

What makes a good engineer?

Engineers cannot exist in a vacuum, says ABS vice president James Gaughan, who has been one for over 40 years. The best ones know about a lot more than engineering.

“Part of being an engineer is being able to work with and talk to people. It’s a problem when an engineer thinks they know everything, or that they can exist in their own world. To me that’s a very limited engineer.”

Gaughan says the best engineers he’s met are broad based. “They are really good engineers but they have other interests, such as law, politics, economics, finance.

“Another thing to realize is that a good idea does not make a project. Engineers have a tendency to come up with really good ideas but they have to understand whether there’s a commercial advantage to what is being proposed.”

The best way to learn about these other areas is to talk to legislators, financial people, anyone who can educate you, says Gaughan.

He adds that education is a two-way street. A good engineer is able to explain complex concepts in a simple way.

Gaughan gives the example of when he helped develop requirements for offshore drilling units, for which he went to the International Maritime Organization (IMO) with a US delegation.

“I could tell that some people in the room had limited knowledge of drilling rigs. Over lunch I would be drawing sketches on napkins, trying to explain how some of the important systems work.”

Asked whether he thinks rules discourage engineers from experimenting with new solutions, he says he was “always the guy thinking outside the box.”

Fun stuff

“Back in the eighties I was the one they were throwing things at that nobody else wanted to do. I thought this was the fun stuff, the risk analysis sort of thing.

“Now when I meet ABS engineers around the world, I tell them if there’s a rule requirement, we’ve got to consistently apply it. But if there’s reason to deviate from the rule, you have to be able to document why and show the alternative solution will provide an equivalent level of safety.



“That’s the fun part of engineering. It’s not just checking items against the rules. It’s important that we do that, but every so often we get something that doesn’t fit into that box and it’s important to identify how we can and whether we should accept what is being proposed.”

Gaughan says it’s a tough approach “because it’s a lot of work. We deal with questions all the time in the Chief Engineer’s office and it’s interesting the way they are posed and how we go back to get the problem solved.

“Our engineering department is always growing. We have a young staff. It’s important to continuously engage these people. You have to let them know that we’re counting on them to come up with solutions. I’m looking for problem solvers.”

After more than 40 years in the business, Gaughan can spot one of these broad-based problem solvers, able to teach and learn, a mile away.

James (Jim) Gaughan

Vice president and chief engineer, American Bureau of Shipping (ABS)

- Became chief engineer on April 30, 2012
- Was an international engineering consultant for 13 years
- Specialized in the design and operation of LNG carriers
- Worked closely with ABS during his consulting years
- Held a variety of engineering positions at ABS for over 28 years before becoming a consultant