

Students Get Hands-On Experience at IADC Seminar in Brazil

BY KATIE WORTH

PHOTOS BY KATIE WORTH

Our group pored for days over what we were sure was the best and most efficient plan to dredge El Salvadorian bay Puerto Cortes and reclaim land there for a new wharf. We had gotten as far as making cost estimates and evaluating how long it would take to mobilize our equipment from Venezuela to the dredging site, if we won the bid. We had gone through the pre-bid meeting and thought we had all the information we needed to make what we hoped would be the winning offer less than 24 hours later.

Just when we thought we had our ducks in a row, a local consultant gave us a tip that had been mysteriously left out of all the project information or revealed at the pre-bid meeting: It was prohibited to dredge in the area that we were planning to find the sand for the reclamation. If we presented that plan, our bid would wind up disqualified. With just hours left to work, we were back to the drawing board.

As experienced dredging contractors know, such obstacles are not uncommon—which is precisely why they came up in our simulated bid during the International Association of Dredging Companies' (IADC) Seminar on Dredging and Reclamation, held in April in Buzios, Brazil.

The seminar was attended by about 20 engineers from large and small dredging companies, as well as government and private contractors hoping to understand more about the factors involved in dredging. The seminar is presented in a hybrid of lectures and a practical workshops applying the information in a simulated real-life contract bid. The last day of the conference was a site visit to the Açú Superport, a massive dredging and land reclamation project that aims to be developed into one of the largest ports in the world (see related story in this issue.)

IADC has been holding these conferences since 1993. At first, they were held only in Europe, but demand grew big enough that they have since expanded to other continents, including one in Asia each year, and in more recent years, one in Latin America.

This is the second year in a row the conference has been held in Brazil, whose booming economy and strained infrastructure makes it ripe ground for dredging contractors. Engineers attending the Buzios seminar said it was especially useful because education about dredging is hard to come by elsewhere in Brazil.

"In Brazil, people haven't had an interest in dredging so we don't have this information in the university," said Orlando Campos of Terpasa Serviços Técnicos de Dragagem Ltda, a small but growing dredging company based in Rio de Janeiro. He also said that it was a good way of networking with engineers from other firms and trading perspectives on a project.

"I think it's good when we have these group discussions, we can trade experiences," he said. "For example, we thought we were doing it right (in the bid simulation) and now we see we were



Working on a simulated bid are, from left, Daniel Benevides of Van Oord, Rodrigo Modernel of Boskalis, Tamiris Batista of Boskalis, Paulo Cesar Batista de Oliveira of Vale S.A., Eduardo Vallarino of Manzanillo International Terminal - Panama, Jorge d'Angelo of the National Port Administration of Uruguay and Juliana Bastos of LLX Engineering. The group was working together in a workshop for a simulated bid during the seminar.

doing it wrong, so we work together on another way to do it."

That experience isn't just valuable for dredging engineers, but for clients.

"Here in Brazil we don't have dredging as a specialty in the universities, so you have to search for the information," said Felipe Martins, an engineer with the National Institute of Ports and Waterways (INPH), a technical branch of the Brazilian federal government. "It's a big subject for a one week course. We are seeing most of the factors involved in dredging from a contractor's point of view. The course makes us think about resolving the issues involved in a contract and that's a good thing."

Indeed, educating clients about dredging is main objective of the seminar, said Frans Uelman of Boskalis Dredging Company, a lecturer and seminar coordinator.

"The reason for this course is to create more understanding of what dredging companies are doing," Uelman said. "We want clients to be more aware that you have to do some homework before offering a project."

The whole event from choosing a venue to getting the lecturers to Brazil to coordinating the site visit and everything in between is the domain of Jurgen Dhollander, IADC's public relations and project manager.

The lectures were provided by experts from some of the largest dredging companies in the world, including Frans Uelman of Boskalis, Philip De Nys of Jan de Nul and Robert Dijkema, of Van Oord.

Together they covered both basic principles

of dredging and reclamation work and technical information about project phasing, dredging equipment, soil characteristics, cost pricing of dredging, survey techniques, risk evaluations and developing good dredging contracts.

