**Non-Technical Summary (NTS)**

**Britvic Soft Drinks Beckton – Variation 5**

* 1. Purpose of this document

The purpose of the Non-Technical Summary is to provide an easily understood overview of the Britvic Soft Drinks Ltd Beckton installation, the operations, activities and proposals to raise the installed capacity of the plant to meet future production demand requirements and maintain production volumes of the non-carbonated soft drinks previously manufactured at the Norwich installation, before its decommissioning.

* 1. Description of the Permitted Installation

Britvic Soft Drinks Ltd operates a soft drinks manufacturing facility at Roding Road, in the heart of the London Industrial Estate, Beckton. The 16-acre site was established for soft drinks production and distribution in 1971-72 by R Whites & Sons on land which was previously owned by the Gas Board.

A review of the site setting within its surrounding environs has confirmed that there are no classified river water stretches within 250m of the site boundary and the nearest designated sites are: Site of Special Scientific Interest (SSSI) Gilberts Pit (Charlton) 7.4 km away, Special Protection Area (SPA) Lee Valley, UK9012111, beyond 10km from the installation and Area of Outstanding Natural Beauty (AONB) Kent Downs, beyond 10km from the installation. The only sensitive land use identified within 250m is adopted green belt. There are no national and internationally designated sites within 1km of the installation.

The installation includes a process yard, recycling area, sugar, juice and gas tanks, production area including boiler house services and gas and chemical tank storage, plastic bottle blow moulding, raw and waste material, and finished goods storage areas.

The site installation boundary includes an area of the site that is currently rented to an engineering contractor. The tenancy agreement is due to end July 2022, following which this area of the site will be available to Britvic Soft Drinks Ltd for future development. The installation boundary (Ref: Beckton Emission Points – May 2022.pdf) comprises:

* Production Hall Line 5.
* Production Line 6
* Process Plant (Line 5).
* Office Block /Canteen.
* Process Plant.
* pH Correction Tanks.
* Effluent Pump House.
* HCL Scrubber.
* Car Park.
* Warehouse.
* Production Hall Lines 1-4.
* Boiler Room and site Services.
* Raw Material Store.
* R&D Pilot Plant.
* Goods Storage Tent.
* Surface Water Pump House.
* Bottle Blowing Hall.
* Trailer Parking.
* Sprinkler Tank.
  1. Description of the Process and Raw Materials Used

The installation will operate 6 production lines for manufacturing carbonated soft drinks,

including brands Pepsi, Tango and 7-Up. Bulk and other raw material deliveries are passed to

the ingredient preparation process, where the syrup undergoes in-line filtration. The process includes optional pasteurisation, chilling (for Line 2 & 3 syrups and water), proportioning with water to finished strength and carbonation, and then chilling (for Line 1 & 4 finished product).

The finished carbonated product is filtered before filling. The products are filled into rinsed plastic (PET) bottles (onsite Bottle Blowing), capped, labelled (if required), coded and then sent for packaging and palletisation. The finished products are stored in the site warehouse or transported via lorry to an offsite distribution centre. In 2021, the installation produced over 386 million litres of product. Wastes are transferred to skips and containers prior to disposal or baling/shredding and recycling.

The Beckton site has a small Research and Development (R&D) Pilot plant that is used to develop the feasibility for the manufacture of new products. The R&D line has a filtered extraction system to prevent the emission of fugitive releases to air, during the make-up of ingredients. The pasteuriser has an extraction system that removes aerosols that would otherwise be fugitive.

Hydrochloric acid (HCl) is used for water treatment and caustic soda is used for cleaning-in-place (CIP) of production equipment. All trade effluent and surface waters pass to two large, underground holding tanks, which both discharge the process effluent to the foul sewer outfall. pH treatment of effluent is undertaken prior to pumped discharge to sewer.

Water is a key raw material for the finished product and is also used for cleaning/rinsing

activities. Ingredient water undergoes pH-treatment (with HCl acid), UV filtration, degassing,

chlorination, carbon filtration, polishing and secondary UV filtration. There are water losses from

all operational stages and waste syrup losses from process and filler stages.

The production operations include the following stages:

* Receiving, handling, storage and preparation of raw materials, ingredients and packaging.
* Processing of ingredients including the preparation, blending and dilution.
* De-palletising of packaging for use in manufacturing of product.
* Pasteurisation of specific products.
* Filling of product, including bottle rinsing, filling, capping and labelling.
* Packing of bottles into different formats.
* Palletising of manufactured products before storage and dispatch.

