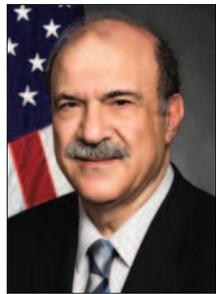


Post-Fukushima: Do nuclear safety regulations need a major overhaul?

The opening plenary session of the International Meeting on Severe Accident and Assessment Management: Lessons Learned from Fukushima Daiichi, was chaired by Jacopo Buongiorno, who explained that a lot of analysis of the lessons learned from the accident has been completed and that the time seemed right to pull it together at this ANS meeting. Buongiorno, associate professor of nuclear science and technology at the Massachusetts Institute of Technology, was the embedded topical meeting's technical program chair.

The opening plenary session posed the question: Does the accident in Japan call for a major overhaul of nuclear safety regulations? The first speaker, George Apostolakis, a commissioner on the Nuclear Regulatory Commission,



Apostolakis

described the work of the NRC's Near-Term Task Force, which was set up following the Fukushima accident to consider the lessons learned and to formulate recommendations for actions to take. The recommendations were put into categories, or tiers. The Tier 1 recommendations, which are to be implemented without delay, include measures to deal with some of the main weaknesses identified at Fukushima. The first recommendation that Apostolakis mentioned concerned mitigating strategies for beyond-design-basis external events and set out a three-phase approach for maintaining or restoring core cooling, containment, and spent fuel cooling. For the initial phase, the operator may use equipment installed on site. During a second "transition" phase, licensees are expected to use portable on-site equipment, and in the final stage will bring in equip-

With the completion of analysis of the lessons from the Fukushima Daiichi accident, this meeting provided a forum for the exchange of information on what has been learned.

ment from off site.

Apostolakis also discussed a Tier 1 recommendation dealing specifically with boiling water reactors with Mark I or Mark II containments. It requires licensees to install "hardened" and "reliable" containment vents—that is, able to endure severe stresses and to function even during station blackout—to control pressure by removing heat.

Apostolakis moved on to another Tier 1 recommendation that the NRC labeled simply as Recommendation 1, in which the task force addresses its concern that over decades, regulatory actions to deal with new issues—such as anticipated transient without scram and station blackout—have been taken piecemeal, resulting in a "patchwork of regulatory requirements and other safety initiatives." The task force advised that what is needed is a regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations.

This, Apostolakis said, is what risk analysts have been proposing for many years: to incorporate risk information into the actual rules and regulations. He said that the NRC staff is now circulating a white paper that explains their initial thinking about this approach, and he noted that similar actions had been proposed before Fukushima. In late 2010, the previous chairman asked him to set up a risk management task force to develop "a strategic vision and options for adopting a more comprehensive and holistic risk-informed, performance-based regulatory approach" for all NRC activities. In explaining the approach that

came out of this work, Apostolakis first noted that from day one, the NRC's job has been about managing risks. Even the cornerstone of reactor safety—defense-in-depth—is a way of managing risks by putting extra barriers in place. "Whether doing it deterministically or probabilistically, we manage risks."

Apostolakis then described the proposed new risk management regulatory framework, NUREG-2150, which he called a redefinition of defense-in-depth. Risk, he said, is to be used as a check to make sure that the barriers introduced are sufficient, and if the risk analysis shows that there are too many barriers, adjustments can be made.

The proposed risk management regulatory framework is intended to apply to everything the agency does, while the Fukushima task force's Recommendation 1 deals only with reactors for which the concept of design basis accidents is fundamental for regulation. The task force believes, however, that the design basis accident concept should be reviewed and revised, as appropriate, to integrate insights from operating experience and modern methods such as probabilistic risk assessments.

To do this, the Fukushima task force recommended that the NRC expand the regulatory framework by establishing (via rule-making) a new category of regulatory treatment capable of dealing with some beyond-design-basis accidents, called "design enhancement." This category will use risk as a safety measure, will be performance-based, with provisions for being periodically updated, will include cost considerations, and will be implemented on a site-specific basis.

