

Velan View



Issue 7

Fall 2013

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President's message:

Proud to be part of a dynamic, growing community

I recently returned from the Valve Manufacturers Association of America (VMA) Annual Meeting, held at the beautiful Breakers Resort in Palm Beach, Florida. This interesting and enjoyable event marked the 75th anniversary of the organization, which is quite a milestone. At Velan, we are proud to have been members since 1979.

It was the largest meeting of the VMA in over 30 years, with hundreds of our competitors and partners in the industry in attendance. During this event, we repeatedly heard the messages that are so vital to our company and to the industry in general—the challenges of recruiting and training new talent in an aging industry, the importance of maintaining a strong base in North America for manufacturing, and the need to stay on the forefront of innovation and technical advances.

On a personal level, this meeting was important to me because my older brother Ivan, our Executive VP, was introduced as the incoming Chairman of the VMA. He is also the first Canadian to hold this esteemed position.

As VMA member David Moser of DFT Inc. said so eloquently in the video that was made to celebrate the event (available on the front page of www.vma.org), "I've always enjoyed and admired the culture of the U.S. and Canadian valve industry because it is comprised of people who are honest, intelligent, professional, and very committed to the success of their corporations, and to the best interests of their customers. These are the people that have been the leaders of this organization for the last 75 years."

In the same video, Mark Cordell of Cameron Valves and Measurement said: "In the day-to-day marketplace, we compete for a lot of the same business.



But in VMA, you get a different type of relationship built with your competition in a very, very good atmosphere."

And that's also the idea behind this magazine, the *Velan View*. In these pages we celebrate the great expertise that exists in this industry, both within our own walls and within the community at large.

In this issue, we hear from Velan Valve India's National Sales Manager, Arun Dhingra, who shares his insights on long-term cost of ownership. We report on interesting new developments within Velan such as an expansion of our distribution center network, and a new machine that

measures torque. We profile Tak Tokumura, our specialist on doing business in Japan. We talk to our own Yvan Desautels about team building, Ed Hadjur about DPCVs, hear from our experts in LNG, and get an update on the Barh supercritical power plant.

I wish you health, happiness, and success in all your endeavors.

Tom Velan
President and CEO

The Barh project

Dealing with the critical aspects of supercritical



National Thermal Power Corporation Barh STPP located in Barh, Patana district, India.

The fact that Velan is involved in providing valves for the Barh supercritical coal-fired power plant in India is an outstanding development in and of itself. This new type of plant uses a system that is cleaner than traditional coal-firing plants and offers greater efficiencies. The valves and other equipment that go into these plants have to be top notch to meet the increased challenges that high-pressure steam presents. Barh offers Velan the chance for deeper involvement in what promises to be a growing field.

This project is important, too, for additional reasons: It reflects the truly global nature of the company, and it shows what a good reputation can do for business.

“NTPC (National Thermal Power Corporation Ltd., the Indian end user) had already dealt with Velan via a Russian EPC (engineering, procurement and construction) on another successful project,

which gave us a head start,” explains Jeremia Steiniger, Sales Engineer for Velan Germany. Jeremia was involved in booking the order, worth well over \$20 million. “But the project is also possible because of the engineering support of the team in Canada, who helped tremendously during the quotation stage and who are also currently helping us to fulfill the order by manufacturing and

testing the valves. We’re fortunate in that we have a great global team to work with and excellent technical resources to rely on. We also worked with the Velan team in the United Kingdom for other valve and steam trap parts of the order, as well as connecting with a few non-Velan manufacturers for components such as safety valves, silencers, and control valves for the order,” he explains.

The promise of supercritical plants

Supercritical pressure coal-fired power generation uses higher steam temperatures and pressures than other coal plants. The process converts water directly into steam without a boiling phase. As a result, such plants are much more efficient, use less fuel, and create fewer greenhouse gas emissions.

Velan Germany was involved with the very first such project in India, which was another NTPC plant in Sipat, in the state of Chhattisgarh, India. For that first project, Velan provided valves to the turbine manufacturer in Russia.

Barh, the latest order, is huge—it includes high-pressure gate, globe, and check valves as well as steam traps and other equipment totaling to approximately 4,700 items, plus spares. Six of the 20” forged high-pressure gate valves are motor-operated, and they’re in special F91 material for 2900 class service. The plant will also be installing the Velan patented Ultraflex™ wedge valves, an enhanced gate valve with a flexible wedge that is particularly suitable for high-temperature, high-pressure, and severe temperature-pressure cyclic service conditions. This wedge features a novel folded topology that makes it far more flexible than earlier flexible wedge designs of similar proportions, without weakening

the wedge blades and detracting from its pressure-retaining function.

Velan is supplying the valves to a Russian boiler manufacturer for use in three 660 megawatt units at Barh. According to Jeremia, the main challenges with such a job are order management and dealing with different cultures.

“We were already familiar with NTPC from the Sipat project. We know details such as how the company wants documents presented, what expectations are in terms of project management responsibilities, those kinds of things. This gives us a good, solid

background going into the Barh project. However, with a project like this, the sheer size of the project becomes the greatest consideration. I have dealt with large power companies before, but nothing of quite this magnitude,” he explains.

“They cook more hot than they eat”

“Keeping track of everything, following the rules of the contract, knowing how to send in status documents and notifications, and how to set realizable deadlines is tricky. Getting the details right is critical to doing a good job, so maintaining detailed check lists and keep-

ing super organized are vital,” Jeremia says.

So, too, is the ability to handle any hiccups that might occur.

“We have a saying in Germany, which very roughly translates into English as: ‘They cook more hot than they eat,’ Jeremia says. “What that means is that you do as much planning and thinking ahead as possible. With all that goes on in a project of this magnitude, there are hundreds of problems that could arise. You have to keep calm and cool to handle those problems. In other words, you assess what’s going on and break up details into manageable bites,” he explains.

For Barh, Velan Germany not only has to deal with the Russian company receiving the valves, but also with the Indian end-user and the bevy of other sub-contractors on the job. That requires understanding the different cultures involved.



Jeremia Steiniger, Sales Engineer, Velan Germany

“With a project like this, the sheer size of the project becomes the greatest consideration. I have dealt with large power companies before, but nothing of quite this magnitude.”

—Jeremia Steiniger, Sales Engineer for Velan Germany

Working closely with Jeremia and Stefan Wingerath, President and Managing Director of Velan Germany and Velan United Kingdom, is the team from India, including Sushant Srivastava and Nivesh Tyagi from the Delhi office. They coordinate meetings, provide technical clarifications to NTPC, and complete the documentation package.

“NTPC has in fact become a second home to Sushant. He makes it a point to meet weekly with NTPC officials to coordinate information flow between the Germany office and the customer. After all, clear communication and being close to the

“While you wouldn’t think studying aviation would have much to do with our business, it is actually an excellent background for the valve industry because dealing with the flow of fluids inside a valve is very similar to dealing with the currents and flow of air in aviation.”

—Jeremia Steiniger

customer are the essential ingredients for a successful project execution,” says Ramesh Babu, Managing Director, India.

“In Central Europe, we are used to being in fast-forward mode, super focused on efficiency,” Jeremia says. Such is not always possible with so many parties involved, especially with extremely large companies like NTPC.

“The people in India we deal with are very proficient and knowledgeable about what they are doing. But you can’t forget that NTPC is a huge company. It also is



Sushant Srivastava is an integral part of the Velan team in India working on the Barh project.



A 20” pressure seal, 2900 special class gate valve with an electric actuator, is prepared for a shipment of valves destined for India.

government owned, and so there are the usual layers of bureaucracy to take into account and it can take a while at times to get decisions made,” Jeremia explains.

Also, while the project is conducted in the English, “everybody has their own version of English, including us. Clear communication—making sure you understand and are understood—is essential for moving such a complex, multi-cultural project along smoothly,” he says.

A background in tech

Jeremia received his degree in aviation and mechanical engineering. He was hired more than eight years ago by Wolfgang Maar, current Executive VP, International Sales and Overseas Operations at Velan, when Wolfgang was then President of Velan Germany. Wolfgang found Jeremia by sending out invitations to recent graduates to join the team at Velan—looking for the



Dinesh Patel, Senior Contract Administrator, who works out of Velan’s head office in Montreal, Canada.

best and brightest who combined both sales and technical knowledge.

While Jeremia started in sales, his technical education also has been critical to projects like Barh, and he is currently the key technical person on staff at Velan Germany.

“While you wouldn’t think studying aviation would have much to do with our business, it is actually an excellent background for the valve industry because dealing with the flow of fluids inside a valve is very similar to dealing with the currents and flow of air in aviation,” he explains.

Jeremia has gained much of his on-the-job experience, as well as some of his organizational skills and best practices, by listening to and learning from leaders such as Wolfgang and Stefan, he says.

“For example, Wolfgang says that if you sort out the problem carefully and put it clearly into words, you then really understand the pieces and often the solution

will present itself,” Jeremia says. “That kind of thinking applies to many things, but it can be crucial when you have a project with the scope and complexity of the Barh plant,” he adds.

And the beat goes on...

Late in 2012, Velan welcomed Alexey Romanov, Head of Division, Purchase and Procurement Department, from Russian EPC Technopromexport, to the Montreal head office and plants. The purpose of Alexey’s visit was to get a first-hand view of Velan production plants in Montreal and meet the executive team, including Ivan Velan, Executive VP, and founder of the company A.K. Velan, who greatly impressed Alexey with his skills in speaking

Russian and knowledge of Russia. Alexey also wanted to get an idea of the project status and to agree on critical details such as how documents were to be handled. He was likewise impressed with how helpful everybody at Velan was and happy that “Technopromexport placed the order for this challenging contract with a company that is as professional as Velan is.” While in Canada, Alexey joined Sabine Klötters (Velan Germany Senior Project Administrator), Stefan, and Rob Velan, former Director of Marketing—who had met Alexey a few years before in Moscow.

According to Dinesh Patel, Senior Contract Administrator with Velan, “After the initial challenges often inherent in such large projects, we made the first shipment in



Stefan Wingerath, President and Managing Director of Velan Germany and Velan United Kingdom, with Alexey Romanov, Head of Division, Purchase and Procurement Department, from the Russian EPC Technopromexport.

Did you know?

Here are some facts about the beneficial predictive maintenance program the customer put into place:

- Velan Germany signed a contract for a Russian-based client Technopromexport for 3 x 660 MW units of the Barh, India, supercritical coal-fired power plant.
- Customer NTPC Ltd. (National Thermal Power Corporation) is the largest state-owned power-generating company in India.
- Order well over \$20 million for a supercritical power plant in India.
- Order included six large 20” motor-operated forged gate valves in F91 material for 2900 special class service: Velan patented Ultraflex™ wedge design.

About the Bahr plant

- Main steam pressure: 246/255 kg/cm², Temperature: -537/540°C (-935/1,004°F)
- Location: Barh town in Patana district of Bihar, India (coordinates: 25° 29’ 10” N 85° 45’ 40” E), near the river Ganges.

August. The shipment consisted of 88 cast gate valves from our plant in Granby. We expect to receive larger shipping releases from now on from NTPC.” He adds that working on the Barh project was easier because Velan had previous experience on the NTPC Sipat power station project. “The procedures and processes were very similar and, since we’d dealt with Russian and Indian counterparts previously, we were well prepared to deal with cultural and bureaucratic differences.

