



19 June 2026
ECCS 144 004 L 002 A
Sent by Email

Mr. Patrick Asprey,
Permitting Officer
National Permitting Service
Environment Agency
Rivers House
Sturry Road
Canterbury
CT2 0AA

[Sent via email to: Patrick.Asprey@environment-agency.gov.uk]

Dear Mr. Asprey,

Site Name: Bradgate Bakery Installation
Location: (Madeline Road & Ashton Green Sites), Beaumont Leys, Leicester, LE4 1WX
Applicant: Samworth Brothers Ltd
Permit Application Reference Number: EPR/CP3430WV/V005
RE: – Request for further information – H1 Assessment

(Letter sent on behalf of Samworth Brothers Ltd)

Further to your email dated 29.05.2026 and our subsequent correspondence, please find enclosed with this response completed H1 Risk Assessment Reports in response to the outstanding query, as summarised below.

- 3. Confirm if as a result of this variation whether there will be changes in the cleaning substances used or the volume applied. If there is a change or increase then please confirm what this will be, and as per Surface water pollution risk assessment for your environmental permit - GOV.UK a H1 water risk assessment needs to be provided using EQS' (if the substances have these) or PNECs (if the substances don't have EQS').**

Response:

Upon review of the sites cleaning schedules regarding the newly proposed process lines at the Ashton Green site, the Operator has since established that there will be an increase in volume of cleaning substances consumed across the site, however the list of cleaning substances used will remain unchanged. As a result of the increase in volumes of substances used, an H1 Water Quality Risk Assessment has been prepared.

A summary of the chemicals assessed, and the methodology applied is also provided below.

The assessment carried out has deliberately applied a conservative screening basis, supported by published treatment-removal and ecotoxicity data, together with a commitment to confirmatory monitoring once the lines and the new ETP are fully operational and the permit variation has been issued.



H1 Methodology, Approach and Assumptions made within Assessment

- Substances within the cleaning products to be used on the 6 new process lines were identified from the safety data sheets for the five existing cleaning products, and quantified from confirmed daily usage volumes (Causdeta 25, Chlorfoam Plus, Sterilex ProvaStep, Biozyme Foam Regular and Terminol). Each of these chemicals were previously identified as hazardous substances, as part of the technical assessment required under Improvement Condition 12 (IC12) within the currently issued permit;
- Release concentrations are worst case: 100% of each product is assumed to reach the trade effluent at the maximum stated Safety Data Sheet (SDS) concentration, diluted only into the 650 m³/day trade-effluent flow;
- Substances with an EQS in the EA H1 tool library (chlorine, EDTA, chloride) have been assessed using the H1 tool; whilst substances without an EQS have been assessed against PNECs in the enclosed PNEC Screening Annex report, as the guidance allows;
- The background concentration used has been taken as 50% of the EQS/PNEC (as there is no monitored upstream data available);
- The River Soar low flow rate (Q95 = 3.42 m³/s) is from data obtained from National River Flow Archive (NRFA) Soar at Kegworth. We would be happy to update the assessment with more accurate data the Environment Agency holds, for site-specific Q95 and background figures, should these be available;
- Treatment removal at Wanlip Sewage Treatment Works (STW) is applied using published, referenced values (e.g. 99% median removal of benzalkonium compounds by sorption to sludge; >90% for readily biodegradable surfactants; and near-complete in-sewer decay of free chlorine. No credit is taken for dilution of the trade effluent within the works' flow, adding further conservatism within the assessment.

Outcome of H1 Assessment

On this refined conservative basis, all substances assessed have been screen out against their EQS/PNEC with the exception of benzalkonium chloride (ADBAC) (found to be present in the disinfectant Terminol). ADBAC passes against an SSD-based ecotoxicity reference and is 99% removed in treatment, however, does not pass the conservative 4%/PEC screening tests against the NOEC-derived PNEC. In accordance with the guidance for discharges to inland freshwaters, we ask the Agency to carry out detailed modelling for ADBAC, supported by the removal and toxicity evidence provided.

Existing Site Mitigation, Treatment and Controls

Effluent discharged from the Ashton Green Bakery Site is controlled by the Trade Effluent Consent (TEC) issue by Severn Trent Ltd. The proposed new Effluent Treatment Plant (ETP) will also include treatment of effluent via screening, pH correction and fat removal, which will further improve effluent quality prior to discharge to sewer from site. High in-use dilution and the readily



biodegradable/strongly sorptive nature of the cleaning-chemical residues further limit any contribution to the River Soar.

Proposed Future Monitoring

Samworth Brothers Ltd proposes to implement a verification monitoring programme following permit issue (under an Improvement Condition), to undertake additional sampling and analysis to confirm assumptions made within the H1 assessment. It is proposed the Operator will sample the final effluent for the determinands identified in the H1 assessment (including free/total residual chlorine and the cationic biocides (benzalkonium chloride and the triamine) within 3 months of the permit variation being issued, and will provide the results to the Environment Agency to confirm the screening assumptions. The Operator will also provide the Sterilex ProvaStep ingredient composition as soon as it is received from the supplier (a conservative worst-case composition has been assumed in the interim, which does not alter the conclusions).

We trust the information described above and within the attached assessment reports satisfies the Environment Agency's request for an H1 assessment of cleaning chemical usage following the introduction of the 6 new process lines. We would be happy to discuss further, the approach to ADBAC and the subsequent appropriate effluent monitoring conditions, during permit determination stage.

We trust that the additional information submitted fully satisfies your request, and you will now be in a position to deem the application as 'complete' and can confirm that the application has been duly made in due course.

Yours Sincerely,

Lucinda Hall
Freelance Consultant
EC Consultancy Services Ltd

cc.

Neil Traynor (neil.traynor@bradgate-bakery.co.uk)

Katharine Nethercot (Katharine.Nethercot@Bradgate-Bakery.co.uk)

Attachments:

- 01 – ECCS 144 004 R 003 A - H1 EQS Screening Report
- 02 – ECCS 144 004 R 004 A - H1 PNEC Screening Report