CEP Chemical Engineering Progress

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Guest Editorial

Geopolitics and Chemical Engineering

We have a professional responsibility to do what we can as chemical engineers to counter the success of terrorism. In fact, we are capable of exercising far more effective shaping of policy, and far more effective utilization of technology in our daily lives, than public opinion seems to expect. By practicing a high level of chemical engineering, we can improve our national and personal security. Here are a few points:

Improved design — At every step of the design and construction process, we make choices that have significant impacts on employee and community safety, operability, stability and control. If we argue for, and incorporate, the best practices, we'll help to build a more secure nation. And when we learn something significant, we should strongly argue for applying the lessons learned.

Higher national energy efficiency — This is something that would make us technologically stronger and lessen our dependence on foreign sources, especially on those whose outlooks we do not share. This country has the economic and intellectual resources to achieve higher overall process efficiency.

Some might argue that we should not do what is uneconomical, without recognizing that our criteria for what is "economically justifiable" is itself a concept created by professionals and is subject to critical examination. Decades ago, I was promoting a new Portland cement technology that was able to use oil-bearing stone as a raw material. It astonished me that in Israel, where there was such stone, considerations of foreign exchange and national security were not allowed to enter the analysis of what was, or was not, a desirable technology. So they allowed the marketplace alone to decide that they would import oil to run their cement industry. This increased their dependence on suppliers whose national interests were hardly consistent with theirs.

Greater productivity — This country has abundant capital and professional resources. We have the ability to develop methods of using capital, materials, energy and labor more productively. Every process improvement, every gain in the efficient use of materials and capital adds to our strengths and lessens our dependence on others. We are far ahead of other national economies, and are able not only to afford this effort, but to increase our lead. But it requires focus.

It's time for the public to accept high technical performance as a vital national goal. But first we have to overcome the instincts of the bean-counters — those who know the cost of everything but the value of nothing. This will come at a cost. Part of our recent prosperity has come from treating the price of national security as if it were negligible, and spending, investing and enjoying what should have been our insurance payments. To the extent that we have done so, we have been living in a fool's paradise.

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