

VERIFICATION PROPOSAL

Verification body		Proposer	
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Date quick scan	15-12-2011		

Previous verification performed

Yes, date		No	X
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Description of technology – technical documentation

LevelTec is developed to reduce damages from slurry leaking from storage tanks. LevelTec is continuously measuring the liquid level in storage tanks. LevelTec is based on a pressure sensor and the alarm messages are communicated to the farm owner or his employee via SMS messages. The LevelTec pressure sensor and cable are placed in a PVC tube mounted on a galvanised steel frame mounted on the inner side of the slurry tank wall. At the end of the PVC tube there is a stand in which the pressure sensor is kept in a fixed position approximately 0.20 meter above the bottom of the slurry tank. The control unit including the GSM modem used for communication with mobile phones is installed on the outside of the slurry tank wall. LevelTec requires a 230 VAC power supply. For slurry tanks without power supply installed PlusTec offers a power solution based on a solar panel mounted on the slurry tank. However, the solar panel has not been tested as part of this verification.

Even small changes in the slurry level are measured by the pressure sensor. A decrease in the slurry level results in a lower pressure and vice versa. LevelTec is programmed so that when a sudden pressure decrease is measured a SMS-message is sent to the owner of the slurry tank or another person responsible for the slurry tank. The purpose of the SMS-message is to make it possible to take immediate actions in case of leakages. Thereby, it is possible to avoid or minimize pollution of nearby streams and lakes.

Intended application of the technology

The intended application of LevelTec is defined in terms of the matrix, the purpose and exclusions. The matrix is the type of material that the LevelTec online monitoring system is intended for. As part of this verification LevelTec has been tested for pig slurry and cow slurry. It is assumed that the results of the tests will also be valid for LevelTec used for digested biomass from a biogas plant and for mink slurry. Normally, the total solids content of such matrices is within the range of 2.0 – 10.0 %.

The purpose of a technology is defined in terms of what measurable properties that are affected by the technology and how these properties are affected. In case of LevelTec the overall purpose is to 1) detect a potential risk for leakage and 2) to report this electronically to the slurry storage tank owner or his employee.

Initial performance claim:

Description/principles clear?	Yes	X	No	
Declared performances described?	Yes	X	No	
Innovative technology?	Yes	X	No	
Ready to market?	Yes	X	No	
Prototype in advanced stage of development?	Yes	X	No	

Remarks out of quick scan to be considered:

It is relevant for this technology to verify both the basic functionality (performance test) and the ability of LevelTec to withstand or operate within specified tolerances, while being exposed to the environmental conditions likely to be encountered during normal use (environmental test).

Verification body:

Date	Name	Signature
13-01-2012	Torkild S. Birkmose	Original signed 10-01-2012