



From left: Pat Belding, account manager, FM Global; Doug Troupe, risk manager, Tenaska; Vasu Pinapati, project manager, Tenaska

# RAYS OF HOPE

TENASKA'S VAST NEW SOLAR PROJECT SHINES A LIGHT ON THE IMPORTANCE OF TEAMWORK AND THE IMPACT OF POSITIVE ENERGY

The black flag is out in El Centro, Calif., USA. Heat conditions are measured in this hot, dry environment and categorized into four conditions using the wet bulb globe temperature index, which calculates the outside air temperature, humidity, radiant heat and air movement. Once tabulated, the weather condition is indicated by a colored flag: green, yellow, red or black. The flag is designed to warn of the possibility of heat-related injuries or casualties. Today that color is black, and black is not good.

With the mercury in the thermostat pulsating around 110°F (43°C) and the humidity making it feel, well, hotter than that, it's no surprise that the black flag is out. Workers in these conditions—in this case, the legion of folks doing the work of installing scores of photovoltaic panels—are on for 30 minutes and resting for 30.

El Centro is a town that borders Mexico in the Imperial Valley. It's a desert landscape and the perfect place for the high California sun to generate power from Tenaska's new

solar installment, called Tenaska Imperial Solar Energy Center South, or just Tenaska Imperial South. It's a massive site, impossible for the eye to view in a single glance, with nearly 2 million solar panels capable of outputting power for 44,000 homes in southern California.

Under that sun, amid those panels, Doug Troupe, Tenaska's director of risk management, shows us around. "Isn't it something?" he says, grinning. A steady steamy breeze and the hazy rays of a super-hot sun can't suppress his enthusiasm for his company's latest achievement.

And for good reason: Tenaska Imperial South was the recipient of the 2013 Project of the Year Award from Imperial Valley Economic Development Corporation (IVEDC) for its contributions to the region, which included the hiring of 500 mainly local construction workers, not to mention its significant tax contributions to the local economy.

Troupe's enthusiasm for Tenaska's new venture, accomplished from the ground up with help from FM Global, is evident in his voice. He spoke with *Reason* about the facility, his partnership with FM Global, and his experience in risk management.

Tenaska is an independent power company, headquartered in Omaha, Neb., USA. Founded in 1987, Tenaska develops, constructs, owns and operates electric generating plants. They market natural gas, electricity and biofuels, and have a natural gas exploration and production operation in the Marcellus Shale area. Tenaska Imperial South is Tenaska's first solar power project. The company began construction about two years ago, as Tenaska executives were seeing the need for renewable energy in the southern California area. Project leaders worked with local landowners to find the land. Tenaska Imperial South is sited on approximately 950 acres (384 hectares) of previously disturbed land in the California desert.

Troupe discussed the project, his partnership with FM Global, and his experience in risk management.

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**Doug Troupe**  
director of risk  
management, Tenaska

### **How was it collaborating on this very impressive solar project?**

Tenaska Imperial South in California is the first large-scale solar project that we've developed and constructed. All of our other projects are natural gas-fired generating facilities. The solar project here in California represented some unique risks that we had to work through with our FM Global team. We have approximately two million photovoltaic modules at this facility, and so we a lot of natural catastrophe-type risk. We have weather-related events, we have California earthquake risk, and we really needed to address those exposures as part of our risk management strategy. We don't have the typical rotating equipment that we have with our combined-cycle turbine facilities, so we really needed to work together to understand how well the panels would withstand their unique risks: wind loads, hail loads, as well as California earthquakes.

### **Is business interruption a concern?**

Our solar project is financed on a project-finance basis, meaning that the revenue streams generated from our plant are the only

source of funds available to repay the loan that we have to build the plant. So having business interruption coverage is key for us. We need to make sure that our revenue stream continues in the event of damage to our facility, so that we have funds available to meet our obligations to pay the principle and interest on our debt service, to pay our fixed expenses such as property taxes here, and to pay our other fixed expenses for the operating staff here at the plant. So business interruption is a coverage we look for when we're doing a project on this basis.

### **Let's take a step back to discuss your approach to risk management in general. Can you talk about your early days in risk management?**

Sure. I started in risk management about 15 years ago. I've been with Tenaska about 25 years now, joined the company in early 1988, the last 15 years I've been the corporate risk manager, in charge of all of the risk management duties for our corporation, for all of the property and business interruption insurance, as well as the various other insurance plans that we purchase.

I learned the ranks of insurance the hard way—essentially self-taught. One of the things that drew me to FM Global was the engineering side. I'm fascinated by how things work, and they helped me see the property loss prevention side, which really energized me. I was learning, and it was a great fit for where I was



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It's a risk management department of one. When we first went with FM Global, we had five plants in operation and three under construction. Our goal was to have five of our plants nearly exactly alike. I explained to FM Global that its recommendations needed to be consistent across all plants.