Currently, Apostolakis said, the basic regulatory framework for power reactors has two categories of events: adequate protection (design basis accidents), and those where there is a residual risk or are beyond design basis. Under the new proposal, there would be three categories: adequate protection, design enhancement, and everything else. The new design enhancement category could include some previously beyond-design-basis accidents that can be addressed based on risk, such as events with potentially high off-site cost, including station blackout, and other “risk-important” scenarios. The remaining accident scenarios go in the residual risk category.

Three possible answers

Before answering the question of whether a major overhaul of nuclear safety regulations is needed, Nils Diaz, former chairman of the NRC, went over some of the issues the question raises. The question, he noted, is dependent on many factors: It is “society dependent, politically dependent, economically dependent, . . . and much more.” It also touches on a question that the nuclear community has struggled to answer over and over again: How safe is safe enough? In fact, 25 years after Chernobyl, and with an ever-increasing knowledge base, progress



Diaz

in which the operator is responsible for safety, and the regulator is responsible for the safety framework and oversight. That contract was broken at Fukushima.

The basis of the contractual arrangement, he said, can be found in the U.S. Atomic Energy Act, under the terms of which industry and regulators work together to ensure that this activity is viable and that people are protected. All who favor the continued development and growth of nuclear power, Diaz said, need to make sure that this contract, which has played a vital part in developing the industry safely, continues. After Fukushima, the contract must also take in the wider societal and economic implications of an accident, he said.

Returning to the original question, which he said has three basic answers—yes,

post-Fukushima era, the regulatory framework has to reflect that reality: that nuclear power is a sociopolitical issue.

In Diaz’s opinion, at the heart of the regulatory framework is the “contract” between the regulator and the operator,

maybe, or no—Diaz said that in Japan, the contract between the regulator and the operator was not adequate, and under those conditions, the answer is yes: A major overhaul of nuclear safety regulations is required.

Into the “maybe” camp he put countries—including the United States—that have already taken significant measures

to deal with major lessons from Fukushima, such as implementing safety improvements to ensure core-cooling and critical power supply, making essential revisions to their regulatory systems, and planning for more cohesive long-term regulatory reviews.

Those who answer no, he said, must believe that no changes are needed now or later to improve nuclear safety regulations or the actual management of safety by operators. This, he said, requires a denial of the reality of accidents such as Three Mile Island, Chernobyl, and Fukushima, as well as other experience. There is also a denial of another reality: that society tolerates risks until they are no longer perceived to be safe or environmentally acceptable. That is why, Diaz said, despite the fact that the Fukushima accident was not a great threat to public health and safety, the public in many coun-

tries, including Japan and Germany, has demanded a phaseout of their nuclear power programs.

Regarding the future of regulation, Diaz described the following as what he sees as the bottom line:

■ Regulatory changes are needed. Not making them puts nuclear programs at risk. The changes should take into account rare internal and external events with severe consequences.

■ “How safe is safe enough” will be determined by the real or perceived risks to the sociopolitical and economic fabric of society. Risks may be blown out of all proportion by the press, he said, but it doesn’t matter, as the impacts are the same.

■ “Regulation is not sufficient.” Regulations need to go beyond protection of public health and safety, he said, and society requires the visible and sustained implementation of improvements beyond regulatory requirements. It is now time, he added, for the nuclear industry to understand this, to accept responsibility for safety, and to take the leadership role.

Lessons from “stress tests”

The final speaker was Giovanni Bruna, the scientific director of the Institut de Radioprotection et de Sûreté Nucléaire, in France, who presented the results of the safety assessments—or stress tests—undertaken to determine how French reactors would behave during a severe accident. With 58 nuclear power reactors operating in the country, decisive action was needed following the Fukushima accident, and on March 23, 2011, France’s prime minister, François Fillon, instructed the Autorité de Sûreté Nucléaire to launch an investigation into the vulnerabilities of the country’s reactors to extreme external events. Similar decisions were made in all European nuclear countries, leading to a European Union-level program of stress tests for all reactors in the EU.