“On a personal note, having emigrated from India as a teenager 32 years ago, working on Barh project gave me a different perspective compared to my colleagues,” he says.

“I felt that I was making a tangible contribution to the economic growth of my country of birth. Realistically, my contribution is minute and distant. Nevertheless, it gave me a sense of personal satisfaction and rekindled my connection to India,” he concludes. **||VV||**

Tak Tokumura

Velan's helping hand in Japan



Takuya Tokumura (Tak), Velan Sales Manager, Japan, stops to take in the view of Mt. Daisen.



Tak Tokumura

Doing business in Japan has blossomed in the last few decades as business and government protectionist attitudes ease, markets open up, and opportunity abounds in this vibrant part of the world.

However, there is one tool that has remained crucial to success in Japan, and it will likely always be a key to Japanese negotiations: the ability to develop and maintain strong, lasting business relationships. For Velan, the tool comes in the form of Takuya Tokumura, better known as “Tak” to most who know him.

Tak, who was born and raised in Osaka, Japan, is Velan’s regional sales manager for that area of the world.

“Although I’ve wanted to be a professional dealing with international issues since I was young, I never could have imagined that I would be working for a Canadian-based company. However, the world has changed, and Japan with it, and I’m proud to be part of the Velan family,” Tak says.

Japan then

According to Tak and Velan staff members who first tested the country's business waters many years ago, Japan has come a long way in its efforts to open up business to foreigners.

"The situation in Japan has changed considerably from 20 years ago when Ralph Sargent, our former Vice President, International Marketing, and I tiptoed our way into meetings," says Syed Ahmed, Export Marketing Manager at Velan.

"Hardly anyone spoke English then; the signs weren't even in English, and Japan was basically a closed market, still putting an infrastructure in place for dealing with outside companies," he adds.

By the 1990s, however, Japan was starting to look overseas for suppliers. Velan's first major entry happened in 1996, when Velan became the first non-Japanese company qualified to enter the bidding process for the Higashi-Niigata Thermal Power Station, Japan's first large combined cycle gas turbine project.

The first representative for Velan in Japan was another Tak, Tak Sakamoto, who was

hired in 1996 and who Syed said served as a crucial bridge to get over the language barrier.

The ensuing years saw many more projects open up, and by the time Tak Sakamoto announced his retirement in 2006, Velan knew he had to be replaced. The company had already recognized that success was based on establishing and maintaining the right connections.

"One thing about the Japanese business place that has not changed over the years is that to win contracts, the quality of your product and your company reputation matter, but not as much as your ability to create local relationships," Syed says.

Tak Tokumura adds that, "Credibility is the most important trait for successful sales in Japan. You have to have good relationships—based on trust and honesty—to get that credibility," he says.

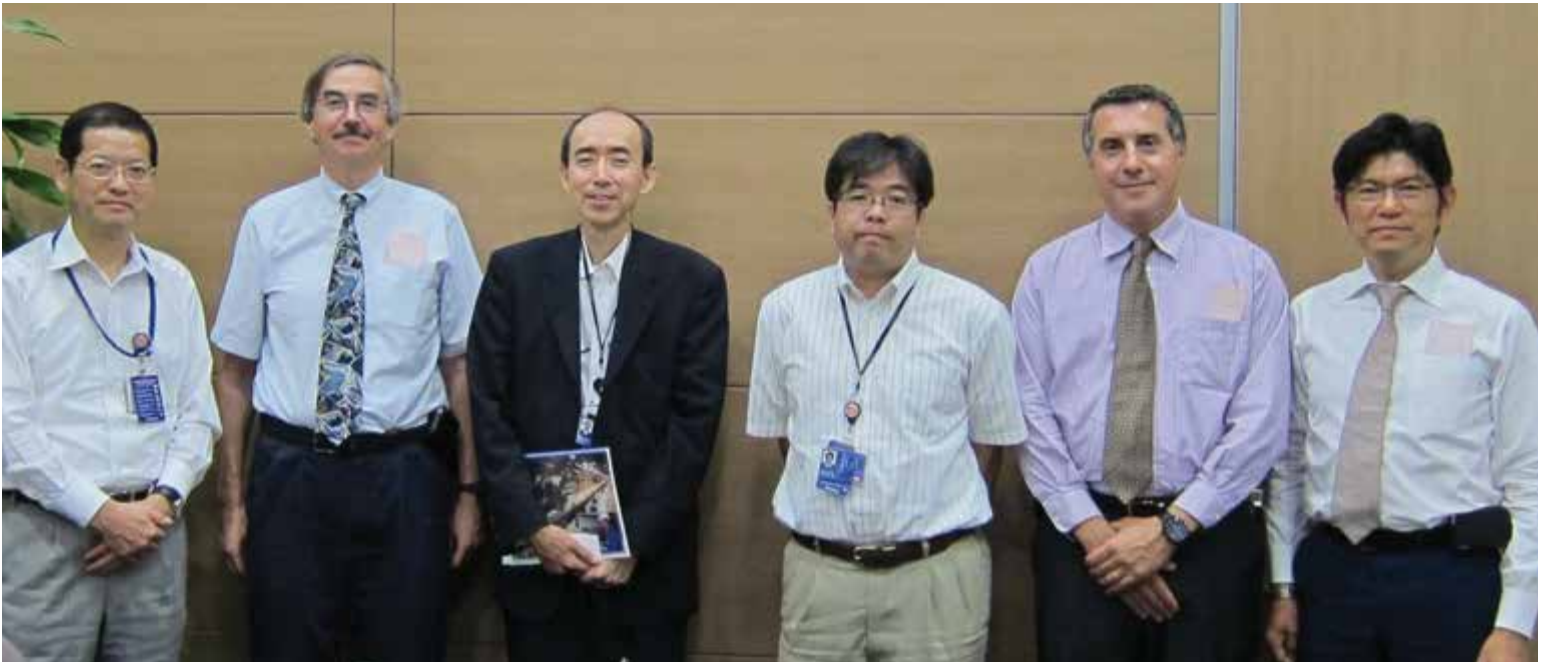
Tak and Velan

Tak came to Velan seven years ago with roots already planted in the valve industry. He graduated from Osaka University of Foreign Studies. His degree in foreign studies gave

"Although I've wanted to be a professional dealing with international issues since I was young, I never could have imagined that I would be working for a Canadian-based company. However, the world has changed, and Japan with it, and I'm proud to be part of the Velan family."

—Tak Tokumura, Velan Sales Manager, Japan

him an advantage in dealing with North America: He spoke English and had studied other countries' cultures. Tak started in the valve industry by working for a Japanese trading house selling valves, fittings, and pipes, then joined a U.S. valve company. He came to Velan through the recommendation of his predecessor, the first Tak, who



Tak Tokumura (far right) and Velan representatives meet with an important Japanese EPC, JGC Corp., Yokohama, Japan. From left are: Ken-Ichi Motoyama, Associate Executive Officer, JGC Corporation; Tom Velan, President and CEO, Velan; Tokutaro Nomura, Executive Officer, General Manager, JGC Corporation; Narutaka Yumae, Senior Buyer, JGC Corporation; and Joe Calabrese, Director of Sales for East Asia, Velan.

“We were looking for someone who had the ability to maintain our reputation and brand while building new connections for us.”

— Syed Ahmed, Export Marketing Manager at Velan

introduced him to Ralph Sargent and Joe Calabrese, Director of Sales in East Asia, when they were visiting a customer in Kobe.

Tak describes that first meeting this way: “The interview was not long, but I could see that what I wanted and what the company wanted was a match. One of the reasons I wanted the position was because Velan had already established a reputation in Japan,” Tak says.

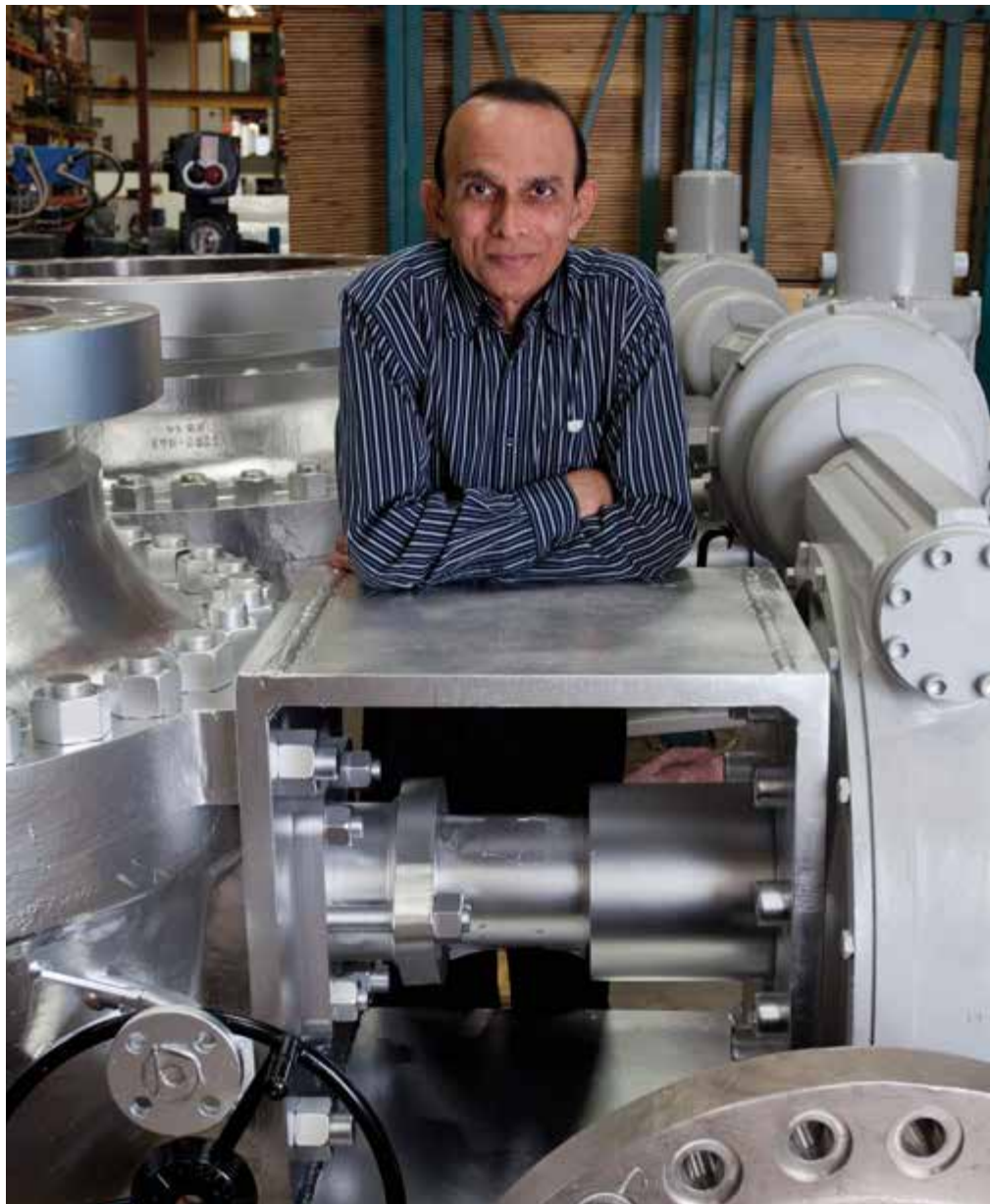
Syed adds that, “We were looking for someone who had the ability to maintain our reputation and brand while building new connections for us.”

