

## **Solar powered navigation lock gate - Titchmarsh Lock**

### **R&D Technical Summary W3-015/TS**

The project covered the design, supply, and installation of a solar-powered actuator for operating the vertical lock gate at Titchmarsh Lock on the River Nene, Anglian Region. Titchmarsh is the first solar powered lock in the UK. Installation of the system was completed with negligible interference to passing boat traffic, and the system was commissioned and handed over to the Agency on 17<sup>th</sup> August 2001.

Powering remote locks such as Titchmarsh is not economically viable (estimated cost £50k), however, work from this project will replace the guillotine gate manual gearbox with a motor powered by solar panels and wind turbines. This will reduce the risk to members of the public using the manual gearbox, as has been identified in the Nene Lock Safety Review Report by Halcrows. In addition, the Association of Nene River Clubs and others (through the Navigation Customer Survey 1994) have identified the need for automation at more Nene Locks. There is no mains supply to the site at present. Using renewable energy will not only be cheaper to install and run but will also be of greater benefit to the environment by the fact that the energy is renewable but also because power lines will not have to cross the countryside.

As a pilot project, it is important that the performance of the unit is monitored and regularly inspected so that data can be recorded to optimise the specification for future systems and reduce costs further.

This R&D Technical Summary relates to information from R&D Project W3-015 in the following outputs:

#### **W3-015/TR**

#### **SOLAR POWERED NAVIGATION LOCK GATE**

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