

## CASE STUDY

### ROBERT V. TROUT, CARTER LAKE - Colorado, USA



#### KEY STATISTICS

**Customer:** Northern Colorado Water Conservancy District

**Location:** Colorado, USA

**Net Head:** 45m

**Flow:** 3600l/s

**Turbine type:** 2 x Gilkes Francis 725 G270

**Output power:** 1367kW (per unit)

**Mean Runner Diameter:** 725

**Speed:** 600rpm

**Project Commissioned:** May 2012

**Scope of Supply:** 2 turbines, valves, hydraulic power units, synchronous generator, switchgear, control and instrumentation system and station service transformer.

Gilkes was chosen as the preferred supplier for the mechanical and electrical equipment for what was then referred to as the 'Carter Lake Hydroelectric Project' in 2011. Gilkes scope of supply included Turbine Shut-Off Valves, Francis Turbines, Hydraulic Power Units, Generators, Control and Protection System, Station Service Transformer and Generator Switchgear.

A Gilkes team of engineers was assigned to support Northern Colorado Water Conservancy Districts (NCWCD) development of the hydro opportunity at Carter Lake. NCWCD communicated directly with the leader of this team throughout the project. Regular communication is essential to managing the successful delivery of the projects mechanical and electrical equipment and our customers value the 'one point of contact' approach Gilkes applies to hydro projects.

Prior to delivering the equipment to site Gilkes engineers had built and/or tested all elements of our scope of supply in the factory in which the assembly was constructed. The turbine was designed, built, dimensionally tested, and pressure tested, at our factory in the UK before Gilkes arranged transportation to site in Colorado. The engineers who assemble the turbines at our factory are then assigned to meet the equipment at site and are responsible for the safe and successful installation of all Gilkes supplied equipment.

#### CONTACT

Email: [hydro@gilkes.com](mailto:hydro@gilkes.com) Tel: 01539 720028 Fax: 01539 732110

[www.gilkes.com](http://www.gilkes.com)

Gilbert Gilkes & Gordon Ltd, Canal Head North, Kendal, Cumbria LA9 7BZ. Registration No.173768 England and Wales

# GILKES

## CASE STUDY

### ROBERT V. TROUT, CARTER LAKE - Colorado, USA

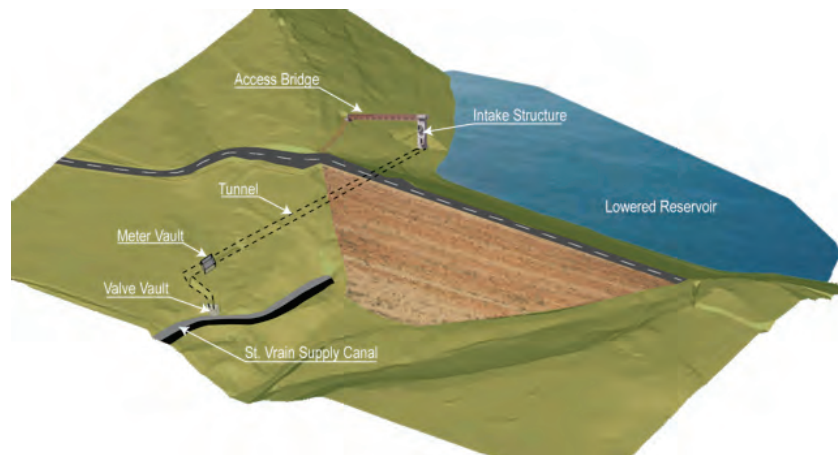
Gilkes project engineers travelled to suppliers of all other main contract components to perform all the appropriate testing and inspections prior to releasing permission to deliver to site. These same engineers, who have been the customer's primary point of contact for the duration of the project, are responsible for the commissioning of the entire Gilkes scope of supply. This consistency of ownership supports efficient commissioning and ensures the customer's expectations, and preferences, are always achieved. The installation and commissioning procedures were carried out effectively and Gilkes scope of supply was accepted in May 2012. The Gilkes Carter Lake team continue their responsibility for the project and Northern Colorado Water Conservancy District know they can contact the lead engineer, directly, at any time for any need.

The scheme was opened as the Robert V Trout Hydropower Plant in honor of Mr. Trout's contribution to the project.

#### Project Layout



#### Carter Lake Outlet Bypass Addition



#### CONTACT

Email: [hydro@gilkes.com](mailto:hydro@gilkes.com)

Tel: 01539 720028

Fax: 01539 732110

[www.gilkes.com](http://www.gilkes.com)

Gilbert Gilkes & Gordon Ltd, Canal Head North, Kendal, Cumbria LA9 7BZ. Registration No.173768 England and Wales

# GILKES