Although Tak’s background is in sales, his previous exposure to the valve world means his technical know-how is also top notch. The first day on the job for Velan, for example, he was asked to go with Craig Bekins, the Director of Autoclave Projects and Torqseal® Product Manager, to a meeting for a large HPAL project in the Philippines that involved specialty valves.

“Although the products were not what I had been selling—gate, globe, and check valves—my previous experience with metal-seated ball valves for severe service meant I could keep up with the technical discussions of the engineers as well as the project contract administration,” Tak says.

Tak also says he’s found that working for Velan provides a significant advantage in maintaining good relations.

“When I joined Velan, I imagined this job would be very complicated. But what I found is that the Velan teams work in sync. I am greatly helped by Velan coworkers in North America, France, Korea, the U.K., and other areas,” he says. It’s very much a global team.



Syed Ahmed, Export Marketing Manager, with a shipment of valves in Velan’s Plant 2.

“From creating commercial quotations followed by technical evaluations to order acknowledgements, order administration, material sourcing, production, testing and inspection, logistics, spare parts, and field service, my customers don’t worry about internal coordination even when a crazy number of changes must be made,” he says.

Today’s Japan

Tak says the valve business today in Japan is booming.

“Our country has nuclear power stations built 40 to 50 years ago, as well as conven-

tional power stations, oil refineries, and many other energy and power opportunities—the need for products is huge,” he says.

He also says that rather than hurting the business, the disaster at Fukushima simply opened up other doors.

“Our country is in the mood now to build new fossil power plants with highly advanced technologies. Power OEMs (original equipment manufacturers) are showing interest in using more and more Velan products with new construction because of successful overseas installations as well as field service capabilities within Japan,” he says.

Unlike decades ago, language is no longer a barrier in Japan. “Japanese EPCs (engineering, procurement and construction) and power-related OEMs write their specifications in English,” Tak says.

What’s more, dealing across international lines has become much easier because of technology, as has conducting business within its borders, Tak says.

“I remember in the early 1990s when I was working on projects, it was always a 24/7 job. Customers did not hesitate to call late at night to invite me to a meeting,” he says.

Because meetings were such a vital part of getting things done, “I frequently heard from customers, ‘Tokumura-san, please come to my office in 30 minutes.’ In those days we had no choice,” he says.

Thanks to technology, however, the whole process is much easier and faster.

“We don’t carry around documents that are thousands of pages; we share documents

instantaneously and even the length of meetings can be greatly reduced,” he says.

At the same time, he warns that how one introduces oneself and one’s business in Japan is much different than in the U.S.

“In Japan, internal consensus takes a lot of time and people at a meeting table, many of whom are not fully authorized to make decisions. They need to go back to their teams to get input,” he says. However, when the meeting’s purpose is to finalize an agreement, it’s more of a “yes or no” thing, and new opinions are not welcome.

“That’s why the advance exchange of information is very important in Japan. The final meeting may be simply to shake hands on the deal,” he says.

Tak says that going forward, a main challenge for any company doing business in Japan will come from questionable low quality bidders as more and more countries enter the competition.

“When I joined Velan, I imagined this job would be very complicated. But what I found is that the Velan teams work in sync. I am greatly helped by Velan coworkers in North America, France, Korea, the U.K., and other areas.”

—Tak Tokumura

“However, Velan will keep its strength as a provider of highly specialized products such as very large sizes, high-pressure valves, cokers, and ball valves for HPAL, and in general, as a provider of quality,” he says. **|VV|**

A fun ride with some old pals

People who talk to Tak realize pretty quickly that one of his main passions is motorcycling.

“I participate in motocross races perhaps five to seven times every year with my friends and do a competitive trial twice a year,” he says.

However, his preference is not for shiny new “hogs” (as they are nicknamed in North America), but for the classics.

“I am fond of old motorcycles. I belong to several classic bike clubs as well as clubs for British and Italian classic motorcycles, including one that commemorates racing history,” he says.

He loves the racing, but he loves the bikes even more.

“I would rather ride every weekend, but what I collect are old cycles that need regular maintenance and sometimes repair,” he says.

“However, every time I face troubles with an old machine, I am fascinated by the mechanics of how the bike was put together. In fact, I read manuals and old books just for fun,” he says.



Valves in the LNG process

By Mark Tilley and Frédéric Blanquet



Photo credit: istockphoto

Liquefied Natural Gas (LNG) is exactly what it says: the liquid form of natural gas. The process of liquefying is performed to reduce the volume for purposes of transporting the fuel: LNG reduces volume by 600 times, making it much more economical to transport by sea aboard LNG carrier ships to destinations all over the world.

The temperature required to liquefy natural gas is -162°C (-260°F). As a result, most pipe, valves, and fittings will be specified to meet cryogenic temperatures of -168°C (-270°F) to -198°C (325°F). The development, transportation, and receiving of LNG require a step-by-step process that has grown very rapidly over the last several decades. In the past, each step was treated as a different market. However, with the global economy and market for LNG expanding rapidly, the challenge of many manufacturers of pipes, valves, and fittings is to expand their product ranges to cover all three areas. Valves are a critical component at each stage, and they need to be constructed of quality cast and forged materials. Valve performance and reliability are vital to the whole process,

and these strengths can only be achieved through critical design, manufacturing, and material selection.

Liquefaction facilities

LNG facilities are constructed in various places in the world where an overabundance of natural gas can be converted to its liquefied state for use elsewhere. A few different facility designs have been developed for reaching the cryogenic temperatures needed. Valve design and specification may be slightly different from facility to facility, but the end result is the same: The volume ratio of 600 to 1 (gas to liquid) is loaded onto specially equipped carriers to be shipped to receiving terminals.



A Velan cryogenic gate valve in service.

Valves used in the facilities

- **Butterfly valves.** Most butterfly valves for this use are 4" and larger. Some control valves will be this type, but the majority of butterfly valves are manual, on/off automated, and emergency shutdown. While many of these valves are used throughout the facility, most types will be cryogenic to meet the extreme cold requirements. Most of these valves are in the 150-pound, 300-pound, and 600-pound classes with flanged ends. The valves will require live loading on the packing to ensure a constant load on the packing chamber. They also will have stem extensions that are calculated in length to maintain a vapor barrier at the upper end of the extension. There are also some higher pressure valves needed that are in the 900-pound class and are cryogenic butterfly valves.
- **Ball valves.** The majority of ball valves for LNG are 6" and smaller with pressure

classes typically the same as butterfly valves. Like butterfly valves, ball valves are used for many applications and most are cryogenic. The body is typically a butt weld, three-piece design with a cryogenic extension and live loading on the packing chamber. There are many applications where a cryogenic top entry, one-piece body is preferred because of thermal cycling conditions in the process.

- **Gate, globe, and check valves.** These valves are also used in many areas of the facility in both cryogenic and ambient applications. The majority of cryogenic valves are going to be butterfly and ball valves, however, depending on the process design.

LNG carriers

These vessels are specially designed to transport LNG from the liquefaction facility to the receiving or re-gasification terminal. Because of the world's need for natural gas, the LNG carrier market is booming. Because of the gas to liquid ratio, these carriers can transport enormous amounts of LNG to those areas of the world that have the demand. There also are many new innovations for floating LNG re-gasification terminals and liquefaction facilities, including carriers with re-gasification

facilities on board. This means that in areas where the construction of a receiving terminal does not make sense, such as small ports, natural gas can go right from the ship to feed power plants.

- **Butterfly valves.** As with facilities, the majority of butterfly valves on carriers are 4" and larger; some control valves are butterfly, but the majority will be manual, on/off automated, and emergency shutdown. While there are many butterfly valves designed for use by utilities or designed for ambient gas, most are cryogenic to meet temperature requirements. Most of these valves are in the 150-pound class with butt weld ends and a side entry port for maintenance. Minimizing flanged connections is important in most areas of the vessel, but they cannot be avoided completely because of space concerns on ships. These valves also will have stem extensions that are calculated in length to maintain a vapor barrier at the upper end of the extension.
- **Ball valves.** As with facilities, most ball valves on carriers are 6" and smaller with pressure classes typically the same as for butterfly valves. Also, most will be cryogenic and the body is typically a butt weld top entry design with a cryogenic extension with live loading on the packing chamber.

LNG process	Velan valves available for LNG applications
Liquefaction (export)	Velan cryogenic cast and forged gate, globe, and check valves Velan cryogenic and non-cryogenic Torqseal® triple-offset butterfly valves, up to Class 900 Velan ABV cryogenic and non-cryogenic ball, up to Class 900 Velan Memoryseal® cryogenic ball valves up to Class 600 Velan Proquip dual-plate check valves up to Class 900
LNG ships (transport)	Velan cryogenic gate, globe, and check valves Velan Velflex cryogenic butterfly valves Velan ABV cryogenic and non-cryogenic ball, up to Class 900 Velan Memoryseal® cryogenic ball valves up to Class 600 Velan Proquip dual-plate check valves up to Class 900
Receiving terminal (import)	Velan cryogenic gate, globe, and check valves Velan cryogenic and non-cryogenic Torqseal® triple-offset butterfly valves, up to Class 900 Velan Velflex cryogenic butterfly valves Velan ABV cryogenic and non-cryogenic ball, up to Class 900 Velan Memoryseal® cryogenic ball valves up to Class 600 Velan Proquip dual-plate check valves up to Class 900

A major challenge current valve manufacturers, as well as foundries and forge masters, face is to remain competitive in this growing market, while maintaining and improving quality and performance.

- **Gate, globe, and check valves.** These are used in many areas on the vessel in both cryogenic and ambient applications, though most of the cryogenic valves on ships are butterfly or ball valves.

Receiving or re-gasification terminals

These facilities receive LNG from the carriers and are usually constructed in populated areas of the world where there is a great need for natural gas. The LNG is off-loaded into massive insulated tanks on shore before the process of converting LNG to a gas begins. The facilities then introduce the natural gas into area pipelines for use.

- **Butterfly valves.** Again, most butterfly valves for these terminals are 4" and larger; some control valves are butterfly valves, but most control valves are manual, on/off automated, and emergency shutdown. While many butterfly valves are used throughout the terminals, most are cryogenic, in the 150-pound class with butt weld end and a side entry port for maintenance.

Minimizing flanged connections is also important in most areas of these terminals. The valves must have live loading on the packing to ensure a constant load on the packing chamber. They also will have stem extensions calculated in length to maintain a vapor barrier at the upper end of the extension. This is another area where higher pressure, 900-pound cryogenic butterfly valves used with butt weld side entry design are used. Very few manufacturers currently make this type and pressure class of valves.

- **Ball valves.** Most are 6" and smaller with pressure classes that are the same as butterfly valves. Again, many types are used, but most are cryogenic. The body is typically a butt weld three-piece design with a cryogenic extension and live loading on the packing chamber. Also, there are many applications where a cryogenic top entry one-piece body is preferred because of thermal cycling conditions in the process.
- **Gate, globe, and check valves.** These are used throughout the facility in both cryogenic and ambient applications, though most of the cryogenic valves are butterfly and ball valves depending on the process design used. There may be check valves of a special design used for loading and unloading LNG. These valves can be operated in reverse flow in which case the disc is mechanically overridden to lock open for reverse flow.

Body materials

For LNG service, the body material is typically austenitic 316 stainless steel to maintain body strength at cryogenic temperatures. Non-cryogenic valves can be WCB, stainless, or high-nickel alloys that are suitable for that particular service as well as for the offshore environment.