Besides Electricité de France, three other organizations in France operate reactors: Areva, the Commissariat à l’Énergie Atomique et aux Énergies Alternatives, and the Institut Laue Langevin, which has one experimental reactor. The stress tests were designed to assess the behavior of these facilities when challenged by external events, particularly those that lead to long-term loss of cooling and loss of electricity supply, and how their emergency management systems would perform.

Bruna looked at how well plants complied with design and safety requirements, which is an important indicator for assessing what he called the “robustness” of the facility. During the exercise, several instances of noncompliance were detected, such as discrepancies in the layout, installation, monitoring, and maintenance of materials, as well as design errors. Failure to

Twenty-five years after Chernobyl, and with an ever-increasing knowledge base, progress had been made and the question of safety had practically disappeared. “Fukushima changed all that.”

had been made and the question of safety had practically disappeared. “Fukushima changed all that,” he said.

Pre-Fukushima, Diaz said, there was a sense that nuclear countries had built stable regulatory frameworks based on converging safety principles, and that regulation was achieving its essential purpose: to protect public health and safety and the environment. When incidents occurred, even serious accidents, they would be dealt with within the existing regulatory framework, and such events did not threaten the general belief that the regulatory systems worked well. If the question raised by the Fukushima accident were simply how well the regulations met their primary objective, he said, that answer would be “pretty well.” But sociologically, psychologically, politically, and financially, it was not good. And in the

comply with seismic requirements is a particular problem, he said, as the oldest plants in France were built more than 30 years ago, when knowledge of the seismic map of the country was not as well documented as it is now. Bruna also focused on the cumulative effect of small modifications over time, which he said he considers a big safety concern, particularly when it is assumed that because the modifications are small, they can be ignored.

Bruna next discussed how robust the plants were related to external events that exceeded their basic safety design capabilities, particularly severe earthquakes, flooding, induced effects, and loss of heat sink and electrical supply. For example, during the stress tests, operators claimed that there were wide safety margins to protect against seismic events for major structures and equipment. A more detailed analysis, however, revealed uncertainties associated with the methods used in the assessments, which called into question some of the results. Further checks are now being undertaken, he said.

Earthquakes and flooding can also induce other effects, such as fire, explosions, and pipe breaks, which could damage critical safety systems and/or interfere with emergency procedures.

Bruna then described a new approach being developed in France for accidents not allowed for in the design basis, such as the loss of electricity supply for a long period and accidents affecting several facilities on a site where the level of disruption make it impossible to provide help from the outside, as well as severe reactor accidents triggered by external events. The new approach involves first identifying a short list of safety functions that must be maintained under any circumstances. Called the “hardened safety core,” these must be assured against hazard levels higher than those considered in the existing safety framework. The hardened safety core should be able to manage accident situations of long duration and must be protected against potential induced events from outside, such as fire and explosions.

In conclusion, Bruna explained that the stress tests identified potential problems that could increase the vulnerability of plants to external events, and the need for improvements, including the following:

- Introducing measures to ensure that facilities continue to comply with design and safety requirements.
- Considering approaches, such as the hardened safety core, to deal with situations not addressed in the current safety framework.
- Providing further protection against external hazards.
- Undertaking more frequent reviews of a plant's condition to identify further needed improvements.

Lingering unknowns

Twenty months after the accident, there remain data that are not clear and decisions that are not understood. During the first of two sessions on lessons learned, Akira Kawano, general manager of Tokyo Electric Power Company, said that he personally didn't understand why the company's emergency response center wasn't told about the



Levy

status of the Unit 1 isolation condenser. Salomon Levy, of Levy and Associates, said that both Units 1 and 3 should have inserted water from the fire suppression system into the containment and that the use of high-pressure coolant injection at Unit 3 raised the pressure to the point where it was no longer possible to cool the core because more water could not be added. Later, an attendee from Tepco pointed out that the station blackout prevented the operation of the safety relief valve to use fire system water in Unit 1, and only after car batteries were brought in could power be provided for this equipment. Levy maintained, however, that automatic depressurization system valves should have been available.

