

Ronald H. Brookman, Structural Engineer (Retired)

September 30, 2023

Journal of 9/11 Studies

Attn: Mr. Kevin Ryan, Editor

Subject: Scientific Integrity and Ethical Standards at ASCE and NIST

Dear Mr. Ryan,

Two previous letters in the Journal of 9/11 Studies (JNES) — Pepper (2014)¹, Szamboti and Johns (2014)² — described errors and omissions in official reports published by the National Institute of Standards and Technology (NIST) and in technical papers published by the American Society of Civil Engineers (ASCE). These letters clearly expose a lack of scientific integrity and violations of ethical standards at two institutions that are well known to the engineering community. Incidentally the reports and technical papers in question are not well known to most engineers.

I have seen neither rebuttal nor response to either letter, so I wish to add my perspective as a retired structural engineer licensed by the State of California since 1993. I have used published standards and building-code provisions developed by NIST and ASCE for over 30 years.

The latest chapter in Szamboti and Johns' 10-year attempt to publish a discussion paper in the ASCE Journal of Engineering Mechanics (JEM) is an egregious failure by ASCE to enforce its own ethical standards. The discussion paper clearly exposes errors in a technical paper, Le and Bazant (2011)³ published by ASCE, and there is no closure or rebuttal by Le and Bazant. This is why, after reviewing the letter and discussion by Szamboti and Johns in 2014, I commented to Dr. MacQueen, then co-editor of the JNES, that the JNES has more integrity than all the ASCE journals combined. I stand by this opinion now more than ever.

¹ Dr. William F. Pepper letter to Mr. Todd J. Zinser regarding The NIST Report On the Collapse of WTC Building 7 Challenged by 2,100 Architects and Engineers, December 12, 2013, Journal of 9/11 Studies, "Untitled Letter", January 2014, <https://ic911.org/journal/letters/>.

² Tony Szamboti and Richard Johns, "ASCE Journals refuse to correct fraudulent paper they published on WTC collapses", September 3, 2014. This letter includes the original and revised discussion paper Szamboti and Johns (2011), <https://ic911.org/journal/letters/>.

³ Jia-Liang Le and Zdeněk P. Bažant, "Why the Observed Motion History of World Trade Center Towers Is Smooth", ASCE Journal of Engineering Mechanics, January 2011, <http://www.civil.northwestern.edu/people/bazant/PDFs/Papers/499.pdf>.

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NIST and the U.S. Department of Commerce

NIST is an agency of the U.S. Department of Commerce that was established in 1901 to standardize the measurement system used by American industry.⁴ NIST states its mission: “*To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.*” NIST is generally considered an authority on measurements and measurement systems; I find this puzzling considering the numerous questionable measurements of structural elements, displacements, and temperatures reported in NCSTAR 1-9.⁵ These discrepancies are well documented in other articles in the JNES and in Hulsey et al (2020).⁶

Even experts can make mistakes, but real experts acknowledge their mistakes and correct them. So far this has not happened with NIST and its 2008 reports on the destruction of 7 World Trade Center (WTC 7).⁷ I cannot understand how this refusal to correct obvious errors in technical reports can possibly *enhance economic security and improve our quality of life.*

The American Society of Civil Engineers (ASCE)

ASCE claims its mission is to “*Lead the civil engineering profession to sustainably advance and protect the health, safety and welfare of all.*” How is this mission accomplished by ignoring legitimate questions and comments from citizens and professionals in the architectural and engineering communities and suppressing any discussion of the 9/11 tragedy? The struggle by Szamboti and Johns is a perfect example of ASCE’s unwillingness to acknowledge any research that contradicts the NIST-Bazant version of events at the World Trade Center on 9/11, and this form of technical censorship is unacceptable in a free society.

Here’s another example. I sent the following letter to the Managing Director of Member and Corporate Communications at ASCE in 2014 describing my personal experience while attempting to communicate with NIST and ASCE regarding WTC 7. Reference notes in the letter have been updated.