Testing, certifications, and approvals

All valves will typically need to meet API 598 or equivalent leakage testing as a minimum. Cryogenic valves will have to meet BS 6364, which is tested with helium at -168°C (-270°F) to 198°C (-325°F). While this test is an industry standard for liquefaction, receiving or re-gasification terminal applications, many receiving terminals will require much better leakage rates during cryogenic testing. This testing is usually random on 10% of valves or at least one of every size and class. LNG carriers are usually more critical of their seat leakage rates.

More specifically, testing includes:

- For BS 6364, liquefaction facility requirements are a leakage rate maximum

150 cubic centimeters (cm³) per minute per inch size of valve (cm³/minute/inch).

- With the MW Kellogg spec test, most receiving or re-gasification terminals have a leakage rate maximum of 15 cm³/minute/inch. This test can be very challenging for metal-seated valves, and triple offset valves typically cannot meet this test because of the torque-seated design.
- LNG carrier leakage testing requirements typically have to meet a maximum of 10 cm³/minute/inch.
- Process valves typically have to meet fire-safe specifications BS 6755, API 607, and API 6FA.
- Most specifications will require valve body x-ray testing and die-penetrate testing for random valve body and parts.
- LNG carrier valves also typically have to meet one or more of many ship or carrier approval certifications such as the Bureau Veritas, DNV, or ABS.

Summary

While many of the valve requirements in the receiving terminals, liquefaction facilities, and LNG carriers are redundant, there are important differences in pressure class, end connections, certifications, and testing.

With the LNG market growing, other markets for the product are poised to grow very quickly. For example, the transportation industry has discovered the benefits of the LNG volume ratio to natural gas: Tanker trucks, service vehicles, and automobiles can go much greater distances. LNG filling stations also benefit from the volume-saving advantage.

The challenge for pipe, valve, and fitting manufacturers as well as other equipment designers and makers will be public safety and perception. While LNG is not explosive in its liquid state, once it reaches a vapor form and gets between 5%–15% of natural gas in air, it can ignite. (Below 5%, there is not enough natural gas to become flammable; above 15%, there is not enough oxygen in the air to be flammable.)

LNG carriers as well as loading docks around water have other risks as well. If LNG is exposed to water at a very fast rate, for example, a rapid phase transition (RTP) can occur. RTP can result in a physical explosion that can release a great amount of energy. While this is not a combustion type of explosion, the energy released can be hazardous. Because of this, valve manufacturers, as well as makers of other products for the LNG market, conduct critical R&D and production of their products to meet safety concerns and industry requirements.

What many valve manufacturers are considering is that there has been an overabundance of LNG projects in North America and around the world. In the late 1990s to mid-2000s, North America had many permit applications for receiving terminals. However, there were only a few re-gasification terminals actually constructed, several of which never moved much LNG into the pipelines.

Still, because of the plentiful supply of natural gas from the shale gas finds in the U.S. and Canada, North America has many projects planned for liquefaction facilities. In fact, many of the receiving terminals are now building liquefaction facilities on the same site.

At the same time, there already are too many new valve manufacturers in the market producing cryogenic valves and others with plans for developing similar products on the horizon. A major challenge current valve manufacturers face, as well as foundries and forge masters, is to remain competitive in this growing market, while maintaining and improving quality and performance. **|VV|**

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Velan's LNG experts

Both Mark Tilley, Regional Sales Manager, and Frédéric Blanquet, Sales Manager, Cryogenic Valves, think the fascinating field of LNG holds much potential for Velan and its distributors going forward.

"The actual dollar potential for a liquefaction project can be upwards of \$10 million per train for both manual and automated cryogenic butterfly valves. Since current projects in the U.S. and Canada have a minimum of two trains and most will have three or more, that offers a lot of opportunity," Mark says.

Frédéric adds that, "Although LNG has been used since the 60s, it has only been booming for the last 15 years. Most people do not know how much LNG is involved in their lives."

But that may just change in the near future because the gas market in North America has grown quickly while the developing world also has a burgeoning need for energy sources.

"With the growth of the LNG importing and exporting market in the U.S., the opportunity for cryogenic valve manufacturers has become great. I realized this potential six to seven years ago when the U.S. LNG importing market became very active, and I was asked to track and pursue receiving terminal projects with the VelFlex product line from Velan France," Mark says.

He points out that the U.S., Middle East, and other areas with an overabundance of natural gas offer opportunities in export projects while heavily populated areas in Europe, the Far East, and other areas offer opportunities in

imports. Meanwhile, the LNG tanker industry is lucrative in far eastern countries such as Korea and Japan.

Frédéric adds that, "Today, the LNG industry is global with U.S. contractors building LNG plants in Asia using European-made equipment, and so forth. The opportunities reach around the world."

It's likely both Mark and Frédéric will see many more exciting developments in the field. Mark, who has been with Velan more than 15 years and in the valve industry 26 years, has been involved with Velan's VelFlex and cryogenic Torqseal® for about seven years. Both lines are used in LNG. Frédéric joined Velan in 2004 and has worked in the valve manufacturing industry 25 years, first as an inside sales engineer and then as a sales manager for all cryogenic valves, which are key in an industry where temperatures get down to -162°C (-260°F).

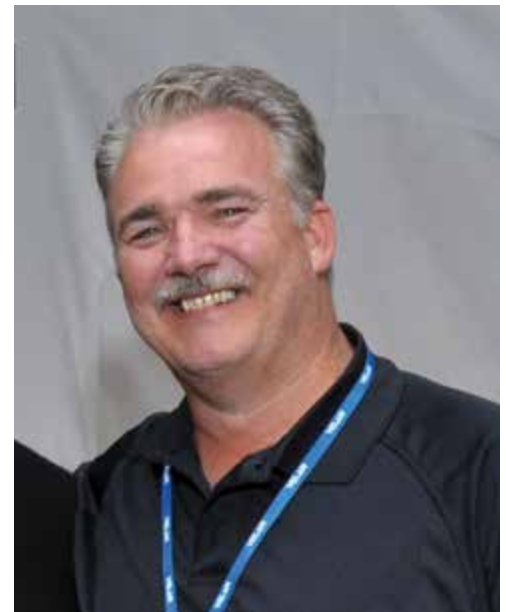
"To be honest, I did not know anything about LNG before I joined Velan—the industry seemed very mysterious to me. It was like something you've heard about but never actually seen in action."

Now, he can add a wide knowledge of the field to his cache of interests, which outside of his job include sports such as scuba diving, motorcycling, and snowboarding. His other hobby is collecting old American cars.

Meanwhile, you would probably find Mark, when he's not working on Velan's behalf, at home with his family having fun, cooking (his favorites are BBQ and Cajun food), fishing, golfing, and pursuing a passion for interior design.



Frédéric Blanquet, Sales Manager, Cryogenic Valves, Velan SAS, in France



Mark Tilley, Regional Sales Manager, Velan

Google Maps

View of Velan valves at CERN



Photo credit: CERN

Velan cryogenic control and quench relief valves installed in the Large Hadron Collider at CERN.

Readers may remember the article: “Keeping it cool: How Velan valves helped build the world’s largest machine” and “The cold facts on cryogenic valves at CERN,” two articles published in the *Velan View* Issue 2, Spring 2011. The article was dedicated to the partnership between Velan and CERN, the European Organization for Nuclear Research and world’s largest, fastest, and coldest accelerator of nuclear particles.



Now, there is another way to visualize Velan’s part in the process. Several months ago, Velan’s Plant 3 Computer Aid, Brian Johnson, read a news article announcing that Google had created a “Google Maps street view” of CERN. Out of curiosity, he checked it out to see if any Velan valves were visible. Within a few clicks he uncovered exactly what he was looking for— an amazing representation of the importance of valves in the effort.

What is CERN: a recap

CERN is an experiment being conducted in a tunnel 27 km (17 miles) in circumference, buried 50 to 150 meters underground (164 to 328 feet) in which the conditions of the Big Bang are recreated.

It is a giant collaborative work involving over 10,000 scientists.

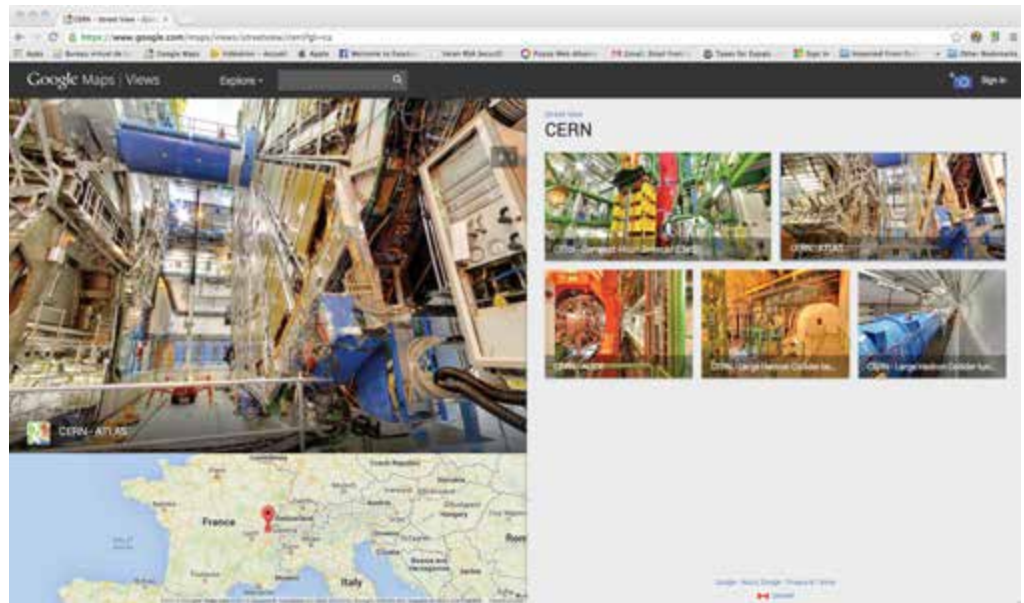
The ultimate goal is a search for the Higgs boson or “God particle,” the last remaining elusive particle needed to bring Einstein’s famous general theory of relativity into a theoretical model called the Standard Model of Particle Physics. This could provide a framework for the understanding of fundamental particles and forces of nature.

For the project, more than 2,500 cryogenic bellows seal control and 400 quench relief Velan valves control the helium flow, provide vacuum insulation against the -271°C (-456°F) required for liquid helium and to protect some of the cryogenic lines and the superfluid helium enclosures from changes in electrical resistance in the Large Hadron

Collider (LHC). Since 2008, the valves have not needed to be replaced or repaired. They continue to operate at temperatures down to 1.9K (-275°C or -456.25°F), contributing to the excellent cryogenic functioning of the LHC accelerator (up to 99.3% per cryogenic plant).

For an amazing view from above, follow these instructions:

1. Go to www.google.com in your web browser.
2. Type “CERN Google street view” as your search key words.
3. Double-click on the link titled “CERN - Street View - Google Maps” It should be at the top of the list. You’ll find yourself on the Google CERN page.
4. On the right-hand side of the screen are five images that represent the following categories: 1) CERN - Compact Muon Solenoid (CMS), 2) CERN - ATLAS, 3) CERN - ALICE, 4) CERN - Large Hadron Collider beauty (LHCb) and 5) CERN - Large Hadron Collider tunnel. Click on 5) CERN - Large Hadron Collider tunnel. A Google street view of the LHC tunnel should appear.
5. Click forward on the tunnel path to keep moving down the tunnel. You will pass a length of silver pipe and then a length of blue pipe. Where the two meet, you’ll find a number of Velan valves. If you keep exploring, you’ll find others along the length of the particle accelerator. **|VV|**



The webpage you will see when you click on the link to the CERN Google street view.



