

Fugitive Emissions Report for Princes Cardiff 2018

Fugitive Emissions to Air

Release Point	Source	Substance/s	Emission Source	Control Measures	Risk Assessment
Process area doors	Processing of concentrate	Fruit juice, sugar, water	Odour	Doors are closed or plastic curtains in place. All process equipment lidded and closed when containing material. No reported odour problems.	Low risk No Change
Waste tanks, drums, solid waste bins & compactors	Open containers, bins	Waste juice, product packaging	Odour	All waste juice stored in tanks, IBCs and drums, lidded, awaiting collection for anaerobic digestion company by road tanker. All skips to have sealed doors. If open skips are used for solid waste (not food) this will be only short-term and tarpaulins are to be used.	Low risk No Change
Refrigerant Equipment leaks	Refrigeration and air conditioning equipment	R134a, R22, R410a, R404A	Leakage	Maintenance contractors set up and F Gas Register in place. Equipment serviced every 6 months. 2017 release identified and root cause established. The chiller was upgraded. REFCOM accredited engineer companies employed. Repairs checked within one month of repair. Maintenance shut-down, checks completed Facilities register established.	Medium risk, monitoring the chiller performance. Significant repair work completed to the Toshiba Carrier chiller, cost of £35,777:00 (2017 release 80 kg of R134a, GWP = 114.4 tonnes CO2)

Fugitive Emissions Report for Princes Cardiff 2018

Release Point	Source	Substance / s	Emission Source	Control Measures	Risk Assessment
Fugitive emissions to Air					
Vehicle Exhaust	Pallet truck	Electricity used	No emissions from vehicles	Electric storage battery, all vehicles on contract. No exhaust from pallet trucks. Battery recharging generates small amount of hydrogen gas in a well ventilated room, low risk of ignition.	Low risk No change
Vehicle Exhaust	Forklift trucks	LPG Gas by cylinders	Vehicle engines	All vehicles on contract and serviced by qualified LPG engineers. LPG engines produce carbon dioxide and water vapour and used in well ventilated areas. LPG compound secured, good lighting and CCTV.	Low risk No Change
Pool & Company Car Exhausts	Cars	Carbon dioxide	Vehicle engines	Cars serviced regularly, maintain in good condition. Only hired cars of a good standard are used for employee off site travel. Rail service used as much as reasonably possible for employee travel on company business.	Low risk No change
Various site wide	Sub-contractor emissions	Approved before work starts	Odour air emissions	Environmental Permit compliance. Risk assessment, method statement & established control measures verified by permit to work system. Contractor induction. Site security measures in place. Safe Contractor accreditation system approved contractors used. Permit to work system and supervision. Food standards and good manufacturing practices must be maintained.	Medium risk

Fugitive Emissions Report for Princes Cardiff 2018

Release Point Fugitive Emissions to Air	Source	Substance/s	Emission Source	Control Measures	Risk Assessment
Open doors, windows and vents	Production processes	Production Materials	Open doors, windows, vents	Production processes do not constitute an odour problem. Self-closing doors and roller doors are installed. 5s, Environmental & safety audits / inspections carried out by every department. Area of Responsibilities established.	Low risk No Change
Plant buildings	Emissions from heating & hot water boiler systems	Combustion gases	Boiler flue systems	Boiler maintenance system in place, managed by Maintenance Department. Environmental & safety audits / inspections carried out by department. Boiler room door is locked. The gas supplier to ensure the sulphur content is less than 1%. Area of Responsibilities established. Compressors reduced from 3 to 2 compressor units.	Low risk No Change
Site Wide	Fire Incident	Combustion gases, smoke emissions	Production, warehouse & office highlighted in fire risk assessment.	All site buildings have a fire alarm and detection system. 51 CCTV camera system installed. Fire risk assessment completed and reviewed. Canteen equipment regularly serviced. Employees complete fire awareness training, evacuation drills every 6 months.	Medium risk