⁴<https://www.nist.gov/about-nist>.

⁵ Therese P. McAllister et al., NIST NCSTAR 1-9, Structural Fire Response and Probable Collapse Sequence of World Trade Center Building 7, Washington: U.S. Government Printing Office, November 2008.

⁶ Hulsey, J.L., Quan, Z., and Xiao, F., 2020. A Structural Reevaluation of the Collapse of World Trade Center 7 – Final Report. Department of Civil and Environmental Engineering, College of Engineering and Mines, Institute of Northern Engineering, University of Alaska Fairbanks, Fairbanks, AK, INE Report 18.17, 112 pp.

⁷ Architects & Engineers for 9/11 Truth, “Request for Correction Under the Data Quality Act to NIST’s Final Report on the Collapse of World Trade Center Building 7”, April 15, 2020, <https://ic911.org/wp-content/uploads/2023/08/rfc-to-nist-wtc7-report-04-15-20.pdf>.

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September 1, 2014

Stefan Jaeger, CAE, A.M. ASCE, Managing Director, Member and Corporate Communications
American Society of Civil Engineers (ASCE)
1801 Alexander Bell Drive
Reston, VA 20191-4400

Sent via e-mail to: sjaeger@asce.org

Subject: ***Putting the Engineer Into Popular Entertainment***

Dear Mr. Jaeger,

Every so often an article or book catches my attention and stirs up a wide range of emotions. Your article in The Bent of Tau Beta Pi (Summer 2014) is such an article. I am neither member nor corporate sponsor of ASCE, so I hope this letter finds you a willing reader. I understand if you have neither the time nor the inclination to respond, and *no response* is exactly what I have come to expect from the ASCE. I am writing, frankly, to express my opinion that the ASCE is sorely lacking in effective communication and a few other essential traits. This letter explains how I reached that conclusion and how your article is related.

Like Jack Carter, I am a structural engineer. My education includes Bachelor of Science (with Highest Honors, 1984) and Master of Science (1986) degrees in Civil/Structural Engineering from the University of California at Davis. Professional licenses include Civil (1988) and Structural (1993) engineering in California. My professional experience includes 28 years of structural analysis, design, evaluation and rehabilitation of commercial buildings including numerous steel structures. I am also a life member of Tau Beta Pi and the UC Davis Alumni Association.

Unlike Jack Carter, however, I resigned from the ASCE around 2003 when I sensed a growing trend towards military approbation after the 2001 attacks on the World Trade Center (WTC) and the Pentagon. A detailed explanation was written to former ASCE President Kathy J. Caldwell in April 2011. Her response to my criticism of certain ASCE activities was polite and noncommittal. She replied that my "input" would be forwarded to ASCE staff and volunteers; I heard nothing more about my concerns regarding honesty, professional ethics and scientific integrity.

Unlike Jack Carter, I am not a fictional character. I gathered from the subject article that your book, The Jackhammer Elegies, contains important lessons about the engineer's role

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in society as a guardian of public safety. The plot of your book originated with the 1993 terrorist bombing of the WTC, and I recall reading a Civil Engineering Magazine article regarding the bombing, structural damage and necessary repairs to the structure. I also recall reading about John Skilling, the towers' structural engineer, discussing the Twin Towers in a short Seattle Times article after the bombing in 1993.⁸ The towers' ability to withstand the impact of a large commercial jet was never in question.

Skilling would have been stunned twice—as most were—when both towers failed in 2001. He would have been stunned a third time by the collapse of 7 World Trade Center (WTC 7) which was not hit by a plane but sustained debris impact and fire damage on 9/11. WTC 7 failed, according to the National Institute of Standards and Technology (NIST), due to damage incurred by normal office fires.