We quickly pulled all that consistent engineering together and drew up a spreadsheet for all the recommendations. That technique helped us focus on the real recommendations rather than an outlier specific to any one plant. We cut through some of the distractions on the engineering side and were able to focus on good common recommendations as to what we needed to do to get our RiskMark score up.

#### **You use RiskMark then?**

Yes. Virtually all of our plants—now there are 15 of them—are in the upper or upper-middle category. We took care of the low-hanging fruit and boosted all of our locations to the upper-middle quartile. At one point we had 23 plants; we've sold quite a few of them. Some of them needed the Tenaska touch and then some needed real risk improvement, like turning a frog into a prince.

Because I'm a one-man band, I rely on FM Global pretty heavily. The more plants we acquire, the more I rely on them. If we're on a limb with an acquisition, an issue or a problem can kill the economics of the whole thing.

#### **How has your claims experience been?**

Great claims service! That's one of the best things about FM Global. We're able to have a claim and maintain a good relationship. It's not contentious. They understand that bad things are going to happen. They pay the claim and move on. They know Tenaska is doing things right and they move on. Lesson learned.

Look, we're one of FM Global's largest insureds in the PowerGen sector in terms of premium. They've helped us understand risk improvement. At the same time, some of the enhancements to the power generation form

I'd like to think have come from FM Global's experience with us.

The bigger we get, the more I rely on FM Global. We're looking at a new project, and one of the things at issue is that gas turbine technology is continuing to change. We're constantly evaluating which technology is suitable for us, and I ask Pat Belding, our senior account manager, about them. "Do you have concerns? Have you spoken with the manufacturer about this new technology?"

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**How do you fund risk improvements?**

Each of our projects has a different investor partners. We manage budgeting and insurance and then present it to the partners for approval. Then it goes to lenders for their acceptance. We put together the budget. Because our projects are all in the upper-to-upper-middle risk quality category, we don't have a lot of open recommendations. We have to use our capital dollars wisely.

One of the recommendations was to change our sprinklers over open lube oil. If the lube oil lines break, there's concern that the sensors are not going to collect enough heat to cause the system to operate. FM Global recommended a deluge system, which costs quite a bit. With the recent membership credit granted to us by FM Global, we've gone to our accounting department and operations, and said that we've just received this credit, and that these are high-priority recommendations that need to go into the budget. We present it

to the partners and tell them that best practice would be to get some of these things done.

**How does FM Global's ability to provide ample capacity help Tenaska?**

FM Global was able to provide a large block of capacity for our risks. Our generating facilities are very capital intensive, and so we need very large limits. We need business interruption insurance, and FM Global is able to provide the capacity that I need

in a one-stop shop. We don't need to have a shared/layered program or anything like that. FM Global can meet all our capacity needs in one policy, and that's one of the best things they bring to the table.

**You have a direct relationship. Is that working out for you?**

I appreciate the ability to do business directly with FM Global. For the way we at Tenaska operate, that's a preferred way of doing business. We are able to deal with our account executives and the account engineers directly, and so we have good, open conversations. If we have an issue, we are able to take that issue all the way up through management if necessary. To that end, we are able to resolve these issues to the satisfaction of both parties. I deal with my client service team daily. We have 15 locations around the country, so there's always some issue, something going on at one of the plants, and so we talk daily.



**Pat Belding,**  
account manager, FM Global



Vasu Pinapati, project manager, Tenaska



Casey McGill, site manager, Tenaska

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If there's something on their side that they need to deal with, I have no problem with them calling me to work through the issue in a constructive manner.

**Tenaska Imperial South is the first time you've worked with FM Global on a builder's risk construction project. Has it been successful?**

This is actually the first project that Tenaska has constructed in the last six or seven years. When we came to FM Global, we had several other projects already under construction with other carriers. So this is the first opportunity for us to work on a builder's risk opportunity with FM Global, and it's been great. They provide 100 percent of the capacity we need for all of our perils. The builder's risk form

is virtually identical to the property policy that we've had in place for nearly 10 years. We have FM Global's input in terms of certain design features and of various aspects of the facility, so we've utilized more resources within FM Global than we have in the past. We really look forward to bringing this plant into commercial operation and moving it into our operational property policy.

Working together with FM Global has been easy and seamless. We've been able to bring them out to the site to show them exactly what we're doing. They've asked us questions along the way, and we've been able to provide them the data they've requested. I believe it's been a great learning experience for both of us, and just a really positive experience all the way around.