The LHC tunnel where Velan valves are installed.

Scientists win Nobel Prize for CERN efforts

Two scientists who developed a theory on how the most basic building blocks of the universe acquire mass recently received the 2013 Nobel Prize in physics. The theory is the one confirmed by tests searching for the Higgs boson at CERN.

Francois Englert of Belgium and Peter Higgs of Britain were awarded the prize in October 2013.

The two began theorizing in the 1960s about why all matter has mass. It was the start of a search for the tiniest

particle (a boson) both thought existed. The two thought the particle was responsible for the process that builds atoms.

In July of 2012, that particle was confirmed by the \$10 billion tunnel testing facility beneath the Swiss-French border. Confirmation affirmed the Standard Model of Particle Physics.

While Englert and Higgs are only two of thousands and thousands of scientists who worked together to prove the

particle existed, Nobel prizes cannot be given en masse. They can be shared by three people at most. Those two gentlemen came up with the basic theory for testing.

Nobel prizes are announced in October and given out in December in commemoration of the death of the man they honor—Alfred Nobel, a Swedish industrialist who died on December 10, 1896.

Velan's North American distribution center network continues to grow



Ask anyone involved in Velan's network of special distribution centers why the program is needed, and you'll get the same answer: "Velan is committed to doing all we can to help out our distributors when and where they need it."

That's how Adam Wells, Sales Coordinator, VelCAN, phrased it, and any of the people who manage or staff these centers say the same thing because they have seen first-hand that getting a valve out as fast as humanly possible can sometimes make a huge difference for a company.

"If you have a situation where a plant is threatened by a shutdown because of one missing valve, you gain a lot of goodwill if you can step in and provide what is needed," Adam explains. Although using the centers carries a fee, "Good timing can save a facility thousands and thousands of dollars, which makes for a very happy situation," he explains.

"These centers build trust and a tighter network relationship overall because our distributors know we have millions of dollars in inventory on the ground to support their sales efforts and provide end users help where and when they need it," says

Scott Stewart, who used to run VelEAST in Marietta, Georgia, and recently agreed to run the latest addition to the network: VelTEX in Stafford, Texas.

The new center, which opened its doors in November, is the fourth location. It joins VelCAN, VelCAL, and VelEAST in the network.

Setting up the system

Velan's distribution center network has grown organically: As a need has arisen in an area of North America, a center arose. The process began in 2000 when VelCAL opened its doors in Benicia, California, under the direction of Dave Frolich, General Manager, VelCAL, who is still in charge.

"Our center was started because at the time, there was inadequate distribution on the west coast," Frolich explains. That situation has changed and now there are several major distributors in the area,



Outside view of the new VelTEX distribution center.

"and they have become some of our best customers," Frolich says.

VelCAL serves all of those customers out of a 15,000 sq ft building.

The next center to open was VelEAST, which is currently run by Stephen Wood, but was opened in 2001 by Scott (with guidance from VelCAL and Dave). VelEAST shares a building with a major east coast distributor, Control Equipment Company (CEC), which also provides packing and shipping services for the center.



“It has worked out well for both of us. Velan needed the space that CEC had. In fact, we continue to need more and more space. Meanwhile CEC does not have to stock so many valves itself,” Stephen says. VelEAST’s clientele has grown steadily over the years, so much so that 4,000 sq ft was added to the existing 6,500 sq ft this last February and a shelf reconfiguration added even more space.

“And we are still challenged by not having enough space to stock what our customers now need,” Stephen adds. “That’s an indication of how well things are going.”

Meanwhile, VelCAN is the second iteration of a facility designed to serve Canada and the northern regions of the United States, as well as parts of Europe and Asia. The center operates out of the Granby plant, which added 40,000 sq ft several years ago, part of which is used for the distribution center.

“Since many of the types of valves we stock are made in the Granby plant, it makes sense to have a distribution center located there,” Adam explains.

“These centers build trust and a tighter network relationship overall because our distributors know we have millions of dollars in inventory on the ground to support their sales efforts and provide end users help where and when they need it.”

—Scott Stewart, General Manager, VelTEX

Who uses what from where

Because each center has its own unique clientele, they stock different mixes of products depending on what industries are located in their area.

“The true functionality of maximizing the market penetration is understanding the local market,” Dave explains.

In the east, for example, the center stocks gate, globe, and check valves, as well as soft-seated and metal-seated ball valves, and Torqseal® triple-offset butterfly valves.

VelTEX open house—a taste of some southern hospitality

VelTEX, the newest addition to the Velan distribution center network, officially opened its doors this past November 2013. Over a hundred and twenty visitors dropped by the brand-new facility to network, meet or re-meet members of the Houston team, and enjoy some serious BBQ (Velan’s own Bruce Lawson, Regional Sales Manager, was the official grill master). Velan President Tom Velan and Executive VP Ivan Velan also attended the event. According to Scott Stewart, General Manager, VelTEX, “This opening was an overwhelming success and wonderful way to showcase our newest addition to the Velan distribution center network. Once again we proved that Velan strives to be the best at any endeavor, whether it’s BBQ or valves!”



“VelTEX is a step toward the future as the largest, most capable facility yet. And it’s located in the industrial hub of the country.”

—Scott Stewart

It also stocks a good supply of knife gate valves because there are many pulp and paper industry users in that region.

In California, the stock tends to run heavily in valves used in refining, oil production, pipelines, chemical, and power because the west coast is where several of the major oil companies have refineries.

VelTEX will eventually have the widest selection because so many of the process industries are located in that area of the world, which Adam calls “the center of the valve universe.”

“VelTEX is a step toward the future as the largest, most capable facility yet. And it’s located in the industrial hub of the country,” says Scott.

The decisions taken on what stock is in these centers is one of the keys to each center’s success. As Dave Frolich, who has the longest history of stocking those



Families and the business grow side by side: Scott and Stephen both worked at VelEAST in 2009, and their families became close. Scott (left) now heads up the new VelTEX while Stephen (right) has taken over at VelEAST.



The VelTEX team (left to right): Brian Kennedy, Inside Sales; Scott Stewart, General Manager; Chandler Miller, Warehouse Clerk; Keith Phelps, Warehouse Manager; John Frolich, Inside Sales Manager; and Jordan Bragg, Warehouse Clerk.

shelves explains, “We are much more reliant today on history to replenish our stock because we’ve learned what kinds of items consistently move. This process continues to morph as our product lines evolve and the number of locations evolves. I know that here at VelCAL, we will be modifying our inventory as VelTEX becomes more central to the marketplace.”

The centers are designed to work in conjunction with each other as well, so that if one has a need to fulfill that can’t come directly from the shelves, another might be able to step in, depending on whether shipping from that site makes economic sense.

Measuring success

The people who run or operate the centers say that, at the end of the day, there are several indicators of success.

“If we have helped our customer solve a problem, it’s been a good day. If a plant comes back online, it has been a good day. If we can fulfill our promise to ‘ship today without fail,’ it has been a good day. But also, if we just get one ‘thank you’ for being there to answer a call or to reply quickly to a hot quote, it has been a good day,” says Adam.

There are long-term measures of success as well.

“I think our repeat business is a good indicator,” Stephen says. “Our prices are higher than the standard direct-from-factory, but people come back time after time because they’ve learned we can ship it out the same day. In the east, our sales have grown tremendously over the years,” he says.

Having the system in place has another great advantage for the entire company.

“Just today, we helped a distributor who could not locate two, 20” gate valves they needed to ship immediately. I don’t know how 2,000-pound valves can get misplaced, but things like that do happen. Coincidentally, we had exactly two of the vitally needed valves in stock, which was a huge help for the customer of our distributor,” he explains.

Also, “There are now two Velan valves in that plant that would not be there otherwise,” he adds.

Adam agrees this an important benefit. “With VelEAST, VelCAL, VelCAN, and now VelTEX, we can strategically locate inventories that up the chances a blue-handled (Velan) valve will be installed in line versus one of our competitors’ products,” Adam says. **||VV||**

A way to relax

The Velan employees now tasked with running the distribution centers sometimes face stressful situations. Fulfilling last-minute orders and stepping in to answer a distributor's need for speed can sometimes involve white-knuckled efforts. So what do those employees do to let off steam?



VelEAST's Stephen Wood finishes the Atlanta marathon with his daughter Kaitlyn at his side.

Stephen Wood started running about three years ago.

"I was athletic as a child, but stopped working out some time in high school. I've rediscovered how good it feels," he says. Stephen finished his first marathon a year ago.

After months of training, Stephen completed his first marathon in Atlanta in five hours and had the privilege of his daughter Kaitlyn running by his side for the last 200 yards.

"My 93-year-old Nan [grandmother] from England was also there at the finish line to cheer me on."

He chose running as both a stress reliever and a way to stay healthy. The next step for him, as with many runners, is finding a tougher track.

"I turn 40 next year so I've decided it's time to tackle an ultra marathon. It's a big commitment given that my wife and I have two kids. But I figure we'll all benefit," he says.



VelTEX's Scott Stewart enjoys one of his favorite hobbies, mountain biking.

Scott Stewart is a professionally certified trail designer and builder, who has been serving as the Trail Director for Blankets Creek Mountain Bike Trails in Woodstock, Georgia. He'll have to find a new place to use those talents having recently relocated to Houston.

"Most importantly, though, I spend my off hours with my wife and two children. We all love to canoe, hike, and camp," he says.

Adam Wells also spends a good deal of his time "at home with my wife, my dog and cats, and with a good fire going in the fireplace." However, he is also a sports and hockey nut, so much so that he and a group of friends started a hockey website several years ago



VelCAN's Adam Wells (left) completes the Tough Mudder race in Bromont, Quebec.

where they post blog casts and do a weekly radio show on i-tunes (www.offthecrossbar.com).

Adam also keeps in shape by participating in sporting events, such as the Tough Mudder race last July, which required six months of training. That race, which was created by a former British Special Forces soldier, tests physical and mental toughness through grueling challenges involving obstacles such as a 40' vat of muddy ice water and the Electric Eel that requires crawling through a long canal of mud and water overhung with electric wires.

"I'm not much for exercise for the sake of exercise, but give me a challenge that's fun and maybe a little crazy and I'm all for it," Adam says.



VelCAL's Dave Frolich (left) and his son John pose for a "selfie" while skiing.

It's all in the family

When a job became available at VelCAL, Dave called Ivan Velan and told him he needed to hire somebody reliable. Would it be a problem if he hired his own son? Ivan being Ivan and a member of the Velan family, just joked, "Dave, how could I possibly take a position that it's not okay to work with family?" Dave recounts.

John worked at VelCAL for nine years. When VelTEX was on the drawing board, he put his name forward for a transfer to Stafford, Texas. He is now the Inside Sales Manager for the center, which means there are currently two Frolichs playing key roles in Velan's distribution network.

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Yvan Desautels

His technical expertise bolsters his team-building skills

There are two personality traits that come out strongly when you talk to Yvan Desautels, Coordinator for Technical Production at Velan’s plant in Granby, Quebec, and both serve him well in the job: He’s a hands-on type of guy and he loves team work.