WTC 7 was a modern, Type 1-B, steel high-rise building, about 15 years old at the time it collapsed. What are the implications of this? How many other steel buildings in New York and elsewhere are susceptible to collapse due to normal office fires? Has this ever happened before or after 9/11/01? WTC 7 was designed in 1985 to American Institute of Steel Construction (AISC) and New York City Building Code standards, and I seriously doubt it was constructed in such a shoddy manner as to collapse like a house of cards following an unabated office fire. But this is exactly what happened according to NIST.

Structural engineers should know how NIST investigators reached this conclusion about WTC 7, but most are reluctant to study, question or even discuss the collapse of this tall building. One experienced and respected colleague, who participated in the FEMA and NIST studies of the WTC and is well known at the ASCE, declined to respond (publicly or privately) to my inquiry in the May 2011 edition of SEAONC News:⁹

Does Mr. [REDACTED] agree with the NIST final collapse analysis of WTC 7?

Here is a case study where the facts are much stranger than fiction. My study of the WTC is research-oriented and not speculative. I have no interest in simulating building collapses or devising ways to destroy buildings. It is important to emphasize this because the pervasive fear of terrorism is enabling NIST to withhold structural-analysis data pursuant to 15 U.S.C. § 7306(d).¹⁰

⁸ <http://community.seattletimes.nwsourc.com/archive/?date=19930227&slug=1687698>.

⁹ <https://www.seaonc.org/page/Newsletter>

¹⁰ <http://www.law.cornell.edu/uscode/text/15/chapter-99>

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The National Construction Safety Team Act (NCSTA) was passed by Congress in 2002; it is now encoded in law 15 U.S.C. § 7301 et seq. The law requires NIST to determine the *likely* cause of this building failure and to issue a public report including documentation of the analysis that led to their conclusion. The final reports NCSTAR 1A, 1-9 and 1-9A were published in November 2008, but complete documentation of the complex thermal-structural analysis is unavailable. NIST is withholding this from the public in spite of formal Freedom of Information Act (FOIA) requests and in spite of the general rule governing disclosure 15 U.S.C. § 7306(a).

In January 2010 I requested structural calculations demonstrating the walk-off failures at columns 79 and 81 of WTC 7 that supposedly triggered the collapse sequence. This FOIA request was denied and appealed. The appeal was denied in May 2011 after U.S. Representative Lynn Woolsey contacted the Department of Commerce to inquire about the excessive delay. The Congresswoman's office was told that the requested documents would be released, while I was informed by the Department of Commerce that my appeal was denied.

In August 2011 I requested complete structural drawings and calculations for WTC 7 by Irwin G. Cantor. The final response, including drawings but no calculations, was issued by NIST in September 2011. In October 2011 I requested a complete set of shop fabrication and erection drawings for WTC 7 by Frankel Steel Ltd. The final response, including many drawings, was received in November 2011. At last I was making some progress.

After studying the drawings for several months, and communicating with others who were doing the same, I compiled a list of technical questions related to the collapse-initiation sequence discussed in Chapters 8 and 11 of NCSTAR 1-9. A FOIA request submitted in March 2012 sought information about the decisions NIST had made in relation to the list of technical questions. It was not assigned a FOIA log number, and it was not processed through the NIST FOIA office. Instead it was forwarded to the NIST Engineering Lab for a response. An incomplete response was received on 6/27/2012 in the form of addendums to the errata file¹¹ (June 2012) and "Answers to Frequently Asked Questions" (questions #34 and 35).¹²

My conclusions after studying the errata file and FAQs include: the errata file update is unsubstantiated; the errata file conflicts with the Frankel Steel shop fabrication drawings;

¹¹ http://www.nist.gov/manuscript-publication-search.cfm?pub_id=901225

¹² <https://www.nist.gov/world-trade-center-investigation/study-faqs/wtc-7-investigation>. See items 27 and 28 which were originally numbered 34 and 35.

