and 6<sup>th</sup> World Congress on Cost Engineering as a Member. The ICEC mandate areas span Cost Engineering, Project Management, and Quantity Surveying. At the 36<sup>th</sup> Council meeting of ICEC, a Nigerian Quantity Surveyor Mr. Murtala Ayo Oladapo was elevated from Vice Chairman (Admin) to Senior Vice Chairman. That is the equivalent of Chairman elect of ICEC. When he takes over as Chairman, Nigeria would have had the honour of directing, co-ordinating, and piloting the affairs of Cost Engineering, the world over. This would be more so at the United Nations level, where ICEC is an affiliate, and Mr. Oladapo has been responsible for the liaison especially the UN Habitat.

### **Use of Cost Engineers in Nigeria**

Cost Engineers are expected to play important roles during the four phases of a project viz:

<b>Phase</b>	<b>Duration</b>	<b>Deliverables</b>
Evaluation & Planning	3 months - 3 years	Preliminary Estimate Screening Study Early Planning Report Early Economics
Conceptual Engineering	3-9 months	Semi-detailed Estimate Setting of Minimum Cost Economic Evaluation
Detailed Engineering	1-2 years	Definitive Estimate Equipment Procurement Definitive Economics Sub-contract Development
Construction	1-3 years	Labour Productivity Overtime Wages Construction Overheads Sub-contract Administrations

### **Role of Client's Cost Engineers**

Client wishing to develop projects need to have Cost Engineers internal and external. These have to co-operate (but not collaborate) and work together with the Contractors' Cost Engineers for the purpose of keeping costs within the Control Estimate.

If we take as an example reimbursable type contracts, some of the important duties of Client's Cost Engineer would include the following:

- Appraising Contractor's Cost Control performance by way of verifying that the Contractor's personnel are familiar with and are following the agreed cost control procedures, and not cutting corners.
- Reporting/Analysing trends of costs outside contractor's scope like in the areas of currency fluctuations, insurance, land, start-up costs, etc.
- Responding to Client's Board/Management cost related requests relating to cost forecasts of cash flow, foreign currency, changes under consideration, cost of owner's PM team, cost reports as part of the monthly progress report etc.
- Reviewing of contractor's change orders and study estimates, and confirming they are realistic using agreed prices, techniques, and overhead percentages.
- Administering Cost Incentive Plan in reimbursable type contracts that include cost incentive plan for the contractor.

This holds with the caveat that while investigating cost overruns and seeking corrective action, the Cost Engineer should not get bogged down in detailed engineering. The latter is the job of the Design Engineers.

As we had had cause to say in Pg. 3 of “The Appraiser & Cost Engineer” Vol. 1 No. 1, the Design Engineers have the responsibility of deciding the shape of the final project. Although their main concern is with performance, they must constantly keep costs in mind, and always strive to select the most economical alternative.

Cost Engineers on the other hand have the responsibility to ensure that adequate control and forecasting systems are implemented and to report up-to-date status, cost trends, and cost schedule forecasts. The Cost Engineers’ inputs enable the Project Manager and other responsible members of the management to make the proper evaluation and decisions on a timely basis.

### **Role of Contractor’s Cost Engineers**

The Contractor’s Cost Engineers carry the full responsibility for Project Cost Control since his organization is executing the project under terms of the contract. In the case of a reimbursable contract, the Client’s Cost Engineer will be monitoring and evaluating the Contractor’s cost control programme.

The contract or subsequent agreements spell out guidelines and procedures to which the Contractor’s Cost Engineer will operate.

The Contractor's Cost Engineer role is that of implementation and execution, while that of the Owner is appraisal and constructive suggestions.

## **State of Practice of Cost Engineering in Nigeria**

### **Industrial Inspectorate Department**

Decree No. 53 of 1970 Sec. 2-(1) (a) assigns to IID the duty of determining “the actual capital (whether foreign or local) employed or proposed to be employed in industrial undertakings. This is an enormous responsibility on Cost Engineering, but Sec. 1(3) of that law limits the exercise of the functions (including Valuation, and Engineering Economy) to members of the public service.

On the occasion of the Opening Ceremony for the accreditation course on Machinery & Equipment Valuation held at the Nicon Hilton Abuja Monday, 27<sup>th</sup> June, 2005 we did address the Hon. Minister of Industry in the following words;

“when the Institute’s Accreditation Procedures were initiated in 1989, it was suggested to the Federal Ministry of Industry, that with a National Professional Association dedicated to the promotion of the advancement of Engineering Valuation, Cost Engineering, and Engineering Economy, the time was then ripe for Engineering Valuers, Cost Engineers and Engineering Economists from the private sector to be allowed to and retained from time to time to perform Valuation, Cost Engineering, and Engineering Economy Services, in aid of the work of IID. We did advise then that the definition of “Inspectors” in the IID Act No. 53 of 1970 had to be amended to admit relevant expertise from the private sector. The economy has grown from what it was in 1970, and there is no way the staff of IID can cope with the

enormous responsibilities thrust on them by the law, without the assistance of their colleagues in the private sector, who now include several Retired Directors and Inspectors from the Department. The Institute respectfully requests that this amendment be effected so that the Department, Industry and the Country derive maximum benefit from the relevant expertise that is turned out by IA&CE”.

The then Hon. Minister H.E. Ambassador Magaji Muhammed replied thus;

“I am aware that the Institute of Appraisers & Cost Engineers had long time ago suggested the re-definition of the designation of an industrial “Inspector” to accommodate Valuation Engineers and Cost Engineers from outside the public service. I wish to assure you, that even under the current definition of “Inspector”, Valuation Engineers and Cost Engineers who possess the basic engineering qualifications to enter the Public Service will be admitted into the Industrial Inspectorate Department of my Ministry. I AGREE WITH YOU THAT SOME ASPECTS OF THE ACT REQUIRE SOME KIND OF AMENDMENT AND THEREFORE, THE MINISTRY WILL LOOK INTO THIS WITH A VIEW TO TAPPING THE EXPERTISE AVAILABLE IN THE PRIVATE SECTOR TO ENHANCE THE PERFORMANCE OF THE DEPARTMENT” (Emphasis ours).

We hereby respectfully re-iterate and re-endorse these prayers, and the concession granted by Hon. Minister of Industry at that time for urgent action. We quickly add that the IID is overdue for upgrading as a Commission and that the meaning of “Inspector” should be quickly expanded to include experts from

the Private Sector, either in the capacity of Part-time Commissioners, or Consultants.

### **Cost Engineering & Bureau of Public Procurement**

The Bureau of Public Procurement is a Cost Engineering Establishment. So also are the various Procurement Departments being established in the various MDAs.

There is as yet no constructive engagement between BPP and IA&CE. Despite the very good work the Bureau is doing and its statutory function to organize training and development programmes for Procurement Professionals, it is Procurement Professionals Associations that have the last word on Procurement Professional Practices, and not user-government or user-corporation departments. The Bureau needs to buy-in to the Project Procurement Engineers Certification Programme of the Institute.

Thank you for your attention.

**Engr. Otis Anyaeji FNSE FNI MechE A.Val ACostE AEEcon.**

**Chairman**

**Institute of Appraisers & Cost Engineers**