These attributes have contributed to his success in his position because he is in charge of making sure all of the tools, fixtures and equipment within the Velan plant are doing exactly what they are designed to do. He is also responsible

for ordering all the new equipment and for putting systems into place to bring them online. In this position, Yvan oversees what happens with a wide range of people from CNC programmers to toolmakers and tool and equipment designers to welders to the

foremen of the different departments of the plant. While his position is with Granby, his team also makes jigs and fixtures for many of Velan’s plants including facilities in China and India. And because of what he does, he is often called upon to help

implement lean systems such as TPI (total process improvement) and ATP (available to promise) projects as they go into place.

“The role of my department is to help everyone. We are linked to all areas of the plant, whether it’s assembling, welding, or maintenance. I have a hard time saying ‘no’ to anyone, but that’s a good thing because we are here to solve problems,” he says.

“I also have had the privilege of working with Bob Waditschatka (Corporate Industrial Engineer). We have worked on many projects together with great success,” he says.

As far as team-playing, “One of the aspects of my job I enjoy the most is working with people. I like to take different talents on my team and try to help them reach the next level,” Yvan says.

Meanwhile, implementing lean practices requires “finding a group of employees to create a team across different areas of expertise. The more I have learned about lean manufacturing, the more I have realized how logical this process is. You put together different people with different skill sets and let them help you work out a common problem. As a result, you end up with a better way of accomplishing goals,” he says.

The day-to-day job

A typical day for Yvan starts with a visit from someone.

“Early in the morning, I could have the maintenance or a shift foreman, a machinist, a welder or a CNC programmer at my door needing a solution to a problem. My job is to give that person a good answer. It can be a crazy job, but I love it,” Yvan says.

When it comes to putting new processes into place, Yvan is the technical expert of the project—he understands how it’s actually going to work and how it should work in the future.

“Since I was a young boy, I have always loved science fiction movies and books, which has bolstered my imagination into what’s possible. The new technologies and big

changes in how we do things do not disturb me; I consider it a natural order of things,” he says.

“Whether it’s a project that needs machining, plumbing, welding, or electricity, I’m able to bring something to the solution because I understand the different technical complexities.”

That combination of technical expertise and the dedication of the teams involved have put quite a few lean processes into place at Granby.

For example, Yvan explains how the company put a ball valve cell into place.

Traditionally, “we had a long delivery time for these valves because we’d make the first part of the operation on one machine, then those parts would stay in place for a week or so waiting for the next machine, then wait another few weeks for a third part of the process. We put the three operations together and connected them with a conveyor belt,” he says.

“It cut our time from what could sometimes be a month down to a day,” he explains.

The same type of step was taken to create a wedge valve cell.

“We typically had too many rejects in our process because again, we were making it

“The role of my department is to help everyone. We are linked to all areas of the plant, whether it’s assembling, welding, or maintenance. I have a hard time saying ‘no’ to anyone, but that’s a good thing because we are here to solve problems.”

—Yvan Desautels, Coordinator for Technical Production, Velan Granby

part by part. We put the CNC lathe, the CNC milling, and the welding robot all in the same area, which for some people in the shop was a shock. But rejects went down very, very fast as did the time to make wedge valves,” he explains.

Yvan’s background

Yvan, a Velan employee for 26 years, has always been involved in how things operate. During his summers as a student, Yvan worked as a machinist or welder. His first full time job was with an aeronautics firm who hired him out of college to work as a



Yvan Desautels (right) speaks with Velan machinist Pierre Bolduc in Granby.

“When I pass through the Velan Granby plant, I’m very proud of what I’ve done in my years with Velan.”

—Yvan Desautels

machinist, a job he calls a great training experience.

“I remember when a brand new machine—a CNC—was waiting to be put into operation for about six months. At that time, the old machinist didn’t know how to work with such a piece of equipment because it was new technology. But after only three months on the job, they asked me to start the machine. I made them the first CNC program and then trained the machinist,” he recalls. “As a result, now when I talk to a machinist, I understand his point of view.”

Yvan started with Velan as a tool designer, was in that position for seven years, then was a CNC programmer for about a decade and an industrial engineer after that.

Yvan feels this type of background—learning by doing and advancing as skills level and understanding increase—is exactly what’s lacking in today’s manufacturing industries.

“I meet way too many parents that are pushing their kids at going to a university

to become a doctor. While a university degree is certainly good, there are many people out there that have skills they are not encouraged to pursue,” he says.

“You make almost as much as a welder as you do as an engineer,” he adds.

He feels that society needs to change its attitude and learn to present options based on technical skills or just doing a job the right way.

“When the guy who cleans the floor does a good job, I have a clean shop, which is critical to a well-run operation. So for me, that guy is very important,” he adds. “When I pass through the Velan Granby plant, I’m very proud of what I’ve done in my years with Velan. I see a little bit of me in every little corner of every department,” he says.

At home with the family

Yvan grew up in the small town of St. Hyacinthe (about 50,000) with a brother and a sister and moved to Granby with his first Velan job. He remains close to his entire family with his father and mother still neighbors, his brother and sister a short drive away, and his two oldest children within miles. The youngest is about to take off for university.

“Every Christmas and every birthday all the family are together. This is the most important part of my life,” Yvan says.

Yvan and his wife Martine spent much of their early years going to soccer and other

sports games. When they were in their mid-20s, the couple decided they didn’t want to wait any longer for their dream house.

“We didn’t really have enough money to build the kind of house we wanted so we bought three acres and I got started cutting the trees. I cut different thicknesses and dried the wood for a year. Then I started to build cabinets and flooring for that house,” he says. “For one year, we lived on plywood, but we worked every night in the house to finish it,” he says. “With three small children, that wasn’t easy. But thankfully, my wife has a lot of energy and she always supports me in what I do,” he explains.

Today, the inside of that dream house has wooden floors, cabinetry and many other features built from the maples, cherry, and oak trees that grow on those three acres.

Many of those projects were made in his garage. Besides being a sports fan, a car lover, and a travel enthusiast, Yvan spends much of his time in that garage, creating new features for the house or fixing one of his kids’ cars.

“I don’t need much to be satisfied. Just a little coffee in the garage and a current project where I can use my hands,” he says. “Because of the work I’ve done there, my house has developed a soul over the years and I won’t ever want to move. I intend to keep my job and my house for a very long time and my wife and my family close by my side.” **[VV]**

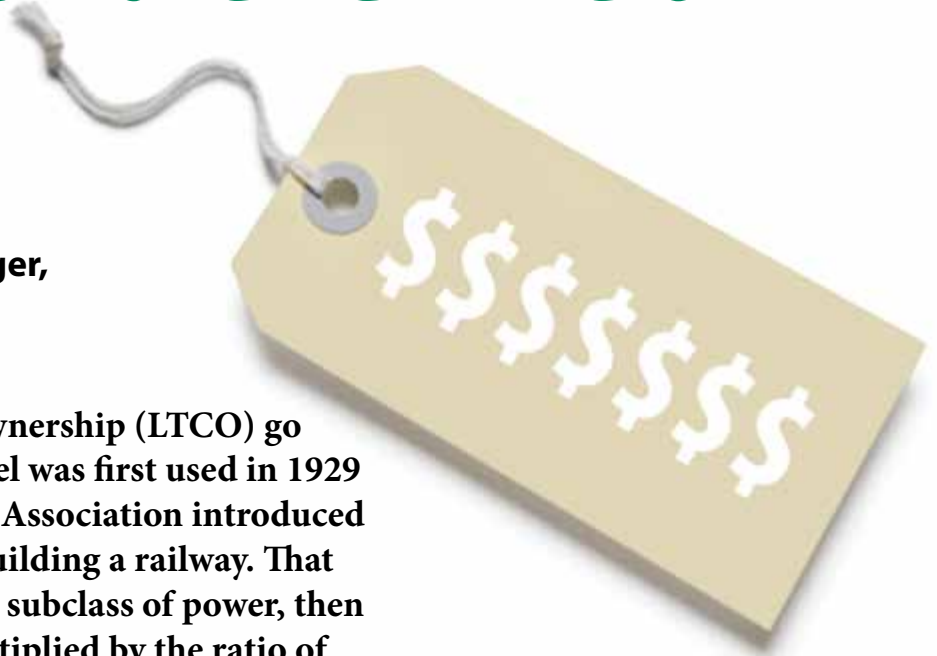


Far left: Yvan Desautels (left) working in his garage where many of his home renovation projects were created.

Left: The fruits of his labor, his dream house.

Seeing beyond the initial price tag

By Arun Dhingra, National Sales Manager,
Velan Valves India



The concepts used in long-term cost of ownership (LTCO) go back as far as the 1700s. However, the label was first used in 1929 when the American Railway Engineering Association introduced a manual for efficiently maintaining or building a railway. That manual noted that “in the event there is a subclass of power, then the total cost of ownership should be multiplied by the ratio of the cost of repairs to the total.”

Over the years, LTCO concepts have evolved into a valuable tool for process industry buyers and purchase influencers to guide them in making more informed purchase decisions. Rather than just looking at the initial purchase price tag of equipment, LTCO looks at the costs of a product over its entire life cycle. It adds the expenses of maintenance, service, and spare parts.

While capital procurement budgets cannot ignore initial purchase price, LTCO can help purchasers look further down the road to see the long-term effects that purchasing one valve option or using one valve supplier will have over another. The cost differences can be dramatic. More specifically, here are eight factors that affect LTCO:

1. Choosing the right valve

Maybe this is an obvious point, but there are too many tales of valves misapplied in one way or another. In those cases, the cost impact can be dramatic. Specifying the right valve is simply a function of understanding the process parameters and then applying

knowledge of valve’s characteristics. It only makes sense to work with suppliers that have similar application experience. These suppliers also should have expert tools such as valve sizing and selection software to take the uncertainty out of the selection process.

2. Select the best seat, seals, coating materials, and trim

Once the right valve is chosen, there remains a wide range of options that go with that selection. Those choices and their effects are:

Seats: Seats have an important bearing on shut-off performance and longevity of valves.

Seals: Advance stem seal designs limit fugitive emissions, extending the life cycle of valves in service where restrictions of volatile organic compounds and other toxic emissions are a concern.

Coatings: For metal-seated ball valves, properly selected coatings reduce the friction between the ball and seats, allowing smooth sliding operation, minimizing damage and wear from galling, abrasion,

erosion, particle impact, cavitation, and thermal swings. Reducing friction in the trim lowers the valve operating torque, which has several advantages. Lower valve torque allows a smaller actuator to be used—which is more economical, results in smaller envelope dimensions of the assembly, improves signal response, and simplifies selection of accessories to meet cycle speed targets and other special requirements.

Coating technology is one of the most important but frequently overlooked selection criteria for metal-seated valves.

Trim: In certain applications, high media velocity and large pressure drops across the valve make the generation of noise, vibration, and/or cavitation inevitable.

3. Adopt the right technologies

The purchase price of critical process control and automated on/off valves amounts to only a fraction of their total LTCO. Often, paying a little more for equipment with advanced technologies will significantly reduce the

“The right valve partner can help companies make choices that optimize process performance and continuously drive down costs.”