There are number of directly associated activities which are technically linked to the Schedule 1 listed activities of the Environmental Permitting Regulations:

* Steam and heat generation using two 11.2MWth boilers.
* Treatment of incoming mains water.
* Electro-chlorination plant and system.
* Raw material storage.
* Waste storage.
* Sugar dissolving plant.
* Two Carbon Dioxide (50 tonnes each) and two Nitrogen (50 tonnes each), gas storage tanks.
* Refrigeration plant.
* Production of plastic (PET) bottles.
* Full goods storage (warehousing).
* Research and Development (R&D) Pilot Plant.
* Environmental Area - Compacting, Baling. Crushing and Hazardous Waste Segregation.
  1. Foreseeable Emissions from the Process

The environmental releases are (see Environment Agency H1 Database v2.78 Britvic Soft Drinks – Beckton):

Emissions to Air: A1 and A1.1 NOx from natural gas-fired boilers (11.2MWth rated thermal

input), through a single 10.7m single stack.

Other/fugitive emissions: Carbon Dioxide tanks, Nitrogen tanks, Ammonia plant and Chlorine

cylinders, standby boiler, Hydrochloric acid, bulk storage tank, chlorine tank for water treatment.

Sewer release: From release points S1 (Process Effluent) and S2 (Surface Water), discharging from

the onsite ETP into Beckon Sewage Treatment Plant (STP). The average effluent flow rate is

expected to be in the region of 900m3/day, and the maximum 1200m3/day or 184m3/hr.

Wastes: Solid wastes include empty containers of various ingredients, blown bottles, labels and packaging. A waste shredding machine, baler and compactor, are used to recover all plastic (PET) waste for recycling. The liquid effluent passes to the trade effluent holding tank. This area also includes an area for the safe segregation of hazardous materials that cannot be handled through the standard waste streams e.g. solvents, filters, paints, etc.

Energy: LPG, gas and electricity are used at the installation. The Bottle Blowing process is a key

energy user as it uses high pressure air generated from electricity.

* 1. Environmental Management Systems

The Britvic Soft Drink operations are conducted within a management system framework, where certification is held to the following standards; Quality Assurance, Health & Safety Management, and Environmental Management Systems (ISO 9001, ISO 14001 and ISO 45001). At the Beckton installation the site has an Environmental Management System (EMS), further to the requirements of ISO14001 and Britvic Soft Drinks Ltd organisational direction. The Beckton EMS has an internal audit schedule that determines whether it is being implemented correctly and meeting the planned arrangements, and reports on the continuing effectiveness and adequacy.

* 1. Proposed Changes

During the sites last variation (V004), the changes were to remove two of our original production lines (Lines 1 & 2) and introduce a new production line (Line 5) in another area of the site. However, the business has gone through a restructure which has resulted in our Norwich site being closed down, and its environmental permit being surrendered. As such we would now like to:

* Use the two originally permitted production lines (Lines 1 & 2) and the associated ancillary equipment, and therefore bring them back under the remit of the site permit.
* To commission and operate a new production Line 6. The new Line 6 will be installed to provide capacity to meet future market demands.
* The current permit states that the site can produce carbonated soft drinks. However, because of the products that will be moving from the Norwich site, we would like to change the product mix to produce carbonated and non-carbonated soft drinks.
* The current permit states that the two boilers are run in a duty & standby operation. One boiler been utilised at any one time. Due to the increased demand on steam to satisfy increased cleaning activities due to the introduction of Line 6, it will be necessary to run both boilers concurrently in duty mode, at peak demand points during the working week.
* An additional HCL bulk storage tank has been introduced to aid the balancing of effluent pH. The tank has a HCL scrubber attached to it to remove HCL fumes when deliveries of HCL are being made. And as such another air emission point (A4) is to be included within the permit.
  1. Best Available Techniques (BAT)

The Best Available Techniques (BAT) are the most advanced stage in the development of activities and their methods of operation covering the technology and the way in which the Beckton installation is designed, built, maintained, operated and to be decommissioned at end of life. As a result of technological development in the Best Available Techniques over time, Best Available Techniques conclusions (BATc) have created cross sector requirements applying to most activities covered by the Best Available Techniques (BAT) Reference Document for the Food, Drink and Milk Industries (FDM BRef). The three categories of BATc covered by the FDM BRef are: the Associated Emission Levels (BAT-AELs), the Associated Emission Performance Levels (BAT-AEPLs) and Narrative BAT (descriptive). A Regulation 61 Notice from the Environment Agency was used to assess the Beckton installations performance against BAT conclusions (BATc) 1-15. This review has found that the Beckton installation has not only implemented the BAT conclusions of the FDM BRef, but is fully compliant with them. A H1 Environmental Assessment of releases from the Beckton installation as a whole was also undertaken to ascertain the process contribution and predicted environmental concentration for the variation proposed (see Environment Agency H1 Database v2.78 Britvic Soft Drinks – Beckton).

* 1. Monitoring Emissions from the Process

Britvic Soft Drinks Beckton undertakes a combination of both spot & composite sampling on waste water discharge that leaves the installation. This is undertaken on a regular basis. The Beckton installation has a Trade Effluent Consent with the statutory undertaker Thames Water who places conditions on the discharges into their system. The statutory undertaker appoints consultants to undertake spot and/or composite sampling against the conditions of the consent. The consultant undertaking these spot and composite sampling is both UKAS & MCERTS accredited. The typical determinants that are monitored through the spot and / or composite sampling are:

* Chemical Oxygen Demand (COD),
* COD Settled Load,
* Flow total daily,
* Settleable solids,
* pH.