To the extent that responsibility is assigned for the severity of the accident, it is mainly over decisions made long before the accident happened. Multiple speakers at this session, as at Fukushima sessions at earlier meetings, faulted Tepco for concluding that its tsunami defense was sufficient. Levy went further, saying that Tepco failed to consider the effects of station blackout and to develop adequate training and response for severe accidents.

Bal-Raj Sehgal, a professor emeritus in the Division of Nuclear Power Safety at Sweden's Royal Institute of Technology, spoke at both the first lessons-learned session and the panel on putting Three Mile Island-2, Chernobyl-4, and Fukushima Daiichi in perspective. (He also delivered the first presentation at the embedded topical meeting on Advances in Thermal Hydraulics; see page 68.) In his view, after TMI-2, the nuclear industry worldwide did “the minimum” to improve reactor safety and emergency response, and the Chernobyl accident spurred little research into nuclear accidents because of the extent to which the graphite-

moderated RBMK reactor design differed from the light-water-cooled and -moderated reactors used almost everywhere else.

Citing the importance of land contamination in the aftermath of Fukushima, Sehgal stated that the most upsetting thing to the people who were residents of the area is the loss of their homes. The assertion that there have not been (and may never be) any human fatalities from the nuclear accident has little effect on public opinion when large tracts of land that had included people's homes are now considered uninhabitable. He said that cost-benefit analyses should not be used to avoid backfit orders for systems intended to prevent or mitigate accidents such as that at Fukushima, and that in his view, the benefit is not having such accidents. He added, however, that more studies need to be done to show the extent to which low doses of radiation may pose little or no hazard.

Cost-benefit analyses should not be used to avoid backfit orders for systems intended to prevent or mitigate accidents such as that at Fukushima. The benefit is not having such accidents.

The use of the term “black swan” to represent an event that surprises everyone but in retrospect is considered to have been predictable and inevitable was mentioned in the Thermal Hydraulics topical in the context of Fukushima Daiichi. Sherrill Greene, of the consultancy EnergX LLC, extended the avian metaphor in a presentation called “The Canary, the Ostrich, and the Black Swan,” with canaries being used to warn of fouled air in mines, and the ostrich, through its alleged tendency to bury its head in the sand, representing an unwillingness to heed warnings.



Greene

Greene cited extensive research on boiling water reactor containments and traced the history of regulatory response, stating that major plant modifications for severe accident mitigation don't pass the traditional cost-benefit analysis in the NRC's backfit rule. He urged the NRC and the industry to move beyond expediency by, among other things, questioning the adequacy of what he

termed the “symptom-oriented” approach to severe-accident management and re-examining the backfit rule and its cost-benefit underpinning.

Curt Robert, of General Electric Company, presented lessons learned from elsewhere in Fukushima Prefecture: the four-reactor Daini plant, which was also affected by the March 2011 tsunami but was stabilized with no damage to nuclear steam supply systems and no releases of radioactive material. The platform holding the emergency diesel generators was flooded and ultimate heat sink was lost, he noted, but reactor core isolation cooling and fire suppression water were available. It was necessary to run a cable from the radwaste building to the heat exchanger building to power residual heat removal pumps. Robert said that while these emergency response actions worked at Fukushima Daini, conditions at some other plants might make them difficult to employ.

Crisis communications

Included in the meeting was a session on the state of the nuclear industry’s communication skills—particularly its crisis communication skills—and how they might be improved. The session, “Communicating After Fukushima: What We Learned and What We Need to Change,” was organized and chaired by Paul Dickman, a senior fellow at Argonne National Laboratory, and featured the perspectives of four communications professionals from the industry and the world of media relations.



