Address:
Severn Power Limited
Severn Power Station
West Nash Road
Newport
NP18 2BZ

T: +44 (0) 1633 293 633

Registered Office:
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West Nash Road
Newport
NP18 2BZ

Registered Office in England & Wales
Company number: 05392552

22 January 2025
Natural Resources Wales
Rivers House, Fortran Road
St Mellons Business Park,
Cardiff
CF3 0EY

Dear Sir/Madam,

Permit Reference: EPR/HP3737UE
Operator: Severn Power Ltd
Facility: Severn Power Station

Re: Annual Reporting LCP 324 & 325, 1st January to 31st December 2024

In response to the conditions of our EPR please find attached the following:

1. Environmental Reports as prescribed in our EPR Schedule 4.
2. A brief summary of the stations environmental performance in 2024.

Should you require any further information please do not hesitate to contact me.

Yours sincerely,

[redacted]
E,C&I Engineer.

Environmental Reports as per EPR Schedule 4.

The following forms are attached:

Form	Description	LCP
IED_AR1_A1_2024	Energy Usage & Mass Emissions	324
IED_AR1_A2_2024	Energy Usage & Mass Emissions	325
IED HR1_324_325 2024	Annual Operating Hours	324 & 325
IED_PM1_A1 Jul-Dec 2024	Releases to Air Discontinuous Monitoring	324
IED_PM1_A2 Jul-Dec 2024	Releases to Air Discontinuous Monitoring	325
EPR HP3737UE WATER1 2024	Emissions to Water	324 & 325
EPR HP3737UE S4.2 2024	Annual Production	324 & 325

Severn Power Station-Summary Environmental Performance 2024.

Overview

Following a long period of inactivity, during which the station was "mothballed" in a safe, preserved state, the station was recommissioned and successfully restarted in December 2023. For the next three months the stations' two generating units were intermittently operated to maintain the condition of 'hot preservation'. Following an improvement in market conditions the station continues in a state of 'hot preservation', realising market opportunities as they arise.

Emissions to Air

Emissions of combustion gases from the two generating units (Emission point Ref A1 & A2) were consistent with the running regimes and the Gas Turbines combustion technology with no reportable deviations or unusual trends.

Prior to restart the Gas Turbine combustion systems were "tuned" by a systems specialist to optimize performance and emissions.

The CEMS systems were overhauled prior to restart, several components were replaced as a precautionary measure and the system continues to be maintained as per site specification. In general, the equipment continues to display a high degree of availability with no recordable data loss on Unit10 (LCP 324) and a small amount of loss on Unit20 (LCP 325), mostly related to the downtime necessary for the AST carried out in Dec 2024.

QAL2 was carried out in December 2023 by Socotec with a further AST in December 2024, both CEMS systems passed the requirements.

As a preventative measure the Envirosoft Emissions Reporting system was upgraded in Nov 2024 with all new hardware (Server/DSU's etc.) and updated software. The work was successfully completed with no loss of emissions data.

The upgraded system also now has a wireless network connection facility allowing the OEM to remotely access the system should a problem develop. Additionally, to mitigate failures a maintenance service contract was agreed and implemented with the OEM.

Emissions to Water

Significant quantities of water were required during recommissioning of the units with subsequent increase of discharge. The three main water emissions points (W1, W2 & W3) have automated pH monitoring installed, the equipment continuously monitors the waters pH and "locks-out" the discharge valve/pumps should the pH exceed allowable values, thus removing the possibility of an "out of limit" discharge to the River Usk.
The pH monitoring systems are routinely checked and calibrated as part of the station's maintenance procedures.

The site surface water collection pond (emissions point W2) underwent an extensive program of cleaning in Jan 2024 to remove algae and sludge built.
Following the clean up an increase of pH was noticed via the continuous monitoring system. Whilst there are no limits set on the discharge from this pond, the site proceeded to work to ensure the discharge was within the limits of 6-9 pH in accordance with the limits set on emissions point W1.
Several immediate and short-term measures were put in place to manage the issue including the hire and installation of CO_2 injection equipment that successfully reduced the pH.
Following an independent Root Cause Analysis, conducted by a Civil Engineering Consultancy and Cardiff University, it was concluded that the removal of the sludge exposed patches of fresh concrete on the pond base, thus increasing the lime content of the pond and the pH.
It was further concluded that as the concrete carbonises naturally the issue would resolve itself.
Following consultation with NRW the site continues to monitor the situation, which has now improved, allowing the CO_2 injection equipment to be removed.

Ammoniated Wastewater continues to be transported off site for treatment. Earlier in the year, and in line with Improvement Condition 7 (IC7), a series of trials were completed with Welsh Water Organic Waste Ltd, a waste facility which is located less than a mile from site.
The trials were successful, which allowed the treatment of the Ammoniated Wastewater to take place locally at the Dwr Cymru Water Treatment facility in Nash, reducing the transport requirement vs. the previous facility in Avonmouth. This significantly reduced the carbon footprint of the disposal process, whilst also providing cost benefits for the station.

Following the stations return to operation the site has recently re-engaged with a supplier of ammoniated waste treatment systems to restart the longer-term plan of site-based disposal of this effluent stream.

EPR Compliance and other significant events.

Reporting
Quarterly reports were issued in January, April, July and October as per EPR Schedule 4.
In March the annual 'PRTR' online reporting of emissions and waste for the site was prepared and submitted to NRW in accordance with regulatory requirements.

Compliance
Following an internal audit an additional spill kit was purchased and installed in the Water Treatment plant. Spill kits are routinely inspected to ensure the contents are correct.

A new outdoor chemical storage container has been installed to improve security and safety, the chemical storage areas are routinely inspected and inventories checked.

To assist staff in the event of a chemical spill or similar incident, all the drain covers across the site have been identified and painted according to the contents. Additionally, to reduce the amount of surface water entering dedicated Glycol drains improvements have been made to the drainage system.

In April 2024 an emergency exercise was carried out to evaluate the station's response to an environmental event. A chemical spill from an IBC was simulated and the response from staff observed. The steps defined in the stations "Emergency Rapid Response" Card were quickly and successfully followed with the exercise overall received positively with several minor opportunities for improvement.

Waste
The site has made a concerted effort to improve waste disposal procedures with a review and modification to the waste storage area and various receptacles. Segregation and correct disposal of recyclable material (e.g. breaking down of electrical parts) is an established practice at the station.

A secure outdoor storage container is on order and will be utilized for the storage of hazardous waste as an improvement to existing arrangements.

Training
The site has significantly increased its workforce to facilitate the return to service of the site. To support staff development an online HSE training package was purchased with environmental training modules routinely allocated. In parallel weekly Tool-Box-Talks are delivered which cover a range of HSE subjects.

Station Efficiency
To improve energy efficiency, the station has invested significantly in areas such as replacement of lighting with energy efficient LED fixtures and identification of equipment that can be shut down when the station is not online.