BAT conclusions 5 (BATc 5) for channelled emissions to air (any duct, pipe or stack), to be monitored with the frequency and standard provided in the FDM BRef. The Soft Drink manufacturing sector is not listed in BATc 5 table of the BRef document re: DECISION (EU) 2019/2031 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D2031&from=EN>. Outside of BATc 5 requirements, the Beckton installation undertakes periodic stack emissions monitoring of its steam generating boiler combustion plant, a directly associated activity of the Schedule 1 activities. The stack monitoring consultant has a UKAS accredited laboratory and also holds MCERTS certification for the emissions sample monitoring and analysis that is undertaken.

* 1. Prevention & Recovery of Waste from the Process

The Beckton installation’s sustainable operation across its operational footprint has been adopted from the Britvic Soft Drinks Healthier Planet Policy. These initiatives to minimise waste generation and ensuring responsible waste management and disposal through-out have been fully incorporated at Beckton, whilst maintaining the focus to deliver the target objective of zero waste to landfill. The breadth of initiatives introduced to prevent and recover waste from our soft-drinks manufacturing process include:

* All surplus / waste plastic (PET) is sent for re-processing to be re-used as a re-cycled plastic (rPET).
* The staff are allowed to take drinks away from site that have no saleable value.
* Re-distribution of product to local community food banks & charitable organisations.
* Where possible waste juice products are sent to animal feed.
* Britvic uses anaerobic digestion for all waste products.
* Composting.
* Land-spreading.
* If no alternative options are available waste to energy is considered.
* Britvic does not incinerate without ensuring waste to energy.
* Britvic has a year on year goal to achieve 0% waste to landfill.
  1. Waste Management Activities

The primary waste management activity at the Beckton installation is the physico-chemical treatment of process effluent in the onsite Effluent Treatment Plant (ETP), for subsequent discharge under a Thames Water trade effluent consent to the Beckton sewage outfall. The physico-chemical treatment of non-hazardous waste is a Schedule 1 listed activity [Section 5.4 A(1) (a) (ii)], of the Environmental Permitting Regulations.

Process effluent waste water is pumped into an underground tank, from where it is then pumped into Buffer Storage Tanks and is chemically dosed with Sodium Hydroxide (NaOH) or Hydrochloric acid (HCL) to adjust the effluent’s acidity prior to discharge into the Beckton foul sewer outfall. Within the Balancing Tanks the effluent is re-circulated to achieve a pH concentration consistent with the requirements of the Thames Water trade effluent consent, before final discharge into the foul sewer. The wastewater flows between the underground storage tank and above ground Balancing tanks are monitored continuously to prevent over filling. The final effluent discharge is measured volumetrically by a flow meter and a sampling well captures a 24-hour composite sample, that is analysed daily and the result recorded.

The Beckton installation’s buffering tank capacity is 216m3and a variation to the Thames Water trade effluent consent will increase the maximum daily discharge quantity from 909m3 per day to 1,200m3per day. The increased maximum daily permitted discharge will provide sufficient headroom for discharging of treated process effluent into the sewer outfall, when all six manufacturing lines are running at full capacity.

* 1. Noise & Vibration

The Beckton installation commissioned a noise survey in October 2021, to be conducted during typical midweek night-time operations. The night-time noise measurement survey was commissioned to establish offsite noise levels, during the busiest night-time operational conditions. The nearest noise sensitive receptors were assessed to be the residential areas of Henry Addlington Close located approximately 85 m south of the installation, and Aaron Hill Road located approximately 137 m southwest of the Beckton site.

The survey demonstrated and concluded that Britvic operations at the Beckton installation did not present an adverse noise impact on the surrounding residential receptors. No tonal noise was detected and additionally noise mitigation measures were deemed unnecessary (Ref: Beckton External Noise Survey ENE-5068 report).

* 1. Site Condition Report

A Site Condition Report for the Beckton installation was commissioned in September 2015, to update the understanding of site conditions from a previous baseline study. The site investigation identified significant hydrocarbon contamination associated with the former gas works in both the soils and groundwater. Given that the installation lies within the much larger footprint of the former Beckton gas works and subsequently developed London Industrial Park, it was considered that the rest of the site was similarly contaminated and that the site was unlikely to have been subject to extensive remediation of the petroleum hydrocarbons. It was not considered feasible or practical to address the contamination on the Beckton site in isolation from the remainder of the London Industrial Park, where contaminant sources from the surrounding development would still pose the risk of migratory pollution. It was recommended that any future developments or activities should demonstrate no worsening of the existing contaminant conditions or introduce additional vertical or horizontal migratory pathways.