Dickman

In his introductory comments, Dickman underscored the importance to the industry of developing a solid crisis communications strategy. It became apparent to him, he said, during his involvement last year with the ANS Special Committee on Fukushima (he was the committee’s study director) that the society did not have a crisis communication plan in place. “When Fukushima hit, everything started from scratch,” he said. “ANS went from basically handing out educational brochures to transforming ourselves in less than a week into an organization that was driving stuff through social media platforms and blogs. ANS did a great job, but in retrospect, I sure wish we’d had all those things in advance.”

The session’s first presenter was Mimi Limbach, managing partner at Potomac Communications Group. Because news is now covered 24/7, Limbach said, and because many journalists now communicate through multiple channels—including print and digital newspapers, TV, Web sites, blogs, and Twitter—it is imperative for the

industry to establish relationships with journalists and to work with them on an ongoing basis. In addition, she said, it is important to be able to reach the media quickly in the event of a crisis. “My friend Matt Wald [of the *New York Times*] notes that depending on the story, his deadline can be every hour; sometimes it’s every 20 minutes,” Limbach said. “And we know that the critics are going to get access quickly, whether or not they have real information or just a point of view.”

Limbach stressed the use of digital platforms, stating that the Internet is now the first stop for information, both for journalists and the public. “A lot of us think about digital platforms as a way of pushing information out,” she said. “But they’re also a way of keeping your fingers on the pulse point of what people are thinking, saying, and doing. They are a very important feedback loop to corporations, to organizations that have a particular goal in a crisis.” By monitoring the various digital channels on behalf of her clients during the Fukushima event, Limbach said, her firm was better able to understand how the nuclear industry can reshape its communications efforts, rendering the industry more relevant, factual, educational, and interesting.

Limbach also emphasized the importance of visuals in communication, including the use of graphics and infographics. “It pains me as someone who started her career as a writer, but people really don’t spend a lot of time reading,” she said. “They read headlines. They look at pictures. Good infographics, which can be a really important part of telling our story, are spotty in the nuclear energy industry. They’ve gotten better since Fukushima, but they still aren’t as good as they could be.”

Another important element in a good communications strategy, Limbach noted, is the availability of good spokespeople. As an example, she pointed to Marv Fertel, president of the Nuclear Energy Institute, and his performance on *Meet the Press* in the aftermath of Fukushima. “It really did the industry a world of good,” she said. “Although we

knew very little about what was going on at that time, his calm demeanor, his expression of emotion and sympathy—these things were very important. It was a good foundation for the industry to build on.”

In her closing remarks, Limbach pointed out the value of using risk communication as part of an effective crisis communications strategy. Risk communication, she explained, calls for taking into account—and demonstrating respect for—people’s emotions during and after a crisis. The perception of risk and the behaviors that result are a matter of both facts and feelings, she said, and communication that provides the facts but fails to address the emotional side of risk perception is likely to fall short.

“In a high-concern, low-trust situation, which encompasses pretty much anything about nuclear energy, addressing emotion is more important than getting the facts out,

Risk communication calls for taking into account—and demonstrating respect for—people’s emotions during and after a crisis. The perception of risk and the behaviors that result are a matter of both facts and feelings.

because when people are upset, when people are distrustful, they can’t hear your facts until you address their emotion,” Limbach said. “So caring and empathy will help you build that trust. Part of showing caring and empathy is body language, staying open, getting out from behind the podium or the lectern and really engaging with your audience.”

Steve Kerekes, senior director of media relations at NEI, told the audience to prepare for the wall-to-wall news coverage that will inevitably accompany the next nuclear



Kerekes

crisis, whether that event merits it or not. Referring to the attention that the media devoted to nuclear plants during Hurricane Sandy, Kerekes said, “Even though the nuclear facilities fared extremely well, we still saw all of this negative news coverage. I was in a fairly heated

discussion with a news reporter in Washington just last week over the fact that he did an entire story based on additional speculation from antinuclear folks about what would have happened if there had been flooding situations at the nuclear facilities. The Atlantic Seaboard is devastated, and you still see nuclear-specific fear-mongering. It's ridiculous, but that's the world we live in. It's not going to change, and we need to realize that."

