

Design of replacement vertical lift sluice gate for Kinloch Rannoch Weir

R. J. DIGBY, Kenneth Grubb Associates Ltd, Bournemouth, UK.

J. P. SELBIE, Enterprise Engineering Services Ltd, Aberdeen, UK.

SYNOPSIS. Kenneth Grubb Associates Ltd (KGAL) has been retained by Enterprise Engineering Services Ltd (EESL) of Aberdeen to design replacement vertical lift sluice gates for installation at Kinloch Rannoch Weir in Scotland on behalf of their ultimate client, Scottish and Southern Energy plc (SSE).

The design mimics the existing 1930s riveted gate construction using modern materials and joining methods. One of the challenges for the design team involves the need to design the gate to modern standards, whilst not exceeding the capacity of the existing dedicated lifting equipment on site.

Site load lifting limitations have also constrained the design of the gate to be a three part modular construction employing bolted seams to complete the construction. Further challenges have included the need to consider the effects of floods, waves and seismic loads on the structure.