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the new FAQs failed to address most of my questions, and NIST reworded selected questions to suit their response. When I brought these objections to the attention of the NIST Engineering Lab, the NIST FOIA Officer and the NIST Director, no one had the professional courtesy to respond. How can anyone possibly trust the NIST analysis and final conclusions regarding WTC 7?

The ASCE Journal of Structural Engineering (JSE) published a technical paper in January 2012 titled "Analysis of Structural Response of WTC 7 to Fire and Sequential Failures Leading to Collapse" (McAllister et al. 2012). I was hoping this paper would provide some insight into the NIST analysis, but it was simply an abbreviated version of previously published information from the NCSTAR (2008) reports. I read the paper several times before responding.

I wrote to the JSE editor, Dr. [REDACTED], describing the paper's lack of objective discussion and the paper's lack of references to sufficient public information. These essential elements of technical papers are required by the Ethical Standards for ASCE Journals.¹³ In other words, what is the paper's significance to the structural engineering community, and how can one verify its accuracy without conducting their own multi-million dollar thermal-structural analysis?

The JSE editor did not respond to my letter, so I submitted a discussion paper—STENG-2119—to the journal raising questions about the paper's assumptions and references as well as violations of the Ethical Standards. Preliminary review comments stated "*This Discussion raises several good questions;*" but the reviewer took exception to my comments about the Ethical Standards. A revised Discussion was submitted complying with all review comments, and STENG-2119R1 was sent to the editor for further review.

I received final comments and a decision rejecting the Discussion for several reasons including one specifically stating: "All of the major issues raised have been extensively addressed in other venues..." with no further explanation. No doubt others have raised similar questions, but there are no reliable sources (that I am aware of) where my questions have been resolved. I responded to all comments and requested to know what other venues the reviewers were referring to. No one at the JSE has had the professional courtesy to respond to this reasonable request. Why?

Page 488 of NCSTAR 1-9 (McAllister 2008) states the assumptions for removal of framing from the 16-story collapse-initiation model used to establish initial conditions for the 47-story global-collapse model. McAllister et al. (2012) states the same assumptions

¹³ <https://ascelibrary.org/author-center/journal#ethical-standards>

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on page 112 of the JSE. A loss of vertical support for a critical girder and its tributary floor area was **assumed** based on the pretense of a bottom-flange flexural failure **even though the flange was stiffened to prevent such a failure**. Although the omission of stiffener plates from the analysis has been acknowledged—but not justified—by NIST officials, the NIST engineers have refused to comment on this observation. The JSE editor and Board members who reviewed my Discussion also refused to comment. Why?

Relevant information was omitted from NCSTAR 1-9, and the collapse-initiation sequence for WTC 7 was based on speculation. This is a violation of the ASCE Code of Ethics¹⁴ Canon 3 which states:

Engineers shall issue public statements only in an objective and truthful manner.

- a. Engineers should endeavor to extend the public knowledge of engineering and sustainable development, and shall not participate in the dissemination of untrue, unfair or exaggerated statements regarding engineering.*
- b. Engineers shall be objective and truthful in professional reports, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony.*

McAllister et al. 2012 exhibits two violations of the Ethical Standards for ASCE Journals - Obligations of Authors. First (there is no objective discussion):

An author's central obligation is to present a concise account of the research, work, or project completed, together with an objective discussion of its significance.

Second (there are no public references that enable one to verify the authors' collapse-initiation hypothesis):

A submitted manuscript shall contain detail and reference to public sources of information sufficient to permit the author's peers to repeat the work or otherwise verify its accuracy.

The JSE editor also violated the Ethical Standards for ASCE Journals - Obligations of Editors which states:

If an editor is presented with convincing evidence that the substance, conclusions, references or other material included in a manuscript published in an ASCE journal are erroneous, the editor, after notifying the author(s) and

¹⁴ <https://www.asce.org/career-growth/ethics/code-of-ethics> (See a previous version.)

