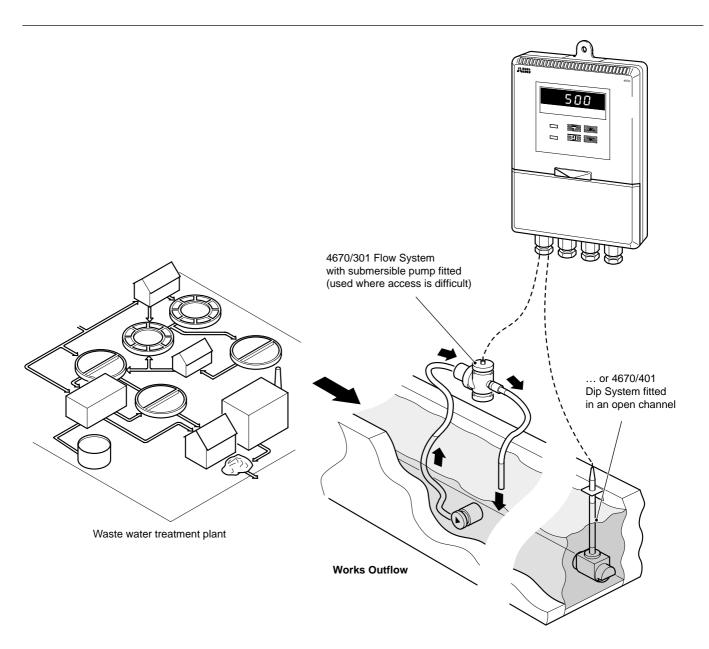
# Monitoring Suspended Solids of Effluent Discharge in Sewage Treatment Works



The illustration above shows how suspended solids are monitored at the works outflow of a typical waste

water treatment plant. The ABB system chosen is determined by access to effluent at the outflow.



### Why monitor for suspended solids?

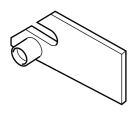
### Why use ABB Instrumentation?



Dry Calibration Standard for 4670/300

2 operating ranges available:

Model 7997/165, value typically 140 – 160 FTU Model 7997/166, value typically 270 – 320 FTU



Dry Calibration Standard for 4670/400

3 operating ranges available:

Model 7997/160, value typically 60 – 80 FTU

Model 7997/161, value typically 450 – 550 FTU

Model 7997/162, value typically 700 – 800 FTU

- To ensure compliance with local authority requirements.
- To gain early warning of plant failure.
- To assess the effectiveness of the sewage treatment plant.
- System is immune to ambient light can be used in open channels.
- Provides accurate measurement below 5ppm (mg/l) essential on discharge monitoring, but maintains performance up to 1000FTU to accurately follow incidents.
- Simple robust sensing system minimal maintenance and easy calibration.
- Dry calibration standard has many advantages, e.g.:
  - Obviates the use of formazine is safer, ensures repeatable accurate results and eliminates operator error.
  - Dry standard is transferable between the same sensor systems reduces cost.
  - Choice of dry standards enables calibration to be carried out near or close to expected operating range and maximises accuracy.
  - Very robust designed to avoid physical damage for long life performance.
  - Dry calibration standard storage container to protect the standard when not in use for long life performance.
- Ultra-low back scatter enables true zero setting to be used ensuring accurate low level performance.
- Virtual life time zero, very stable electronics using LED technology avoids risk of electronic drift.
- Auto cleaning on all systems except low level monitor extends maintenance periods and optimises performance on dirty water applications.
- LED technology reduces risk of algae buildup as no heat is generated.
- Suspended solids capability unit can be calibrated in mg/l or ppm in addition to NTU/FTU – essential on sewage discharge.
- ▶ Robust no fuss emitter and receiver no special positioning required, can easily be removed and replaced for maintenance purposes. Double sealed with silica gel driers to avoid internal condensation.
- High immunity to temperature fluctuations unique design minimises error due to temperature change.
- ► IP66/NEMA 4X Wall mounted transmitter to work in demanding environments.
- ▶ IP66/NEMA 4X Front cover on panel mount version no additional protection necessary.
- Back lit LCD display easy to read in all environments.
- Choice of 0 to 10, 0 to 20 and 4 to 20mA isolated current O/P.
- Serial interface option available.
- Non-volatile memory no battery back-up required.

### What ABB products are suitable?

#### Model 4670/301 flow system:

- where access is difficult and a pumped system is necessary,
- offer dry standards 7997/165 or 166 according to the operating range required.

#### Model 4670/401 dip system:

- where an open channel or tank is available,
- offer dry standards 7997/160, 161 or 162 according to the operating range required.

## Other ABB monitoring capabilities suitable for such plants

- Ammonia monitoring of final discharge.
- Dissolved oxygen monitoring on aeration tanks.
- Phosphate monitoring of final discharge.
- Flow monitoring of final discharge (MagMaster products).

#### Intallation

- ► Ensure there is sufficient cable to allow access to the sensor for maintenance/calibration.
- Where a flow system is used, ensure that flow is regulated on the outlet of the flow system to avoid air bubbles.

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