—Arun Dhingra, National Sales Manager of Velan Valves India

LTCO. Life-cycle cost reductions come about in these ways:

- Intelligent valves reduce wiring costs because they can be integrated with a variety of communication technologies.
- During start up, intelligent valves reduce costs by recognizing installation problems and allowing cost-effective remote troubleshooting and calibration.
- Emergency shutdown (ESD) valves equipped with intelligence that allows for frequent automated condition monitoring and partial stroke testing (PST) reduces redundant solenoid valves.
- PST also eliminates the cost and risk of sending employees to remote or dangerous plant locations to perform manual safety checks.

The actual savings of using intelligent technologies varies by application; however, it is not unusual for plants that might pay 20% more for valves equipped with intelligent technologies to realize a life-cycle cost savings of 30%.

4. Ensure the quality of the valves purchased

We live in a world of global sourcing where valves are often manufactured in faraway places. As a result, the integrity of raw materials and castings has become an increasing problem. What's more, just because a manufacturer claims to conform to standard certificates doesn't prove that manufacturer has the right solution. The problem with standards is that they outline only minimum requirements. Tighter limits for stringent quality controls are required

to optimize performance and keep costs low. Even simple things such as material chemistry or how valve bodies are loaded in heat treatment furnaces can affect casting quality.

5. Use a single resource for valve package purchases

Many companies already limit valve purchasing to a small number of vendors. But are these vendors also providing fully integrated package solutions? Certainly, a single source of supply can be convenient and save costs. Buying valve packages using components from a single valve manufacturer can also result in significant savings in LTCO. Why is this? Usually parts and materials have been manufactured to the same stringent quality standards using the same best practices and the latest technologies. This mitigates risk and cuts down significantly on initial investment, which is one of the keys to minimizing LTCO and maximizing return on investment.

6. Maintain valves for best service

Reducing the cost of valve ownership doesn't begin and end with hardware. It is also important to understand specific application demands and what it takes to minimize, predict, and—better yet—prevent downtime.

It's important to create routines for checking the performance of specific valves based on known life cycles and to keep track of data in historical databases to enable the analysis of trends and performance behaviors.

Much of this can be automated. Valve networking solutions allow for systematic, remote monitoring of on/off valves, while digital valve controllers enable advanced diagnostics and predictive maintenance for control valves. Pre-shutdown valve audits can identify where problems are likely to occur and what contingencies are required to address them. These strategies also help extend maintenance intervals. The key is to use all of the tools available to pinpoint potential problems before they happen.

7. Optimize spare parts inventories

Suppliers can help in performing a critical analysis of valve inventories. Based on equipment ratings, they can provide input to create an inventory strategy aimed at reducing redundant or unnecessary inventories. This ensures that the most critical components are readily available when needed. Critical assets (new or refurbished replacement valve assemblies) should be made ready so damaged or failed valves can be replaced quickly, thereby reducing downtime.

The bottom line on predictive maintenance

The predictive maintenance program one typical customer put into place offered these benefits:

- Reduction in the number of valves removed from piping for maintenance because the condition and availability of these valves could be verified in advance.
- Reduction of costs related to spare parts used in maintenance activities.
- Reduction of time needed for valve maintenance activities because fewer valves needed to be removed from the piping. This obviously also reduced the costs related to manual work maintenance activities.
- Improvement of the quality of maintenance since they were based on manufacturers' standards.
- Reduction of both potential safety and environmental risks. Because of the decreased number of valves removed from the piping for maintenance, the probabilities of incidents related to safety and environmental releases were reduced.
- Reduction of costs related to valve maintenance activities: cranes, scaffolds, additional personnel for safety supervision, etc.

8. The right partner is the key

The right valve partner can help companies make choices that optimize process performance and continuously drive down costs.

Shutdown planning reduces costs and improves safety. Recently, one of our customers decided to increase the intervals between shut down for maintenance from four to five years to improve productive uptime and reduce shutdown labor costs. The plant turned to us for help in developing a shutdown plan that would use intelligent technology to identify critical valves most in need of repair. This pre-shutdown planning process involved an in-person field survey of all critical valves.

The analysis confirmed that many critical valves were not in need of maintenance. Knowing this made it possible to focus on automated on/off valves and ESD valves in particular. The scope of maintenance of the on/off valves was determined by a combination of factors, including SIL (safety integrity level) classification and operations experience.

A predictive maintenance program pays for itself many times over. Many valves are taken off-line and repaired because of an inaccurate understanding of their true condition. Predictive maintenance with a competent field service engineer can result in substantial savings by eliminating unnecessary assembly and disassembly work and reducing man-hours required during shutdown.

Administrative costs required for planning and purchasing can be reduced because of the smaller numbers of valves identified for extensive service.

The cost of the predictive maintenance contract was paid for many times over by reducing the number of valves taken out during the process and disassembled. The mean time between repairs was extended for monitored valves, and the user saw additional savings by reducing the spare parts stock based on competent field service engineers' recommendations. Also, this shop also reduced the administrative time

normally spent buying spare parts. These savings were allocated to other important maintenance activities at the plant.

Conclusion

To truly understand the total cost of ownership of a valve, one must look beyond the obvious numbers on the initial price tag to take a long-range look at what a valve can really do to the company's bottom line. Using the steps outlined in this LTCO approach can have benefits that far outweigh that initial savings. |VV|

About the author

Arun Dhingra is the National Sales Manager of Velan Valves India, located in New Delhi, India.

According to Arun, he lives in a combined family situation with his mother and his own family, which includes wife Veena, who is a lecturer of mathematics, and his two daughters.

Both Arun and Veena love to travel because they love to meet new people and see new sights. "We are also very interested in visiting historical monuments and coastal tourist spots," he says.

"To truly understand the total cost of ownership of a valve, one must look beyond the obvious numbers on the initial price tag to take a long-range look at what a valve can really do to the company's bottom line."

—Arun Dhingra

He also loves badminton, and his wife is an avid swimmer. Arun says that his wife is very creative and that this is reflected in her mathematics lesson plans as well as in her cooking and art.

One of the couple's daughters is pursuing an architectural and design degree while the other is still at home in middle school.

Arun has worked in the valve industry for over 24 years, and specializes in mechanical engineering.

You can reach Arun at 91 (11) 2271 9473 or email him at arun.dhingra@velan.com.



Arun with daughters Aditi, Pragati, and his wife Veena in front of the Taj Mahal located in Agra, Uttar Pradesh, India.

Torque Measuring Unit

will strengthen new product development, actuation selection, and quality monitoring with field diagnostics

A new torque measuring unit developed by Velan Engineering is an innovative first that promises to save end users money and make the lives of production staff easier. The story of the unit and how it was created is rooted deep in Velan's business culture.



Vahe Najarian, Corporate Manager, Research and Development, Velan

“The project started in 2007 when our engineers visited one of our European sister companies and noticed that they were measuring valve torque at hydro testing using a large number of actuators and gear-boxes,” explained Vahe Najarian, Corporate Manager, Research and Development. The engineers realized the potential for adding quality to R&D and design and wanted to implement something similar.

“But we wanted much fewer actuators, minimal instrumentation and calibration, and minimal adaptors. We also wanted short set-up times with added mobility and versatility, integrated data acquisition, and automated control,” Vahe says. “And we wanted to generate crucial decision-making data.”



The above 16", Class 300, Type R Securaseal metal-seated ball valve is actuated with the direct mount 50,000 Nm +/- 7.5% unit, using Velan's mobile controller, and a bracket design. This allows for self-adjusting vertical motion, making it versatile to use on a large range of valve designs.



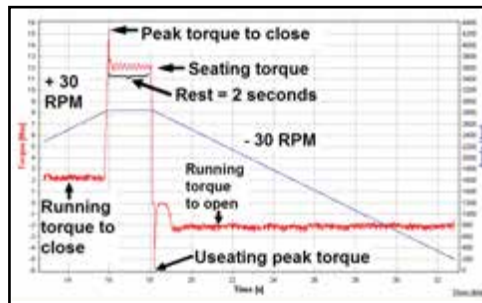
Teamwork in the lab: In front of the computer, Stéphane Joseph, R&D Junior Engineer, part of the team who helped to develop the machine, has mastered the unit's implementation and is collecting crucial decision-making data on a 4" Class 900 metal-seated ball valve. In the background (left to right): Christian Beguian, R&D Manager; Charles Ewusi, R&D Technician; and Rabih Matar, R&D Junior Engineer, are anxiously anticipating the results to help push this severe service development project to the next stage.

“This was a tall order indeed, but then again, these are the kind of challenges that bring out the best in people,” Vahe says.

Brian Simmons, Director, Projects, Severe Service Applications, Velan, says he thinks the new tool is a perfect example of how the day-to-day process of building a valve and ensuring it is actuated as precisely as possible brings together so many people at so many different levels. “Everyone from the bright engineers that come up with innovative ways to get the most out of existing machinery like this, down to the person who gets his hands greasy as he’s assembling the unit. The story of this torque unit ties us all together as a company,” he adds.

Measuring torque

With this portable torque measuring unit, it’s possible to control all cycling parameters



Example of a typical chart recorded with the equipment.

Torque measuring instruments accuracy

Instrument	Range of calibration (lb ft)	Accuracy
Small unit	20 to 330	±2.5%
Large unit	170 to 3,300	±2.5%
Small unit + multiplier	2,200 to 36,900	±7.5%

in simulating valve actuation (hand-wheel to motorized, quarter-to multi-turn) and accurately measure torque/travel data. The recording equipment measures torque values up to 36,878 lb ft (50,000 Nm). By means of a transducer, all the torque values obtained during the complete opening/closing cycle (or v/v) are read and recorded. The encoder then permits the operator to promptly read the relevant torque value at a given angle and produces the relevant torque curve on an orthogonal axis system. By connecting the decoder to a PC, all data and curves are recorded.

This instrument enables Velan to simulate common valve actuation, verify calculated torque values, determine actual friction coefficients, and ensure the right figures are available for the sizing of valve actuators.

“From the beginning, the unit’s creation has received support at all levels within the company. We can predict torque requirements more accurately and therefore offer better quality products to our customers.”

—Luc Vernhes, Design Manager, Securaseal Ball Valves

“In the past, products had more reserve torque than necessary,” Luc Vernhes, Design Manager, Securaseal Ball Valves, explains. “Obviously this was inefficient, since larger actuators are heavier and take up more space—all of which can cost the customer more.”

Given this, A.K. Velan, founder of Velan, and the management team gave Engineering a mandate to find a solution. The rationale was simple: By measuring torque more accurately, you can ensure the valves have precisely the force they need to operate properly. “That means you can size driving components and actuators so they are



Luc Vernhes, Design Manager, Securaseal Ball Valves, Velan



Velan’s R&D Technician, David Fagnani, is part of the team that helped make the unit portable. R&D Technician Pascal Coté (not shown in the photo) is currently working to optimize a second unit by incorporating a cooling system.

exactly the right size for the job they must do,” Luc explains.

“From the beginning, the unit’s creation has received support at all levels within the company,” he adds. “We can predict torque requirements more accurately and therefore offer better quality products to our customers.”

The first step in creating the tool occurred when a mathematical model was developed that weighs the many factors that affect torque.

“The model could explain how a metal-seated ball valve should behave based on first principle mathematics,” Brian says. “Because you’re looking at a spherical shape rotating within a three-dimensional object, you have to identify the specifics to make the proper estimates, weighing considerations such as where friction forces apply and which direction these friction forces are acting upon. All of this requires very advanced computations,” he adds.

