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# VIEWPOINT

## Engineers, Terrorism, and Spread of Democracy

By Michael Horowitz and Joe Carson, P.E.

Engineers are members of mankind's largest and most global profession, with more than 20 million degreed practitioners around the world. Engineers past and present, by applying laws of mathematics and discoveries of science to the universe's natural resources, have created much of mankind's built environment upon which our individual and collective well-being so depends. They also have much to do with maintaining the well-being of the natural environment.

The power of engineering is indisputable. Its products—clean water, electricity, roads, buildings, airplanes, communication technologies, farming technologies, computers, and many others—are as critical to the successful operation of society as are natural phenomena such as gravity, rain, and sunshine. Engineering progress has increasingly replaced sweat labor, thereby permitting people and societies to move from subsistence to market economies. The contributions of engineers have been instrumental in elevating the status of children from units of production to vulnerable beings with rights to be nurtured and educated—the essential condition for democracy.

But there is a downside to engineering's power. As

described in the 9/11 Commission report, an American engineering school graduate, Khalid Sheikh Mohamed, was a key 9/11 mastermind, and two of the four 9/11 pilots and other major 9/11 plotters were engineers. The same is true of the terrorist engineers who played key roles in the 1993 attack on the World Trade Center. Perhaps engineers were involved in the recent dastardly attack on the London Underground railway system. Precisely as engineers have been essential to the creation of modern day society, they have been equally essential in creating the means by which society's built and natural environments can be "taken down," quickly and with a lasting effect.

Additionally, the engineering profession and government are "joined at the hip." Engineers create infrastructure for governments as well as weapons of war, in almost every country, government contractors are the largest employers of engineers.

We share the view set forth in President Bush's Inaugural Address that the great 21st century challenge is the advancement of human freedom and the democratic rule of law. As such, we believe that the engineering profession, mankind's largest and most global, should explicitly reflect those values in its codes of ethics and daily practices. In sum: Engineering codes of ethics should make clear that engineers engaged in terrorist attacks on the institutions of democracy betray the profession and the public trust it holds—and that engineers have a particular stake in the protection and spread of freedom.

We propose the following steps, believing that they that can significantly alter the 21st century for the better:

- 1. Modify the codes of ethics of all major engineering professional societies to define the advancement of freedom and democracy as central, explicit purposes of the

profession and modify the curricula of engineering schools accordingly.

- 2. Modify the bylaws, strategic plans, position statements, and legislative outreach objectives of engineering societies to reflect this new engineering ethics focus.

- 3. Require that all agreements of cooperation between major U.S.-based engineering societies and the engineering societies of other countries reflect the above recommendations, with viable enforcement mechanisms, thereby making clear that all engineers, everywhere, should protect and enjoy full human rights under democratic governments.

Engineering societies exist for two basic purposes: 1) to advance the professional interests of their members and 2) to advance the greater societal good by advocating and advancing the ethical, competent, and accountable practice of engineering. Given these basic purposes, we think it both timely and appropriate for U.S.-based engineering societies to take the lead in making clear that the terrorist engineers of 9/11 betrayed the profession and that promoting the advancement of liberty and democracy is a duty incumbent on all engineers throughout the world.

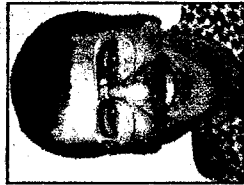
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Views expressed are those of the authors and not necessarily those of NSPE.



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