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allowing them to respond in writing, shall facilitate immediate publication of an erratum. If possible, an editor shall also facilitate publication of appropriate comments and/or papers identifying those errors.

The JSE editor was notified in writing of errors in the NCSTAR 1-9 report—the primary source for McAllister et al. 2012. The NIST WTC Investigation Team issued an addendum to the NCSTAR 1-9 errata file in June 2012 based on the same information. It would seem reasonable—to me and most others—for the JSE to inform its readers of errors and omissions in the primary reference for a technical paper published in the journal—especially when the technical paper is simply an abbreviated rehash of the original report. Here is the definition of pseudoscience from Webster's New Collegiate Dictionary: "A system of theories, assumptions and methods erroneously regarded as scientific."

I submitted a formal complaint for ethics violations to the ASCE Professional Conduct Committee (CPC). After a full year of review and investigation, the CPC dismissed my complaint by saying there was "insufficient evidence" for further action. This conclusion puzzled me, because I had provided copies of detailed correspondence spanning several years including numerous references where all questionable assumptions and statements can be found. It is not rocket science.

I recently learned of a similar case where another ASCE journal—the Journal of Engineering Mechanics (JEM)—rejected a Discussion (Szamboti and Johns, 2011) that exposes errors in another technical paper regarding the WTC incident (Le and Bazant, 2011). The discussion paper was rejected after a full year based on comments of a single reviewer. The reviewer's comments were trivial and easily accommodated with minor revisions, but the revised Discussion was still rejected as "out of scope" for the Journal. How can a discussion paper correcting errors in a Technical Note be out of scope? Technical errors need to be addressed in a professional and scientific manner, but (in this case) the JEM and the ASCE are unwilling to participate.

Unlike the story of Jack Carter, the episodes I have described are factual and documented. These episodes have led to my conclusion that the ASCE journals follow neither their own Ethical Standards nor the ASCE Code of Ethics. I must also conclude that the CPC is ineffective and will not expose unethical conduct within the ASCE.

I thank you for your thought-provoking article in The Bent. I also thank you for your time and perseverance if you have read this far. Rather than adding distractions by putting the textbook engineer into popular entertainment, perhaps the profession would be better served by focusing on scientific integrity, professional ethics, effective communication,

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and enhancing the independent and critical-thinking skills of every engineer. Tau Beta Pi is light years ahead of the ASCE in this regard.

Sincerely,

Ronald H. Brookman, S.E. 3653, CA Λ '84

CC: Curtis D. Gomulinski, tbp@tbp.org

There was no response from the recipient at ASCE other than: *“Since I am not an engineer myself, and not being familiar with the engineering questions you raise regarding reasons for collapse and the handling of the investigations, it is difficult for me to make a judgment on your various points.”* This is a typical response from one who does not want to confront those responsible for these charades. It does not require a background in engineering or physics to understand the basic concepts of honesty, professional ethics, and scientific integrity.

Clearly ASCE and NIST are intimately connected. ASCE Policy Statement 319 declares: *“The American Society of Civil Engineers (ASCE) supports the mission and goals of the National Institute of Standards and Technology (NIST) which is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.”* In other words, secrecy and deception at NIST are condoned by the leadership at ASCE when honesty, professional ethics, and scientific integrity should govern decisions made by any organization claiming to serve the public good.

It’s easy to fall into a trap believing smart people at NIST and ASCE have done the detailed investigation properly. But, as any astute student (of engineering or otherwise) who is paying attention knows, the professor and the solutions manual are not always correct. There are more than a "few outsiders" — to use Professor Bazant's expression — in the engineering community who do not agree with NIST and ASCE regarding the officially-sanctioned WTC studies, and more are becoming aware of this every day.

Sincerely,

Ronald H. Brookman, S.E. (Retired)

Cc: Ted Walter, Executive Director, International Center for 9/11 Justice
Thomas W. Smith III, Executive Director, ASCE
Laurie E. Locascio, Director, NIST