9 November 2018

Suggestion for reviewing DoB files on the 21 buildings listed below as well as the full 3.4 TB collection of digital DoB submissions from 2011-2018 to be placed in public libraries by Cryptome.

1. Digital submissions to the City of New York Department of Buildings (DoB) are reviewed and approved through a corrupt and deceptive procedure. None of the "approved" submissions should be trusted by the public, by design professionals, by construction companies, by the insurance industry, by property owners, by investors, by finance, by developers.

2. The DoB Development Hub should be closed and a public statement issued explaining the closure and what corrective action should be taken for projects constructed from its submission approvals.

3. A Moreland Act investigation should be conducted of corruption since diminished public safety by DoB Directive 2 in 1975, of DoB, the Department of City Planning, the City Council, the Mayor, the Board of Standards and Appeal and other public safety and protection agencies, for their failure to competently assess adverse impact of inadequate planning and building regulations.

https://en.wikipedia.org/wiki/Moreland_Act

4. A new standing New York State and City of New York-empowered public commission should be established after the Moreland Act investigation to serve as ombudsman and overseer of all municipal, state and bi-state agencies involved in building and infrastructure finance, development, design, construction, occupancy and maintenance. Members of the commission to be publicly elected and should have no stake in the agencies and industries subject to its oversight, enforcement and punishment powers.

5. This warning and recommendations will be placed on all disclosures of DoB digital files released by Cryptome, John Young and Deborah Natsios, Architects

Thanks to Frank Serpico, Jane Jacobs, Rachel Carlson, Ralph Nader, Ida Tarbell, and other corruption disclosers.
INTRODUCTION

The paper describes the process and technical issues related to the application of the code required structural peer review in New York City (2014 New York City Building Code, Section 1617). There are several other major jurisdictions that require peer reviews for certain classes of buildings and their ordinances can be found online. It is though evident that the mere consultation of the text of any regulation is rarely sufficient for understanding the complex effect of the legislation and one needs to become aware of the actual practice as fashioned by the authority having jurisdiction accompanying procedures, accepted interpretations and enforcement. The paper is intended to illustrate the structural peer review process for the benefit of engineers and code writers working outside New York City (NYC).

HISTORY

The 2008 New York City Building Code (NYCBC) was a comprehensive revision of the previous 1968 NYCBC. In general terms, the 2008 code followed the International Code Council (ICC) family of codes but also included several major additions and modifications as deemed necessary by the ad-hoc
technical committees. The structural chapter had several sections that did not exist in the 2006 International Building Code (IBC): Structural Integrity – Prescriptive Requirements (NYCBC 1615), Structural Integrity Key Element Analysis (NYCBC 1616) and Structural Peer Review (NYCBC 1617). Later versions of the IBC have incorporated some of the 2008 NYCBC provisions in a new Structural Integrity section (2009 IBC 1614). The 32 members of the NYC Structural Technical Committees met and debated these sections in various meetings starting in 2004. At that time the NYC population and especially the structural engineering community were still strongly under the impact of the events of September 9, 2001 and the subsequent FEMA and NIST reports. Introduction of significant new requirements usually faces opposition from developers afraid of potential increases in costs, but these new sections were adopted with minimal negotiations as they covered issues revealed by the recent disaster and that answered directly to the general consensus of increased safety. Of these three additional sections, the Peer Review section was the least subject to controversy.

SELECTION OF PEER REVIEWER AND DISPUTES

The peer review report is intended to benefit the building owner and therefore, the reimbursement and the selection of the reviewer are left to the owner. Despite recent conglomerations of consulting engineer companies, in New York City there are a good number of engineering companies with principals that meet the high level of technical knowledge expected for the performance of the review – principals from 12 different consulting firms prepared the 38 reports discussed here.

THE STRUCTURES

At the time when the structural peer review legislation went in effect in NYC there were 51 buildings over 700 ft. in height, including 9 built before WWII. With the exception of one residential concrete structure, all other 50 buildings were steel frame structures with office occupancy. The 2012-17 period under discussion was marked by very strong development in the city, especially for residential construction. For the first time residential skyscrapers reached over 1,000 ft. Residential buildings accounted for over 75% of the reviewed buildings. The height of 22 buildings exceeded 600 ft. and triggered peer review. For the population of peer reviewed buildings, the ratio of concrete to steel structures was about 9 to 1. Almost all of the concrete buildings were flat slabs with shear walls. The lack of available large lots in Manhattan, led to 12 structures less than 500 ft. in height to have ratios over the 7/1 limit that triggers peer review.

THE STRUCTURAL PEER REVIEW REPORTS

Immediately after the introduction of the code section requiring peer review there have been a number of submittals that contained only a succession of statements testifying compliance with each specific item listed in the section. These type of submittals probably followed procedures allowed by other jurisdictions but in NYC they faced objections from the DOB on grounds that the code actually required a report, not just a statement. In time the firm DOB position was acknowledged and it led to reports with sufficient details to demonstrate the review effort and also allow the department to understand the specific solutions. In many cases the peer review was performed on less than 100% complete documents and attesting adequacy was possible only in terms of “general completeness”. Matters like adequacy of dowels or of cramming large amount of reinforcement in narrow spaces were left to the detailers.