The nuclear industry also needs to humanize itself and demystify its technology, Kerekes said, offering the pharmaceutical industry as an example of an industry that has to some extent accomplished this feat. "If you think about it, they're actually getting people to ingest things into their body, and not without some risk," he said. "Part of the reason people are willing to do that is that they have a face-to-face interaction with the pharmacist over the counter. It's that human element that can make a big difference."

The need for the nuclear industry to continue expanding its efforts in the digital space is vital as well, Kerekes said, echoing Limbach. By the Wednesday following the Fukushima accident, NEI had 8.8 million visitors to its Web site, 100 times what it was the day before. "I think that will be the big, major takeaway from Fukushima in terms of what needs to happen—the digital activity," he said. "NEI has had an active blog for many years. We have three Twitter accounts that get used for media policy, and then we have our main Twitter account. We also have a YouTube channel now that I believe has had more than 1 million hits over its history. And then, just this past year, we established a Facebook presence. We're trying to get deeper and deeper into that world so that in a variety of ways we can touch people, and if need be in an emergency situation, we can leverage those assets."

Barbara Culverhouse, Southern California Edison's off-site emergency planning and external affairs manager, spoke next, recounting her experiences during and after Fukushima. "My plant [San Onofre] is in Southern California—earthquake territory," she noted. "For us at the plant, from a media perspective, [the Fukushima crisis] felt like we were having an emergency in the United States." Culverhouse displayed a slide showing the media interviews that SCE participated in during the crisis, all conducted directly in front of the San Onofre plant. The slide showed a peak of 35 interviews in one day. "Everyone from our little *San Clemente Patch* to Al Jazeera to *Nightline* to *Good Morning America*—they were all knocking on our door," she said. "So for us, it was a very, very busy time. Our poor media relations folks were exhausted after this."

According to Culverhouse, SCE took a regional approach to dealing with the crisis,

setting up a daily conference call with the two other nuclear power plants in the region, Palo Verde and Diablo Canyon, as well as with the concerned counties and state of California officials.

"On that call, every morning, we would have a briefing about what the current situation was, what our media tactics would be for that coming day," Culverhouse said. "It also provided us a real opportunity to be able to say, 'State of California, we need a press release,' or 'You need to release something on potassium iodide.' People were starting to get very frantic about that. Statements were being made by credible people in California that just didn't make any sense. We had calls from people in Nevada wanting potassium iodide. We were able to get the county health officers and state health officer to issue press releases. So in that regard, we held these meetings for about a week or a week and a half, and they provided good insight into what everyone was doing, and also information sharing, which was very important."

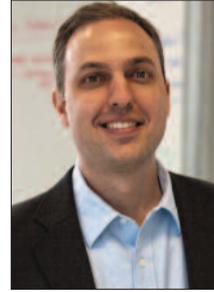
The other important takeaway from her experiences, Culverhouse noted, was the need for strategic outreach on the part of the industry. "It's not all about the collateral material, it's about getting out there in the community and talking about it," she said. "That was very, very important for us."

In the year following Fukushima, SCE conducted more than 200 individual outreach activities, including speaking to Rotary Clubs and other civic organizations, churches, professional groups, and local officials. "It wasn't so much about spreading the word as it was about building relationships with your communities," she said.

Filling in for Scott Campbell, of the Howard Baker Forum, was Carlos Roig, senior vice president of digital media and broadcast strategy for Home Front Communications. He focused his remarks on Home Front's work with the Howard Baker Forum, which, as he explained, maintains a strong relationship with a number of Japanese utilities through its U.S.-Japan Roundtable on Nuclear Energy Cooperation program. Following the Fukushima accident, he said, Home Front worked closely with the forum on a Web site project, Forum on Energy (<www.forumonenergy.com>), an online information center designed to collect and share developments in the field of

nuclear energy.

