



## Newts Rescued by Data Radio

Radius has provided United Utilities with a data radio based telemetry system to ensure that their Water Treatment Works project was not affected by the discovery of an endangered native amphibian.

*United Utilities, a joint water and electricity utility in the UK recently had their civil engineering works halted at their Watchgate Water Treatment Plant due to the discover of the 'Great Crested Newt', an animal protected by the 1981 Wildlife and Countryside Act. The civil works was to provide a cable link between 2 buildings on their Water Treatment Site. Radius was able to provide a wireless data radio telemetry system in short notice, which kept the project going and ensured that the newts were not disturbed.*

### UNITED UTILITIES OVERVIEW

United Utilities (UU) manages and operates the regulated electricity distribution, water and wastewater networks in the northwest of England, a region with a population of around 7 million. It is one of the larger Utilities in the UK and is listed in the FTSE100 stock market.

### PROBLEMS WITH WILDLIFE

In May of 2006, UU was close to completing a multi-million pound water treatment works (WTW) at Watchgate when their ground works were stopped by the discover of rare Great Crested Newts on the site. Because this animal is protected by the 1981 Wildlife and Countryside Act it is illegal to kill, harm or injure them, cause damage to their habitat or to disturb these newts in any way.

### GUIDELINES PREVENT WIRED COMMUNICATION

The Great Crested Newt (*Triturus cristatus*), although an amphibious animal, spends much of its time on land, returning to ponds and rivers to breed. Although the land where UU wished to lay cables between their buildings was neither near to a river nor close to a pond, the fact that it contained a lot of rocks means it was a popular site for the newts to shelter from the sun. Over recent decades the newt population has declined due to the destruction and fragmentation of their habitat. Because if this it was added to the endangered species list and there is even a 77 page document produced by English Nature entitled "Great Crested Newt Mitigation Guidelines" for any civil contractor who happens to discover any.

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### VERSATILITY OF WIRELESS DATA RADIOS

UU quickly turned to Radius for help as they have a good history of working together on telemetry and digital data radio networks. Radius performed a site survey that included a radio propagation study. UU's wish was to have a wireless solution in order to transport Digital and Analogue information between two large PLC's in each of the buildings. However the PLC systems were not easily compatible as they were provided by different manufacturers, so Radius provided a telemetry system which replicated analogue and digital inputs from one building, into analogue and digital



outputs at the other and vice versa. The PDR digital data radio modems come with Forward Error Correction, which means that even when some of the large pump motors operate, the resulting radio interference doesn't cause disturbances to the data message.

**HIGH RECEIVER SENSITIVITY**

Radius employed their PDR 221 transparent digital data radio since it has a very high receiver sensitivity that meant that UU did not need to place any external antennas at any site, which reduced costs and potentially the reliability of the system. Due to the short distances involved the system is utilising one of the unlicensed UHF bands, however Radius has 1,000's of PDR data radios currently installed in the UK and even more overseas, working in both UHF and VHF bands in both licensed and unlicensed applications. One of the best used features of the PDR range is its repeating capability that has allowed some users to create several hundred square kilometres of coverage from a single master unit.

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Quote: "We chose Radius because the company and its telemetry products have both proved to be reliable and trustworthy, and they provide excellent customer support". Andy Coley, United Utilities.

**BENEFITS OF THE PDR 121**

- Wide Area Coverage
- Protocol Decoding
- 19.2 kbps
- Proven reliability
- Collision Avoidance Technology
- Built-in Network Management Tools

**NEW FEATURES:**

- More Protocols
- User configured protocols
- Easy to install
- Encryption

**PROTOCOLS:**

DNP3, IEC870, RP570, COMLI, Modbus, Cooper/PG&E 2179, Telegyr 8979, DCSI, Hunt, Exoline, Cactus, PEIP, Aquacom

In cooperation with:

**United Utilities**  
 Dawson House  
 Great Sankey  
 Warrington  
 WA5 3LW  
 Tel 01925 237 000  
 Fax 01925 237 073  
 www.unitedutilities.com

Do you want to know more about Radius? Please contact us:

[www.radius.net](http://www.radius.net)

