

Gus Sirakis**FREEDOM
TOWER**

From: Bhol, Saroj [sbhol@panynj.gov]
Sent: Friday, August 17, 2007 2:44 PM
To: Gus Sirakis
Subject: Freedom Tower- Concrete Mix Design.

Gus,

I am summarizing below the discussion I had with you recently regarding the proportioning of concrete mixes for Freedom Tower:

- The current NYC Building Code requires concrete mixes that are established from trial mixtures to include tests for four mixes with different water-cement ratios and at least four cylinder specimens for each mix.
- ACI 318 - 2002, Section 5.3.3.2, requires only three mixes with different water-cement ratios and three test cylinders for each.
- The Department of Buildings will have no issue if the Port Authority takes an exception to the current code requirement and complies instead with the ACI 318-2002, which will be the standard under the new New York City Building Code (effective July 1, 2008).

Please respond with your concurrence.

Thanks

Saroj

Saroj Bhol, P.E.
Manager, Construction Design Standards
Quality Assurance Division

THE PORT AUTHORITY OF NY & NJ

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8/17/2007

Gus Sirakis

From: Skghosh@aol.com
Sent: Tuesday, May 01, 2007 11:20 AM
To: Gus Sirakis
Cc: sbhol@panynj.gov; ahmad.rahimian@wsps.com; felix@stressteel.com
Subject: Freedom Tower: 97 ksi Steel

Dear Mr. Sirakis:

This concerns your e-mailed enquiry of April 12 to Saroj Bhol, which was eventually forwarded to me on April 25. Because of the ACI Convention in Atlanta last week and a major deadline yesterday, I could not sit down to responding until this morning. Please accept my sincere apologies.

As I read your e-mail more closely and compared your numbers with the splice test results I have, I found myself not understanding your question quite fully. I called the telephone no. in your e-mail (212/566-8310) twice, thinking that it would be best to seek clarification verbally. Each time a voice message told me that the number is out of service. If, upon receipt of this e-mail, you could please call me, I'd truly appreciate it. Alternatively, if you would send me your correct telephone number, I'll be happy to call you. Saroj, if you have the correct telephone number, it may help if you would send that to me as well.

I have to leave my office at 4.45 PM Eastern time today on a two-day trip. I am anxious to resolve whatever issues have arisen before then, if at all possible.

Thank yo.

S. K. Ghosh

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Gus Sirakis

From: Dan Eschenasy
Sent: Wednesday, April 11, 2007 12:02 PM
To: Gus Sirakis; Fatma Amer
Subject: SAS reinforcing

Gus, it seems to me that the main issue with the usage of this steel is splicing of rebars. Specially in the conditions of this job where one would have to splice different strengths steel. The tests prepared by the NC State University are not extraordinarily positive. Especially for the 12,000 psi concrete with no. 9 bars. The 102, 97, 99 and 103 % results need explanations. IN addition the equation 3 seems to be the same as the previous equation 2 (less 1.25) but as I understand the table it establishes the reaching of yield stress in steel , and in four tests it was not reached. There might be also be an issue with measured concrete strength for the 12,000 psi [under] and 6,000 psi [over]. Could you get some clarifications.

Thanks, Dan

5/3/2007

Gus Sirakis

From: Fatma Amer
Sent: Wednesday, April 11, 2007 6:22 PM
To: Gus Sirakis; Dan Eschenasy
Subject: RE: SAS reinforcing

Ok to send.

From: Gus Sirakis
Sent: Wednesday, April 11, 2007 6:08 PM
To: Fatma Amer; Dan Eschenasy
Subject: FW: SAS reinforcing

DRAFT FOR YOUR REVIEW

After reviewing the test reports and other data submitted by the Port Authority to the Department of Buildings, we have some questions regarding the beam splice tests performed on the SAS Stressteel reinforcing. We need clarification on the results of the test performed by NC State on the No. 9 bar used in 12,000 psi concrete. The four test results based on equation #2 appear to be high (102%, 97%, 99%, and 103%, respectively). In addition, all four of the tests for compliance with equation #3 exceed the allowable values. We also have some questions regarding the tested concrete strengths versus the intended concrete strengths of the shear walls and the effect on the lap splice.

Please advise.

Thank you,

Gus Sirakis
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5/3/2007