"I want to talk to you specifically about how we approached this project," Roig said. "Part of what I focus on is bringing a news-planning approach to digital communications. And that really did play out in great detail with this project."



Roig

Originally tasked with creating a Web site that would simply aggregate resources, Roig said, Home Front decided to take

a different approach, thinking less in terms of launching a site and more in terms of establishing a platform for regular communication and audience engagement over time, applying the logic of news planning to strategic communications. "The folks that represent the roundtable and the Howard Baker Forum are obviously nuclear energy experts," he said. "That is not my background. We took their expertise and applied that to the logic and expertise of journalism."

In the year following Fukushima, Southern California Edison conducted more than 200 individual outreach activities, including speaking to Rotary Clubs and other civic organizations, churches, professional groups, and local officials.

While admitting that the journalism industry is in a crisis of its own, Roig said that the logic of how journalists gather stories, how they plan to tell the stories, and how they distribute them is applicable to the nuclear industry.

Roig described the five steps that were taken in the development of the Forum on Energy project, the first being the identification of the intended audience. "Every good communications plan that was ever generated starts with the identification of the audience," he said. "The audience and the goal is always the critical thing at the very start. It's not the product. When you start with the product, you're often not achieving what your actual communications goal is. In many ways, one of the primary audiences for Forum on Energy was

Google. We wanted to create content so that when people searched for Fukushima, there would be an increased likelihood that the content that we created—content with an eye toward balance and the addition of oth-

mail newsletters, and in-person communication. “No proper, modern digital communications approach can simply say we’re going to build a Web site and be done with it,” Roig said. “It’s really about how you create content, how you distribute content, and how you engage with audiences once you have distributed that content.”

“We wanted to create content so that when people searched for Fukushima, there would be an increased likelihood that the content that we created—content with an eye toward balance and the addition of other voices—would show up in that space.”

er voices—would show up in that space.”

Home Front’s second step was to think of the project not as a Web site but as a content distribution system—a system that would include Web sites, social media, e-

mail newsletters, and in-person communication. “No proper, modern digital communications approach can simply say we’re going to build a Web site and be done with it,” Roig said. “It’s really about how you create content, how you distribute content, and how you engage with audiences once you have distributed that content.”

Third was the creation of a team to capture stories. It is generally not feasible, he said, for people who already have overloaded plates to instantly become mini-journalists. “It’s really critical that if you’re going to embark on some sort of an effort like this, you need a team whose mentality and approach is to capture stories—“ever-

green” stories, or news stories that evolve based on world events, local events, or evolution within the news,” he said.

The fourth step, Roig said, was a commitment to publish on a regular basis. “It is

better to never embark on digital platforms than it is to embark on them and let them wither on the vine and lie dormant,” he asserted. “It is better to have no presence than it is to have a dormant presence. Because what the dormant presence says is that we tried it, and we determined you’re not important enough to continue communicating with you.”

The final step in the development of the Forum on Energy project, Roig said, was the realization that it is not sufficient to create content, nor is it sufficient to create content and then to tell people that you created it. “You have to distribute it, and you have to discuss it,” he said. “And I mean that, both on digital platforms and in real life. I think sometimes when I talk to people about digital communication, they think ‘Oh, you’re the social media guy. You’re going to tell me that I need to tweet and post and be on Tumblr and Instagram and any emerging platform.’ What I say to them is that real people create the content that goes on those platforms. And a lot of times, the connections that yield the best content are these in-person interactions that we have. We do an incredible amount of digital distribution in person and an incredible amount of digital engagement by phone. It is absolutely critical that if you’re going to create content, you need to work with other people.”—*E. Michael Blake, Dick Kovan, and Michael McQueen*