



Barr River hydro scheme

Monthly report – August 2021

1 Summary

A very dry month with consequent effect on generation. Construction work is ongoing during August with the scheme operating on intakes 1 and 2 only and with some interruptions due to construction activity.

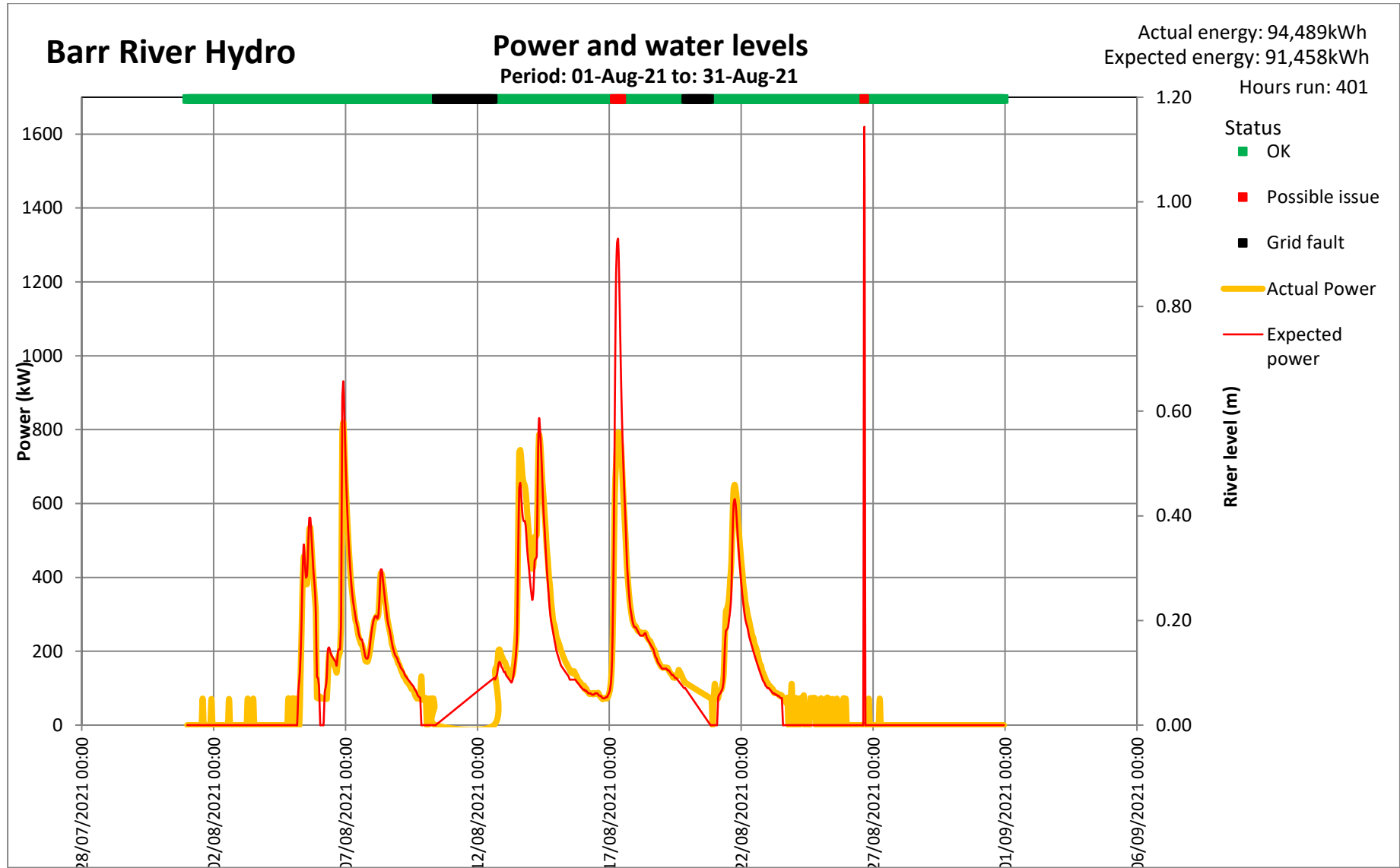
2 Monthly generation & revenue

Parameter	Value
Actual generation (FIT meter), kWh	91,714
Average generation in month, kWh	91,714
Forecast generation in month (P50), kWh	237,000
Variance to forecast	-61.3%
Calculated generation ¹ kWh	91,458
Actual relative to calculated generation, kWh	256
Actual relative to calculated generation, %	+0.3%
Approximate revenue in month	£ 12,546

¹Calculated generation is based on river level data and seeks to establish the expected generation with no performance issues. The expected power and energy calculations are being calibrated and will be refined over the coming months as more data is gathered.

