



Application

Our well established drinking water system, Colifast ALARM™, was tested for a new application. The long standing system did surprisingly well in indicating a level of bacteria for the treated waste water. The water which is used for pressure washing of equipment is controlled for bacteria levels for the safety of the workers, and should be below 1000 cfu/100ml. The results has shown to be well correlated with the time it takes to detect the contamination. Like other time-to-detect dependent methods a local calibration is important for the validity of the results.

Background

This was a collaboration between the «BEVAS» or Bekkelaget Vann AS and Colifast AS to test if Colifast ALARM™ could also be used within the waste water industry. Colifast has done some reference tests for internal use at BEVAS, and from there the idea of utilizing the Colifast ALARM™ for this purpose emerged. The levels were mostly quite low, and so samples were occasionally spiked with the same untreated water to imitate failure of treatment.

Technical Info

Colifast ALARM is a fully automated online instrument that collects a 100 mL water sample, incubates at a given temperature and analyses the sample for total coliforms, fecal coliforms or *E. coli*. Due to expected high levels of bacteria, the first measurements was done earlier than usual drinking water methods. The resulting time-to-detect was used to indicate bacteria levels. The accuracy was sufficient to be fairly certain that levels are below the set limit. For the handling of the equipment the procedure is as simple as it gets. Waste is emptied and refilling of reagents (medium and acid rinse solution) is done in matter of minutes.

TTD* (t)	Nmb. of measurm ents	Average Bacterial count (cfu / 100 mL)	Lowest measurm ent	Highest measurm ent
8	9	82 050	10 750	195 000
9	9	17 498	6 500	39 333
10	5	4 081	140	18 467
11	2	235	95	375
12	5	96	30	169
13	6	57	23	80
14	5	211	19	800
NEG	4	21	0	74

*Time-to-detect

Detection at 11 hours shows a clear cut of no samples above 1000 cfu/100ml.

