

Generic Safety Services for Sewage Sludge Dryers Various Clients



Entec Experience

Entec has provided process safety advice on the following sewage sludge drying schemes:

- **Bran Sands, Teesside**
Client - Northumbrian Water
Details - Phases 1 and 2 - 7 Andritz dryer trains including CHP plant
- **Ford and Littlehampton**
Client - Southern Water Services
Details - Single stream Andritz dryer
- **Bexhill and Hastings**
Client - Southern Water Services
Details - Single stream Andritz dryer
- **Budds Farm, Havant**
Client - Southern Water Services
Details - Single stream Andritz dryer
- **Sandown, Isle of Wight**
Client - Southern Water Services
Details - Single stream Andritz dryer
- **Millbrook, Southampton**
Client - Southern Water Services
Details - Single stream Swiss Combi dryer
- **Galashiels**
Client - East of Scotland Water
Details - Single stream Nara dryer
- **Cardiff**
Client - Hyder
Details - Single stream Andritz dryer
- **Afan**
Client - Hyder
Details - Single stream Andritz dryer
- **Brno Modrice WWTP, Czech Republic**
Client - Ondeo Degremont
Details - Single Stream Nara Dryer

Safety issues can threaten the strategic decisions of a company and loss of a plant for several months could cause severe operational disruption and cost. Several enhanced safety features have been recommended and their effectiveness demonstrated. There are, however, still developments and further improvements that can potentially be made.

At the end of 1998, the dumping of sewage sludge at sea was prohibited under the Urban Waste Water Treatment Directive (91/271/EEC). This has resulted in the water industry looking for alternative disposal methods for sewage sludge. A variety of options have been chosen including incineration and drying. Entec is a leader in the field in undertaking safety studies in this area. In the mid 1990s Thames Water Utilities decided to choose incineration as the preferred method of disposal for east London sludge. Entec performed the hazard and operability (hazop) study for both Beckton (one of the largest sewage works in Europe) and Crossness wastewater treatment plants. More recently, the favoured option for water companies is to choose sewage sludge drying as this offers the advantage of producing a fuel, a fill for land reclamation, or for application as a fertiliser to agricultural land.

The problem with sewage sludge drying equipment is that there are significant safety issues with their operation, particularly with fires and dust explosions, as well as occupational exposure issues.

Entec has been employed by four water companies as well as two dryer suppliers to undertake safety studies for such installations. These have included safety assessments, safety reviews and hazop studies at various stages throughout the project lifecycle. It has also included a number of design reviews and assessments of modifications following fires and deflagration/explosion incidents.

An in depth knowledge of the process enables these studies to provide operators with greater confidence in drying technology, and gain financial payback through longer operating periods.