He also says valve torque with quarter-turn valves and with ball valves in particular can be a challenging issue to address. It is technically difficult and it may have large

commercial implications. Our customers challenged our catalog torques and our own engineers would also like to validate and improve their models and ultimately they would like to have the published torques lowered if possible,” says Mirek Hubacek, Director of Design, Quarter-turn and DPCV.

Put more simply, Brian compares developing the model to an everyday situation.

“It’s a little bit like having a tap in your bathroom that was very difficult to turn on a cold morning. If you had evaluated what force was needed to open the valves under different temperatures and conditions, you could put exactly the right size tap in place to solve your problem,” he says.

Once the computations on forces were in place, the model applied them to specifics of actuators and estimates of exactly how much torque different actuators need to make different valve units work properly.

The unit is born

After the model was developed and in use, the next step in the process was to create the physical unit to test an actual actuator

or valve while in use and enter the data into a computer so it can be compared to the model. For this process, Velan turned to its own enthusiastic Engineering crew. “Housame Jiriri [at that time an R&D specialist], and Nicolas Lourdel, Designer [and former R&D Engineer], worked on the project with the manufacturer of the torque unit. Results were positive and the collected data justified the \$150k investment,” says Vahe. “Since then we have been using it successfully on many projects and have worked with the manufacturer to modify their software to make it more suitable to our needs.”



Mirek Hubacek, Director of Design, Quarter-turn and DPCV, Velan

The next step was for David Fagnani (R&D Technician) and Michel Paquin, (Drafter Conceptual Design) to design and build a mobile fixture to make the unit more versatile.

“We had to consider many aspects such as how to deal with the weight and stability issues inherent in working with large valves,” Vahe says.

The result is a tool that can easily be used for three purposes: research and development (R&D), ensuring production quality, and field diagnostics.

As far as R&D, “the first thing the measuring unit did was validate through real testing the results of our own mathematical model,” Brian says. “The model that was developed by Stan Isbitsky, Velan’s Corporate Manager, Analytical Engineering, has accurately predicted the stem torque behavior from different internal pressure conditions and different types of seating arrangements.”

In addition, “we can now empirically evaluate factors such as the friction coefficient between surfaces (for example, the metal ball rubbing against the metal seat). Before this measuring unit, we had to use generic industry data based on tests done in the U.S. This data was adequate, but still meant there was always a slight element of guesswork in the process. But no more,” Brian explains.

Production quality comes into play because such a unit allows consistency in the production process and testing on the production lines.

“The commercial benefit to us is that, if we know more about how much force we need to turn a valve, we can select actuators without having to apply blind safety factors based on unknown effects,” Brian explains.

The third purpose is occurring currently—the unit has been made to be portable so it can be used onsite.

“We are now at the stage with the unit where we can go into the field to collect even more data and add that data to what we know. We can test a unit right in the field and have already done this very successfully multiple times, transferring what we learn into production and further fine-tuning the unit,” Luc says.

This also obviously makes the original mathematical model increasingly useful.

“The next step will involve our own shop workers,” Brian adds. “We should be able to provide them a portable piece of equipment they can use to measure how their assemblies

“The next step will involve our own shop workers. We should be able to provide them a portable piece of equipment they can use to measure how their assemblies perform, and measure the benefits of future improvements.”

—Brian Simmons, Director, Projects, Severe Service Applications, Velan

perform, and measure the benefits of future improvements.”

He likens the unit to the diagnostic equipment of today’s race track car mechanics. “Mechanics today can use tools that pinpoint what forces have come into play on your car’s engine. They can play around with the data to fine tune performance to meet the specific challenges of the day,” he says.

“When you transfer that to valve production, that means people in the field can see how their assembly methods and machining operations impact the end result of how smoothly a valve turns,” he concludes. **[VV]**



Brian Simmons, Director, Projects, Severe Service Applications, Velan



Ed Hadjur and DPCVs

Pieces of history that
keep on giving

Ed Hadjur represents something at Velan that has become increasingly rare in the manufacturing world—he is the face of one specific product: dual-plate check valves (DPCV).

Sometimes referred to as wafer check valves, DPCVs are often overlooked as far as importance to a project basket of goods because they're usually a small part of a project. But DPCVs are a critical component to any piping system.

Ed knows this particular product from the ground up, having been involved in Velan's Proquip line since the line itself was a sepa-

rate company from Velan. Now, as Product Manager, he spends his days matching customer needs to the Proquip line of DPCVs.

"In some ways, the DPCV is the forgotten member in newly planned facilities, as engineers continue to rely on traditional technology when designing systems," he states. Other types of check valves, such as the swing-type of check valve, tend to

come as part of a package of valves that also includes gate and globe valves. "However, over the past two decades, dual-plates have quickly become the check valve of choice for modern-day engineering, procurement, and construction, due to their commercial and technical advantages. While the dual-plate does not have all the fancy bells and whistles of some other valve lines, it is just as valu-

able and critical to efficient operations. And within the dual-plate check valve market, Velan offers many features and benefits over the competition.”

The right stuff

DPCVs are well-suited to handling large amounts of flow at relatively low pressures and, because of their flow mechanics, they often are installed in support of automatic shutdown valves in applications where unwanted reverse flow may prove disastrous.

Check valves in general are designed to close when forward-flow reduces, or suddenly stops. The valves are designed to prevent flow going back upstream through the line, which can badly damage a flow system. In the case of a piping system, for example, flow reversing course can greatly damage the pump itself or any of the upstream piping components, including a loss to production.

“DPCVs are a different type of check valve,” Ed explains. “They consist of two d-shaped disc components in place of the traditional one disc. They are spring loaded, and they have a short rotational disc travel, which allows the valve to quickly respond to flow stoppage or reversal,” he explains.

Because of the orientation of the internal components, the dual-plate opens and closes

with less flow than traditional full-body swing check valves.

“If you imagine, for example, that you have a door hinged at the side, you can see it would be much easier to open and close than something hinged at the top, which is the way a traditional swing-type check valve works. It requires much less force both to open the DPCV door and to keep it open,” he says. “As a result, there is a net energy savings to pumps/compressors.”

This greatly decreases the possibility of water hammer on the system. Also, because they are a fraction of the weight of traditional full-bodied swing check valves and take up much less space, “dual-plate check valves offer piping engineers greater design flexibility while at the same time providing a lower total cost of ownership,” Ed explains. “When you consider larger sizes, heavier wall thicknesses, exotic materials, and the lack of any installation support structures, dual-plate check valves offer new projects significant cost savings.”

Dual-plate check valves are not ideal for every application, and engineers today need to take into consideration many factors before deciding which type of check valve to use, such as initial costs, maintenance costs, head loss and energy costs, non-slam characteristics, and fluid compatibility.

“DPCVs are a different type of check valve. They consist of two d-shaped disc components in place of the traditional one disc. They are spring loaded, and they have a short rotational disc travel, which allows the valve to quickly respond to flow stoppage or reversal.”

—Ed Hadjur, Product Manager, Proquip dual-plate check valves

“Back in the 1950s, for example, when the DPCV first came out, the world was just discovering that when drilling offshore, space and weight were a giant consideration. In offshore applications, DPCVs quickly became a nice substitute for swing check valves, which can be three times the size. Since the mid-1990s, DPCVs have really taken off in a multitude of applications,” he says.

Today they are used in many clean environments (environments where the flow isn’t sludgy or heavy) and in environments where the valve must open and close very quickly. They have applications in chemical, petrochemical, offshore/onshore, refining, nuclear, mining—“almost anywhere a check valve is put in support of on/off valves,” Ed says.

The right man behind the stuff

You might say that Ed Hadjur, who majored in history in university, is an example of history repeating itself. However, the famous quote by George Santayana, “those who do not remember the past are condemned to repeat it,” does not apply to Ed’s story. A more appropriate quote would be this one from James Baldwin: “People are trapped in history, and history is trapped in them.” As a younger man, Ed did not intend to get involved in the world of DPCVs or even valves, but the industry caught him through circumstance and opportunity.



Velan Proquip dual-plate check valves in production.

“My dad thought it would be good for me to see what hands-on work was like to encourage me to go to university. So throughout high school I would sweep the floor, carry steel around the plant, and clean machines. Then later, especially when I did go to university, I was upgraded to work on the machines or push buttons on the CNCs as my summer job.”

—Ed Hadjur

His first involvement was working summers beginning at age 12 in the same factory as his father, who was a plant manager at Proquip.

“My dad thought it would be good for me to see what hands-on work was like to encourage me to go to university. So throughout high school I would sweep the floor, carry steel around the plant, and clean machines. Then later, especially when I did go to university, I was upgraded to work on the machines or push buttons on the CNCs as my summer job.”

Once he graduated, however, he didn't know what to do with his degree so he returned again to Proquip to work while he decided what else to do with his life. When a job opened up in quality assurance (QA), he became an inspector and later QA manager. He wrote the ISO (International Organization for Standardization) program for Proquip, which became certified, and learned more about state-of-the-art specifications for products, services, and good practices. From there, he went into purchasing and planning, then project management and sales, and finally to his current position as a product manager.

“I've stayed with this product line and now with Velan for several reasons.



Gerry Chartrand, Production Planner for dual-plate check valves, with Ed Hadjur.

For one, it has never bored me. I've moved steadily up in my career, and moved around from position to position so I've constantly been faced with new challenges. There is always something new and exciting to learn,” he says.

But also, “I'm most comfortable when I know my stuff cold about my product line and can speak with confidence to exactly what its strengths and challenges are. I also enjoy being part of a project with its teamwork angle and being a resource for input on quoting and promoting the product. I am a relationship person and this is a relationship-based business,” he says.

First-generation Canadian

Just as he carries great pride in representing the Proquip line, Ed also wears his heritage like a badge. He and his wife Anita are both first-generation Canadians from a large line of native Croatians.

“Croatia is a small, but proud, nation with long historical roots in Europe,” he says. “There are still palaces and architecture there on the Adriatic coast that were built by Roman emperors. It is a stunningly beautiful country that is very passionate about life, food, and sports,” he says.

Since his mother comes from a family of 10 and his father from a family of three, he has many cousins with whom he stays in contact in Europe. Here in Canada, he and his wife, who both speak their native tongue, participate in what has become a large base of Croatian civilization in North America and attend Croatian dances, festivals, and other events.

“Just like with my job, my heritage has become a source of pride. It's my history and it will always be a part of my life,” he says. **|VV|**

So what's your story?

When we launched the first *Velan View* in 2010, we had a clear editorial mandate: To share our view on the expertise of our people as well as the knowledge within our larger community of distributors and end users worldwide.

That's where you come in.

If you are a Velan distributor, end user, or subject expert in any of the wide range of industries we cover, we want to hear from you! All it takes is a bit of your time, and we'll do the rest to get your name and company in print. Whether it's a professional success story, an example of on-the-job challenges you've faced, or just a good old-fashioned travel yarn, we're all ears!

We want to know...

Send your story ideas to:

Tracy Fairchild, Director of Communications, Velan
tracy.fairchild@velan.com





Meet Christine Venditto, Director of Health, Safety, Security, and Environment at Velan. Having joined the company four years ago, Christine has made the welfare of Velan's employees her number-one priority and reinforced this mandate worldwide through her global team.

What you might not know about Christine is that she's also an enthusiast of *la cucina italiana*. Her latest infatuation? A new custom-built pizza oven tailor-made for lazy summer backyard entertaining.

Velan: We're more than just valves.

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