Site visit to Shoreham Port

Shoreham Port is located on the South Coast of England in Brighton and provides a Marine Service for all its customers. The port receives deliveries from all around the world, but especially a lot from Europe. To handle the cargo's goods as quickly and efficiently as possible, the ports staff offers a stevedoring service with a highly modern stock level system.

As a long-term customer the harbour is owner of more than just one VEGA sensor and therefore the staff offered us an insight into the port and explained us for which applications they make use of our sensors.

VEGA devices in use

Shoreham Port, for years, has made use of a couple of VEGA sensors. The arriving ships must be able to dock in the port and consequently a certain water level is required, otherwise the vessels could be damaged or grounded due to a low water level. The first level in the main port is an ultrasonic sensor, which was installed 15 years ago. The VEGASON ultrasonic sensor measures the water level in the harbour. To protect the sensor from weather impact, such as temperatures variations, it is installed inside a cabin inside a stilling tube to get a measurement result, which is as accurate and reliable as possible.

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Shoreham Port pumps edited

To maintain the water level in the harbour, pumps can be used if required. Due to tides or incoming and outgoing vessels the water level can be slightly reduced. The pumps can refill the missing water, which was lost due to the fore mentioned reasons. The energy, which is needed for using those pumps can be part-generated by wind turbines. On a windy day they are able to produce between 75% and 90% of the energy, which is needed to use them.

Pumps, which can be used to refill water

To provide the water from the pumps another measurement is needed. Four pumps in all are available on the site and each of them is linked to its own radar sensor and control system. Now the questions arises, why four transmitters are used for just one sump level measurement and whether and whether the signals of the other sensors are not disturbed by this? The answer is as simple as the measurement itself is. Sure it would be possible to use just one transmitter for all pumps together, but with installing four radar sensors the harbours' staff bypass the risk of loosing the control of all pumps if the sensor loses its signal pore, there is a power loss or some other failure to the control system. Due to four sensors, no problems are caused. If one sensor gets damaged and thus loses its signal, any of the other transmitters are able to control the pump of the damaged one.

Shoreham Port four radar sensors2

Four radars each linked to one pump

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Shoeham Port dry dock

One dry-dock in Shoreham Port

There are also radars in the dry-dock which is used for ship repairs: If the staff would like to work in the dock, the water must be pumped out and the dry-dock monitored for leaks to ensure safety while people are working down in there. Furthermore the water level in the harbour locks must also be measured, as well. Before the gates can open, the water inside and outside the gates must be at the same level, because if the water is not at the same height, the pressure which acts on the gates is then too big and therefore the hydraulic opening systems can be damaged and of course that would cause huge costs. For this application a VEGAPULS WLS 61 is in use. This sensor still delivers reliable measuring results, even if the gates are opened for arriving vessels or if there are hard weather conditions- even existing seaweed or foam on the water surface is no problem for this sensor and the measurement can take place as always and the level is measured correctly.

To sum up, in such huge harbours as Shoreham Port, which is 3Km long, it is very important that the water level is monitored accurate and reliable, so that the daily operation within the port doesn't have to be interrupted due to damages, for instance. VEGA sensors are the perfect solution for such a challenging application.

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