Uelman said he has been lecturing at these events since 1998, and that while the basic concepts have stayed the same, the technical details continue to evolve. Invariably, the most popular—and challenging—part of the seminar is the participatory bid workshops.

Starting from the first day of the seminar, the attendees are broken into groups, each of which becomes a "company" whose job it is to use the information given to them and bid for the projects. Each company is limited by the specific equipment they have; each has a different array of equipment, so in each, different solutions are possible. Through the workshops, each company works through the steps of creating and then presenting a bid, including creating a technical plan, cost analyses, and risk assessment. The simulation even includes work with consultants, a pre-bid meeting and a bid presentation.

Uelman explained the thinking behind the participatory simulation.

"We would really like the audience to feel what it is to be a contractor," he said. "During the simulation they have to work under a certain stress. They have to make decisions. There's a certain level of intensity. That is much better than just telling people what it's like. What happens if you don't have enough information? What happens if something changes? What happens if you don't have the equipment you need?"

It's very effective in conveying what the process is like. People don't forget this process."

In the end, our group was able to recover from the sudden change in plans, consider our other options, and present our bid—submitted just seconds before the deadline. One of our two competitors submitted a bid slightly more expensive than ours, and the other submitted one considerably lower. However, the lower one was ultimately disqualified, and we were declared the winners—which won us a book on the environmental aspects of dredging, and, more important, bragging rights over the other participants, which we celebrated for the rest of the evening.

Lecturer Dijkema said that the Buzios seminar participants were a sharp group and it was gratifying that every group did the calculations more or less the same, and came out with bids in the same ballpark.

"We're satisfied. If the people arrive at close results, then we explained well and everybody understood the seminars," he said.

Dijkema has been lecturing at these seminars for years and said that even he keeps learning at them.

"You always pick up ideas from the others. You open up your ears and see what others are doing to solve problems," he said. ➔



Speakers Robert Dijkema, left, of Van Oord, Frans Uelman of Boskalis, Philip De Nys of Jan De Nul and Jurgen Dholander of IADC, answering questions as a panel during the pre-bid meeting of the contract project simulation.

IADC Seminar Students Tour Açú Superport

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For millennia, the most action happening in the vast and sparsely populated expanse of jungle-backed beach south of São João da Barra, Brazil, was the sea turtle nesting season. Starting each December, the shelled giants would crawl out of the water and lay their eggs along the wide stretches of white sand; by March, tens of thousands of infant marine turtles would be journeying into the sea for the first time.

But the turtles have been upstaged in a very big way.

The richest man in Brazil, Eike Batista, has chosen this site, about 185 miles northeast of Rio de Janeiro, to carve out one of the world's largest ports—Açú Superport. The project is the site of major dredging—enough to make space

for some 17 kilometers of piers in on and offshore terminals, with berths for up to 47 vessels. In the onshore terminal alone, some 38 million cubic meters (50 million cubic yards) of sand has already been dredged, and an additional five million cubic meters (seven million cubic yards) will be removed by the end of this year. Royal Boskalis Westminster received the contract for the onshore dredging, and Jan de Nul and Shanghai Dredging Company were hired for offshore dredging. In addition to overseeing that work, Batista's logistics company LLX is also taking care that the sea turtles' show goes on as well: They have paused dredging at parts of the project site for months at a time to allow for the marine turtle nesting to continue as usual. They also implemented a marine turtle nesting monitoring program, and constructed a marine turtle rehabilitation and recovery center.

In April, a group of about 25 participants in the International Association of Dredging Companies' 41st International Seminar on Dredging and Reclamation visited the port. The visit was a highlight of the seminar, which took place in Buzios, a resort town about three hours southwest of the Açú Superport. The group was welcomed and received an overview of the project in the onsite visitor's center, and then was provided a technical visit to the construction and dredging areas by Marco Faustini, a public relations specialist for LLX. After the tour, a barge took the participants to Boskalis's hopper dredge *Cyrus II*, one of four dredges onsite. The lunch was hosted by Boskalis and the crew of the *Cyrus*.

The port is being built at such a tremendous size because Brazil's economy has been surging so precipitously that its infrastructure has



The students and instructors on the offshore terminal under construction.