Dam’s name: BLACK ESK

PKW’s year of construction: 2013

Country: Scotland
### Progress of work:
- **Built**

### Dam's owner:
- **Scottish Water**

### Consultant:
- **Black & Veatch**

### Contractor:
- **Black & Veatch**

### PKW location:
- On top of the rim of the original bellmouth (morning glory) shaft and tunnel spillway

### Downstream energy dissipation type:
- Original hydraulic jump stilling basin downstream of spillway tunnel

### PKW purpose:
- Allow increase in storage capacity (overflow level raised by 2.5m) while minimising dam heightening

### PKW discharge capacity at MWL (m³/s):
- 183

### Dam design flow (m³/s):
- 183

### Monitoring devices (Presence and type):
- **No**

### Aeration (type and diameter of the pipe):
- **None**

### Overflowing Frequency:
- Several times annually

### Number of overflow known:
- Routine

### Maximum head on PKW experienced (m) and date:
- 0.08, 03/12/2015

### Type and number of other spillway:
- **None**

### Material of the PKW:
- Mostly precast concrete

### B (m):
- 4.4

### P (m):
- 2.1

### W (m):
- 54.0

### L (m):
- 238

### Number of inlet:
- 24

### W₁ (m):
- Tapers 1.6 to 0.5

### Number of outlet:
- 24

### W₀ (m):
- 0.8

### Tₛ (m):
- 0.20

### PKW cost (k€):
- 600

### Total project cost (k€):
- 3700

**Comment:**
Believed to be first UK application of PK weirs and to be the World’s first adaptation of a battery of PK weirs around the rim of a bellmouth spillway.