Fugitive Emissions Report for Princes Cardiff 2018

Fugitive Emissions to Water

Release Point	Source	Substance/s	Emission Source	Control Measures	Risk Assessment
Site Surface drainage system	Site surface water drainage system, process contamination	Juice, concentrate any other materials in the production storage areas	Surface water run off, drainage system	Interceptor to trap oil installed stopping pollution on the east side of the plant behind warehouse 69, serviced annually. Drainage survey completed, results to be review and improvements identified. Drains identified. External cleaning & roadway sweeping completed on site. All waste skips to be lidded. 12 emergencies spill kits & drain covers located across site. Areas of Responsibility established.	Medium risk During 2018 a new production facility will be installed to replace the current production lines in April 2019. A new stainless steel drainage system will be installed along with rainwater control.
S1 (Effluent to Welsh Water drainage system)	Site surface water and process cleaning	Water, waste product (juice) and cleaning chemicals	Abnormal, emergency situation allowing into drains.	Controls established if work on drain is required. Survey, maintenance, permit to work. Environmental Permit Conditions, MCERTS compliant All waste skips sealed. Emergency spill kits & drain covers located across site. Areas of Responsibility established. Sampling equipment installed, with annual servicing agreement. Flow meter calibrated and serviced annually. Drainage survey completed with drains identified and painted. All cleaning tasks have standard operating procedures and risk assessments. Investigation underway to reduce product	Medium Risk. During 2018 a new production facility will be installed to replace the current production lines in April 2019. A new stainless steel drainage system will be installed. New process equipment to be installed in 2019

Fugitive Emissions Report for Princes Cardiff 2018

Release Point emission to water continued	Source	Substance/s	Emission Source	Control Measures	Risk Assessment
Surface water drainage system	Leaks from compressor equipment	Fuel, oil	Abnormal, emergency situation causing oil, fuel leaks	change over going down the effluent drain. Maintenance & monitoring of equipment. Compressors located in side plant room. No feeds in to the surface water drainage system. Spill kits, drain overs, drip trays. Environmental & safety audits / inspections carried out by each department. Area of Responsibilities established. Interceptor for surface or clean water drain systems, maintenance of interceptor Drip trays used for mobile /temporary equipment also set on sealed ground. External cleaning, road sweep etc. Site security measures in place.	Low risk No Change
Site wide	Contractors materials and disposing of waste	Construction waste	Abnormal, emergency situation allowing rainwater to mix with waste and enter surface water drainage system	Environmental Permit compliance. All skips to be lidded or covered. Risk assessment, method statement & established control measures verified by permit to work system. Contractor induction has commenced. Site security system in place with the plant operating 24hour 7 days a week (except Christmas and New Year). Contractor induction training updated periodically to re-enforce good standards.	Medium Risk Significant change, increased numbers contractor employees and activities from April 2018 to January 2020.

Fugitive Emissions Report for Princes Cardiff 2018

Release Point	Source	Substances/s	Emission Source	Control Measures	Risk Assessment
emission to water continued Site wide	Fire water,	All substances exposed to fire water from across site	Emergency situation – fire resulting in fire water running to surface water drains or entering effluent plant.	No sprinklers installed on site. Fire water would be produced by the Fire Service. Fire Service would use a dynamic risk assessment to establish the degree of protection required. Fire controls previously stated will reduce the likelihood of a fire occurring and the need for Fire Service water. Insurance company audits. Management inspections and supervision. Cleaning of plant equipment improved to reduce the likelihood of debris fire.	Low risk No Change. The company's property insurance company is to review sprinkler protection for new site development.
Storage area for product, oil and chemicals. Transfer / decanting areas and waste area.	Oil and chemical stored in secured, banded, cabinets internally and externally.	Oils, chemicals	Abnormal, emergency conditions when carrying out delivery or collecting activities	Quantities of oils are maintained to a low level and stored inside the building on a bund. Product is stored in bulk storage containers and filling operations are supervised by trained employees. Waste product is stored in internal waste storage tanks and emptying is supervised. Waste liquids are stored to a minimum with regular collection of waste by licenced companies. 12 Emergency spillage kits and 2 absorbent stations are installed on site. Bund protection used.	Low risk No change. In 2019 a new bulk storage facility to be installed.