DISCUSSION AND CONCLUSIONS

In NYC there are about 300 buildings taller than 500 ft. The list includes several buildings built when the local building codes did not have any prescription for wind or other lateral loads. Another significant number of buildings in this height group were designed only for a constant wind pressure of 20 psf. Excluding façade issues, none of these buildings have known structural problems. Aside an added level of confidence for performance under extreme events, what added benefits does the independent structural peer review bring? As standard texts for peer review mandates are not suggested in national standards, the benefits can be measured only within the jurisdiction that oversees the locally crafted mandate. It is difficult to assess the peer review process in other jurisdictions since information is only accidental. For instance, although the city of Miami has adopted the text originated in NYC, the benefits there might be different.

As a result of a 1975 decision to concentrate examinations on compliance with fire regulations, the NYC
DOB had not commonly performed review of structural designs since. Obviously the public expects unique or large buildings to undergo some level of review but the review of the mandated buildings requires a high level of technical knowledge difficult to find in a buildings department. The NYCBC 1617 provisions guarantee that highly competent engineers perform the review. Also given the size of their investment owners are likely to engage equally high competent professionals for the design but it is worth noting that at least in one occasion the review led to significant redesign.

The peer review gives companies the opportunities to analyze and compare each other’s drawings and calculation methods. The companies participating in the peer review process gain knowledge from each other and the standards and quality of design are potentially raised. The introduction of advanced properties for concrete and steel that occurred during this period, most likely gained easier acceptance due to the quality of the review process. The department’s expectations cannot become effective mandates without understanding the capacity and the acceptance of the consulting community. Consulting firms want clarity in requirements so they can manage their exposure and liability. From discussions it became apparent that some code texts needed official clarifications.

In the author’s opinion without a systematic appraisal of the reports by the agency having jurisdiction, these reports will tend to devolve into simple listings of statements. The DOB evaluation of the reports identified areas (e.g. deep foundation elements) that were not covered by the reviewers. Further assessment of the peer review process needs to concentrate on situations where the specific estimation of extreme loads (seismic or wind) are provided by third parties. It is the agency’s obligation to maintain and improve the standard for peer review.

SECTION BC 1617 STRUCTURAL PEER REVIEW

1617.1 General. The provisions of this section specify where structural peer review is required, how and by whom it is to be performed.

1617.2 Where required. A structural peer review of the primary structure shall be performed a report provided for the following buildings:

1. Buildings included in Structural Occupancy Category IV as defined in this chapter and more than 50,000 square feet (4645 m2) of framed area.
2. Buildings with aspect ratios of seven or greater.
3. Buildings greater than 600 feet (183 m) in height or more than 1,000,000 square feet (92 903 m2) in gross floor area.
4. Buildings taller than seven stories where any element, except for walls greater than 10 feet (3.048 meters) in length, supports in aggregate more than 15 percent of the building area.
5. Buildings designed using nonlinear time history analysis or with special seismic energy dissipation systems.
6. Buildings designed for areas with 3,000 or more occupants in one area in close proximity, including fixed seating and grandstand areas.
7. Buildings where a structural peer review is requested by the commissioner.

NYC Directive 2, 1975


[Page 1 of 4]
TO: Borough Superintendents

FROM: Commissioner Jeremiah T. Walsh, P.E.

SUBJECT: PLAN EXAMINATION AND BUILDING LAWS INTERPRETATIONS
Section C26-108.6 Adm. Code

DATE: February 21, 1975

In order to minimize delays in approval of applications for building permits and to expedite the issuance of such permits, examination of new building, alteration and building notice applications shall be limited to examination of applications and plans for compliance with the Zoning Resolution and with the requirements of the building laws relating to egress and fire protection and with administrative requirements of the laws.

The procedure takes cognizance of the professional standing of architects and engineers and their responsibility and capability to provide plans of buildings which are in compliance with law.

Plans are in development in architects' and engineers' offices for new buildings and major alterations, for extended intervals, frequently of several months duration before reaching a stage of sufficient completion for filing with the Building Department. During such time, competent architects and engineers develop the plans in compliance with the requirements of the building laws and the instructions of clients. The structural design, and plans for ventilation, heating and air conditioning are prepared by specialists in respective elements of construction, men who are presumably cognizant of code requirements, and who are aware of their professional responsibility to protect the safety, health and welfare of the public. Such plans may be accepted as in compliance with law, subject only to random, occasional spot checks after approval by examiners of the Building Department.

Architects and engineers who may not be sufficiently familiar with the building laws of this city, or who may have a question as to the interpretation of sections of the laws, may request complete examination of the plans or may request examination of only such additional parts of the plans as they may consider to be in question.

Additionally, engineering personnel of the Building Department will be designated in each borough office to provide information to the architects, engineers, owners, builders, or other persons, who may desire information concerning procedures or requirements of laws or rules enforced by the department.