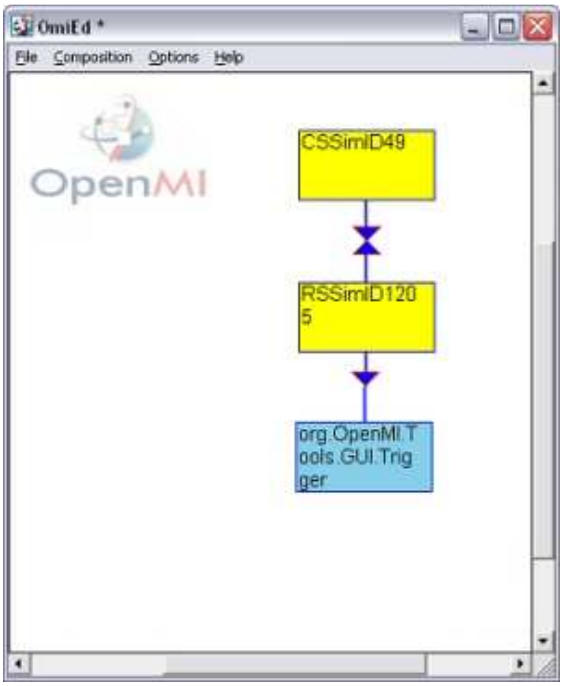
Real Time Control of the Bournemouth Area Sewer System using OpenMI



Integrated modelling with OpenMI was used to implement real time control of a sewer outfall into the River Stour. The complexities of combining real time control of the sewer outfall system with complex tidal flow conditions in the receiving river had made conventional modelling impossible. The pumping out of treated sewer effluent was also constrained by permitted water quality concentrations in the receiving waters. A further complexity was that the treated effluent would be pumped out via emergency sea outfalls if storm conditions closed the normal outfall and system storage was full.

By using an integrated composition of InfoWorks-CS (Collection Systems) to model the municipal sewer system and InfoWorks-RS (River Systems) to model the river receiving the treated outflows, integrated catchment modelling was successfully combined with real-time control of a pumped sewer system. Linking the two models enabled interaction between flow levels and water quality to be accurately modelled so that the control instructions based on model outputs for the first time actually complied with actual system performance

Keywords

Sewer, Outfall, Integrated, OpenMI, River, Effluent, Concentration, Bournemouth, Stour, Real-time.

For More Information

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