

## ECO-WATCH

# How to turn a deeper shade of green

**With Foss's much-anticipated hybrid tug due for delivery this summer, and its decision in November to switch its tug fleet to ultra low sulphur diesel fuel, we felt it was time to find out what is driving its unprecedented green stance. Dawn Gorman reports.**

**Going 'green' has, for some businesses, been adopted as a fashionable label amounting to little more than a marketing exercise. But not at Foss Maritime. Here, it's the real thing, with environmental concerns at the heart of both day-to-day operations and long-term strategies.**

Susan Hayman, VP, HSQE (Health, Safety, Quality and Environmental Assurance) at the company, explained the depth of the company's commitment to *IT&S*.

"Environmental stewardship is one of our core values and it's very much part of our ethos to be community minded. We operate in many pristine environments and these places are also our homes, so we want to protect them as much as possible for the future. We can't solve all the world's problems but we can play our part by addressing environmental issues here."

The impetus, she says, comes not from any one individual, but the whole company.

"We have support from senior management and our owners – we are privately owned – and from our employees. People within the company are very interested and helpful about our environmental programmes when they feel we're being proactive."

The company's shift from low sulphur diesel to ultra low sulphur diesel, announced and immediately implemented in November, is one example of its commitment to an ongoing, proactive response to environmental concerns. The move will reduce sulphur dioxide emissions by about nine tons per year in the Seattle/Puget Sound region and eight tons per year in the Columbia and Snake Rivers area including Portland. There will also be a reduction of particulate matter by an estimated 0.7 tons per year for Seattle/Puget Sound and 0.6 tons per year for Columbia Snake River. The switch, which has slightly raised operating costs, seems to have been

made for genuinely altruistic reasons.

"We decided to voluntarily switch over – we had some experience of it in California and it didn't hurt our engines, so we thought, why not? It's literally taking out tons of sulphur dioxide from the air."

Another ground-breaking 'green' initiative is the building of the much-anticipated hybrid tug, the first of its kind in the world, at Foss's Rainier, Oregon shipyard. The steel for the vessel was being cut in December when we spoke to Hayman, and AKA Group engineers (electrical, mechanical and marine engineering) had just been aboard sister boats to look at such things as the control panels and to talk to the operators, asking them their opinions about how they want information displayed.

"We need to see how the electricians will fit together. All the engineering is fairly complex. We've been working on this design for over a year now. We've put it together on paper and it should translate directly. You don't want to make changes after the design has been finalised."

The superstructure was due to be completed by the end of January, with the main machinery installed by 21<sup>st</sup> February, ready for launch in April. Sea trials will begin at the end of April or the beginning of May and delivery is expected in June or July.

"The really critical thing is where to put everything. It's a small, compact vessel (23.77m by 10.36m), and will look exactly the same as its sister tugs on the outside, with their full 5,080 horsepower and bollard pull. But things are very different in the engine room."

Two Cummins QSK50 Tier 2 main engines rated at 1,800hp will be used instead of the two 2,540hp engines carried by most of the Dolphin fleet. Additionally, the hybrid design will feature a 600hp battery pack and two 1,200hp motor generator sets. The two auxiliary generators will increase in horsepower from

168hp to 402hp. But as the batteries can be recharged using shoreside power (instead of the on-board generators), doesn't that element of the hybrid simply swap one source of pollution for another? The electricity, after all, has to be generated somewhere.



Susan Hayman

"It really depends on how it is generated. Shoreside electricity has got much cleaner over the years, it is certainly cleaner than burning bunker fuels, and you can do a lot at the plants which you can't replicate on the boats because of their size. As a country, we need to think about how we are going to produce energy – as we use more wind and solar power, it will get better."

Foss is not possessive about the hybrid concept. In fact, the company would like as many others as possible to follow its lead.

"The more people that understand what we're doing, the more chance there is that other companies will follow. We're hopeful they will take note of the hybrid and think, 'we can do that as well'. It's one thing for us to do it, but what's really needed is for more hybrids to be produced, and we will help them do that if they wish."

So what's next at Foss?

"We are in the process of conducting energy audits on our boats – simple things that you do in your home such as not leaving lights on and thinking about how we can make them more efficient: do we have the most efficient lighting, for example. We can do all sorts of things to reduce energy consumption – it's a pretty big project and we're only just starting."

"I think you're going to see a lot more green initiatives from us: we have no plans to stop. We need to look at afterburn technologies, for instance. It's going to just keep on getting cleaner and cleaner."

● [www.foss.com](http://www.foss.com)

A paper will be presented on the hybrid at *ITS 2008*. Convention details: pages 26-27.

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