



## THE NIGERIAN INSTITUTION OF STRUCTURAL ENGINEERS

( A DIVISION OF THE NIGERIAN SOCIETY OF ENGINEERS)

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### COMMUNIQUE ISSUED AT THE END OF THE

### 29<sup>TH</sup> ANNUAL CONFERENCE OF THE NIGERIAN INSTITUTION OF STRUCTURAL ENGINEERS – ( NIStructE )

HELD FROM TUESDAY 25<sup>TH</sup> – WEDNESDAY 26<sup>TH</sup> OCTOBER, 2016  
AT THE INTERNATIONAL CONFERENCE CENTRE, ABUJA

#### PREAMBLE

The 29<sup>th</sup> annual conference of the Institution was held on Tuesday 25<sup>th</sup> and Wednesday 26<sup>th</sup> October, 2016 at the International Conference Centre Abuja.

The Theme of the Conference was **“Issues on Failure of Engineering Structures in Nigeria”**.

The Keynote address was delivered by the Hon. Minister for Power, Works and Housing, Mr. Babatunde Raji Fashola SAN, through a representative from his Ministry. Amongst other dignitaries at the opening ceremony were Engr. Suleiman Hussaini Adamu, FNSE - Hon. Minister, Federal Ministry of Water Resources who also doubles as the President, Association for Consulting Engineering in Nigeria (ACEN); The President, the Nigerian Society of Engineers (NSE) represented by his Deputy, Engr. Kunle Mokuolu, the Leadership of COREN and other professional bodies.

During the opening ceremony, one of the past Presidents of the Institution, Engr. Shola Sanni presented the Institution’s position on “The Nigerian Building Code”. The Institution considers the code as the most important document that could address the issues associated with failure of engineering structures in Nigeria. The conference theme was discussed by the delegates under the following sub–themes.

- Marketing Structural Engineering in Nigeria by Mr. Seni Adetu, Former MD, Guinness Nig. Plc
- Structural Engineering Practice by Engr. K.A Adeola, CPMS Ltd.
- Recent Earth – Tremor in Nigeria and Its Relationship with the Failure of Engineering Structures: Past, Present and Future by Prof. A.A. Adepelumi, Dept of Geology, Obafemi Awolowo University, Ile Ife.
- Ethical and Legal Issues by Engr. Dr. Temilola Kehinde, Tamilore Associates
- Construction Supervision by Engr. Yomi Lawson, Landmark Integrated Technologies Ltd.
- Economic Issues by Engr. Barr. Temitope Oribuyaku, Techgrade Engineering Ltd.

- Structural Engineering Forensic Study by Engr. Dr. J.O.Okovido, Dept. Of Civil Engineering, University Of Benin.

These brought diverse issues to the fore and at the end, the following observations and resolutions were made.

## **OBSERVATIONS**

After exhaustive discussions of the Institution's position and the other papers presented, the delegates at the conference observed that:

1. The Nigerian National Building Code is such an important document that could bring about a drastic reduction in the incidences of building collapse; but the content of the present version is inadequate and contains many errors and some ambiguities. It lacks adequate information on wind and earthquake forces.
2. If the section on engineering structures contained these much errors and inadequacies, the other sections bothering on other professional disciplines could contain similar inadequacies.
3. The Building Code was fashioned after the American Unified Building Code and it has not been revised since its publication in 2006.
4. The country does not have a standard and nationally approved wind isopleths (maps) for engineering design purposes.
5. Recent land tremors in parts of the country have confirmed research findings and predictions that there are seismic activities in Nigeria, contrary to what was erroneously assumed in the past.
6. The country does not have seismic map to guide in the design consideration for land tremors and earthquakes.
7. Most of the recorded building collapses could have been avoided had competent structural engineers been engaged for their design and construction supervision. Moreover, the incidences could have been reduced drastically if those found culpable had been adequately punished as a deterrent.

## **RESOLUTIONS**

1. In view of the identified ambiguities, errors, over-specified live loads and lack of adequate information on wind and earthquake forces, the current version of the Code should not be passed into law.
2. The Ministry of Works and Housing should refer the different parts of the Code to the relevant professional disciplines to critique it and make necessary recommendations for comprehensive review, corrections and additions.

3. In view of the current engineering practice in the country, it would be more economical and easier to adopt the revised code if it is fashioned after the Euro-Codes rather than its present format, which follows the American Uniform Building Code.
4. The Federal Government should support the efforts of the Nigerian Institution of Structural Engineers to carry out detailed study of wind climate in Nigeria with the objective of developing a nationally approved Wind Isopleths (map) of the Country.
5. The Federal Government should set up a proper framework to ensure the present Code is reviewed immediately and put in place a mechanism to ensure its periodic review. We recommend that the code be reviewed at least once in five years.
6. Earthquake monitoring stations should be set up at different parts of the country to collect pre-earthquake, earthquake and post-earthquake data to be used to develop the seismic map and code for Nigeria.
7. All proposed important structures should henceforth be designed to resist seismic forces with magnitude of 6 on Richter scale, whilst existing important structures should be retrofitted to prevent disaster if earthquake of that magnitude as being predicted occurs in Nigeria.
8. Competent structural engineers should be engaged for the design and construction supervision of buildings.
9. All building control regulations for construction should be enforced and appropriate sanctions be applied as necessary for defaulters.
10. Corrupt practices in all its ramifications, in the building industry, should be eliminated.
11. The Nigerian Institution of Structural Engineers should embark on aggressive marketing and publicity of structural engineering practice in Nigeria. Also the Institution should increase its training and mentoring capacity for the young engineers in order to increase the number of competent engineers and prevent quackery.

## **CONCLUSION**

The conference commended the Council of the Institution for the choice of the conference theme and the delegates for a very robust discussion of the theme and sub-themes that resulted in this communiqué.

The incidence of collapse of engineering structures would be drastically reduced if the above recommendations are observed.

Engr. OreOluwa Fadayomi, FNSE, FNIStructE.  
President.