Export meter	Value
Export, kWh	Data awaited
Variance to generation, kWh	Data awaited
Variance to generation, %	Data awaited

3 System reporting



3.1 Scheme anomalies to calculated generation

Date/time	Details	Action required
10/8/21 - 12/8/21	Grid shutdown while CTs replaced in HV switchgear	None
17/8/21	Chamber controlling on intake 1, intake 2 spilling water	Chamber control and balancing to be reviewed when more water available.
19/8/21 – 20/8/21	Grid outage leading to transformer breaker trip. SSE Contracting attended to reset breaker.	Generator/transformer breaker settings to be reviewed.
26/8/21	River level sensor adjustment (no lost generation)	None

3.2 Other system events

Date/time	Details	Action required
	None	

3.3 Head loss

Target head loss at full power	Current head loss at full power	Status
14.5m	n/a	No operation at full power

3.4 Temperatures

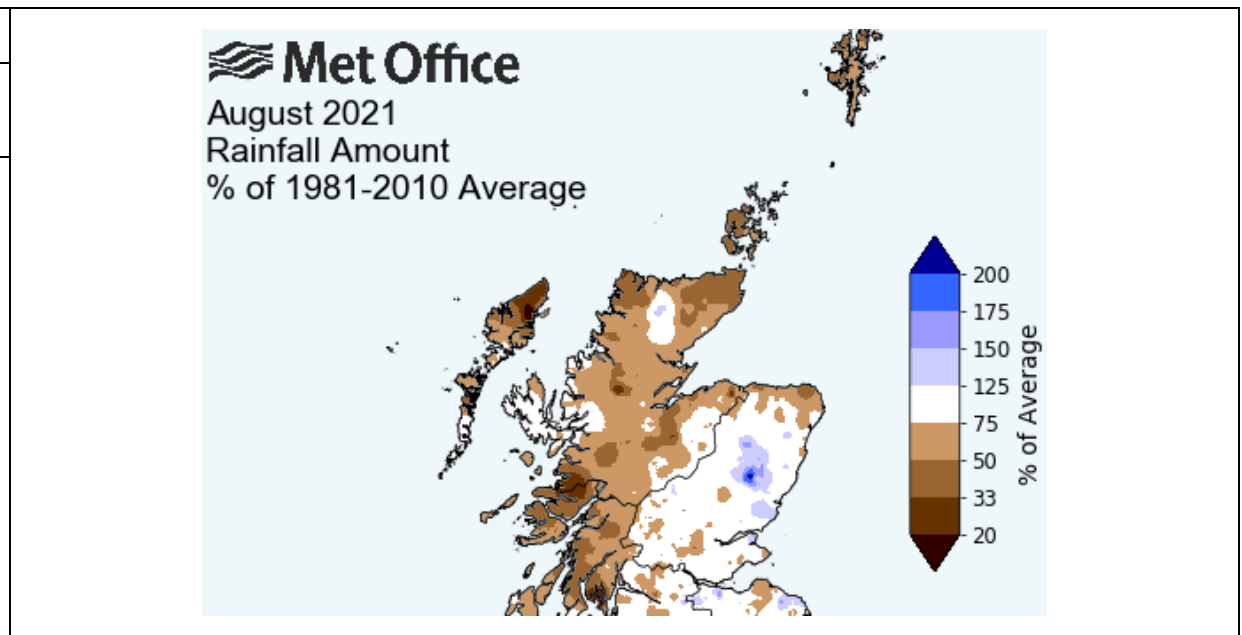
Parameter	Temperature at or near full power, °C	Alert level, °C	Parameter	Temperature at or near full power, °C	Alert level, °C
Generator DE bearing	No operation at full power	85	Generator winding 1	No operation at full power	145
Generator NDE bearing 1	No operation at full power	85	Generator winding 2	No operation at full power	145
Generator NDE bearing 2	No operation at full power	85	Generator winding 3	No operation at full power	145
Turbine room	No operation at full power	30	Power cabinet (RG1)	No operation at full power	42

4 Recommended actions

Action	Responsibility	Status
Commissioning/testing to be completed when sufficient water available	CINK	Ongoing
Scheme operation to be reviewed when sufficient water available	GHC	Ongoing
Modify generator/transformer breaker settings so that generator breaker trips first	GHC	Ongoing

5 Rainfall

Rainfall this month (rain gauge), mm	72
Western Scotland rainfall in month with respect to 1981-2010 long term average	69%



6 Scheme annual performance summary

2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to date
Actual generation kWh							1,463	91,714					93,177
Average generation since commissioning							1,463	91,714					93,177
Forecast generation (P50)	783,000	655,000	592,000	318,000	186,000	176,000	174,000	237,000	358,000	584,000	634,000	659,000	411,000
Variance to forecast							-99.2%	-61.3%					-61.3%
Calculated generation kWh								91,458					91,458
Variance to calculated generation kWh	-	-	-	-	-	0	0	256	-	-	-	-	256
Variance to calculated generation %						+0.0%	+0.0%	+0.3%					+0.3%
Approximate revenue	£-	£-	£-	£-	£-	£-	£186	£12,546	£-	£-	£-	£-	£12,732
Capacity factor (monthly)							0.1%	7.6%					3.9%
Industry wide RoR capacity factor	30.8%	39.3%	45.0%	14.6%	20.0%	6.5%	5.6%						23.1%