Fugitive Emissions Report for Princes Cardiff 2018

Release Point emission to water continued	Source	Substances/s	Emission Source	Control Measures	Risk Assessment
Yard surface water drains, ground water	Debris from vehicles.	Rubber, metal wood etc	Debris from vehicles entering the drainage system.	No significant evidence of debris entering the drainage system. Vehicles are controlled on site. All vehicles operate on hard surfaces no on open ground. All vehicles must be maintained to prevent leaks and good working order. All vehicle must report and sign delivery log. 51 CCTV cameras installed 24 / 7 operation. Weekly drainage checks completed.	Medium risk The site development in 2018 to 2020 will require significant changes to the south yard.
Yard, surface water drains, ground water	Oil from vehicles	Oils, petrol etc.	Surface run off in an abnormal or emergency condition and into the drainage system.	Vehicle work on hard ground, no liquid stored on open ground. All vehicles must be maintained to prevent leaks and good working order. All vehicle must report and sign delivery log. 51 CCTV cameras installed 24 / 7 operation. Unit 69 warehouse as an interceptor installed below ground with an alarm system. Annual cleaning and calibration established. Contractors fuels stored in fit for purpose containers.	Medium risk An increased risk due to contractor activity on site.
Sewer system backfilling on to site.	sewer	Sewage waste sites	Drainage back fill conditions results in waste material flowing on to site	No drainage back fill problems been reported previously. Drainage system cleaned, surveyed and maintained. All drains clearly identified by colour coded.	Low risk No change.

Fugitive Emissions Report for Princes Cardiff 2018

Release Point emission to water continued	Source	Substances/s	Emission Source	Control Measures	Risk Assessment
Waste juice being disposed of down the drainage system.	Production, offices, canteen, warehouse etc.	Waste product	Employees disposing of waste unaware of COD, pH, suspended solids, permit conditions and costs of non compliance.	All employees have been trained on spillage and permit condition for S1, emission point to sewer, annual refresher training. Juice from the tetra pak compactor collected in IBC directly from the compactor, IBC stored on bunds.	Medium risk Significant changes planned for 2019 with the new process and production equipment installation.

Fugitive Emissions from Waste

Release Point	Source	Substance/s	Emission Source	Control Measures	Risk Assessment
Process areas, transportation around site, contractors waste arrangements	Process Waste	Cardboard, paper, waste juice, plastic, hazardous waste, metal, polythene, wood, office waste, food waste.	Production process, canteen, engineering work, office processes, contractors.	All tasks and operations on site have risk assessments, standard operating procedures and are supervised by managers and supervisors. All waste is managed by trained personnel and licenced waste companies. Audits completed.	Low risk No Change
Fly tipping for unauthorised members of the public	Fly tipping from people who don't want to use and pay for the local authority service	Uncontrolled solid waste	Members of the public	Perimeter fence installed and regularly checked. CCTV with warning signs. All entrances have gates which are locked when no employees are on site. Unit 72 gates locked when unit 72 not in use. Police contact regarding suspicious activity.	Medium risk Risk assessments Gen 01.18, Gen 01.19, Gen01.20. Security company employed.

Fugitive Emissions Report for Princes Cardiff 2018

Fugitive Emissions Released to Ground and Groundwater

Release Point	Source	Substance/s	Emission Source	Control Measures	Risk Assessment
Boreholes, open ground	Production activities around site. Contractors activities	Product and substances used on site	Opened ground or leaking drainage system	All processes are carried out on sealed ground internally or externally. No work is carried out on unprotected ground. Boreholes where made during the planning and investigation of the site, all the boreholes were sealed. New drainage systems to be installed during the site development 2018, 2019 years.	Medium risk



Signed

Mark Thomas; EHS Manager, Princes Soft Drinks – Cardiff

Date10th January 2019.....