

Environment Agency permitting decisions

Bespoke Variation (Substantial)

We have decided to issue the variation for Snodland Paper Mill operated by Smurfit Kappa UK Ltd.

The variation number is EPR/BJ7433IQ/V004

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Key issues of the decision

Operating techniques

Relevant BAT Conclusions

The application has been reviewed against the relevant BAT Conclusions published 30/09/2014 for the Paper and Pulp Sector. The following BAT Conclusions from the list published are relevant for this site:

1, 2, 5 to 18, 42 to 48, 50, 52, 53.

Energy Efficiency

The PM9 machine, associated equipment and remaining Mill electrical loads, including the process water supply and effluent treatment plant (ETP) will be supplied with electricity from the SSE Generation Limited (SSE) combined heat and power (CHP) plant (permit number EPR/BJ7506IM) until contract termination in 2018. The proposed electrical systems will have a specific energy consumption of 0.44 MWh/Air Dried

Tonne of Paper produced (ADT) against the BREF benchmark range of 0.3 – 0.7 MWh/ADT.

Overall steam consumption for the PM9 machine is anticipated to be 1.32 MWh/ADT paper produced, against the benchmark of 1.1 – 1.8 MWh/ADT from the BREF.

This gives an overall specific energy consumption of the new PM9 of 1.76 MWh/ADT, an improvement of approximately 21.5% over the PM7/8 situation.

The operator has proposed to delay implementation of certain heat recovery techniques normally considered to represent BAT, due to the supply contract with the SSE CHP plant, which runs until 2018. The contract is based on a fixed price for a given energy supply and energy usage below the threshold does not accrue cost reductions. Steam up to a maximum usage of 74.5 t/h is currently purchased at a fixed total price regardless of actual usage below the limit. Since the expected PM9 steam demand is below this limit (approx 60 t/h at full production), the operator would see no cost benefit under the present contract for reducing steam usage.

The operator therefore considers that the cost of implementing maximum optimised heat recovery (which would be considered BAT) immediately is not justified at the present time. They do consider that such techniques are necessary (and desirable) post contract termination. In the interim they are developing the design and specification of the installation's replacement power and steam generation facility, which will be integrated with the development of optimised industry standard energy recovery systems, for the post contract termination period in 2018. The steam demand associated with delayed implementation of the heat recovery techniques is around 10 t/h.

The following heat recovery options have not yet been explored/installed:

- Recovery of heat from the Turbair fan (which supplies the vacuum requirements of PM9) exhaust;
- Use of condensate from the main condensate vessel (used for heating the hood ventilation air supply) to heat the wire and press section water showers;
- Replacement of steam for fresh water and white water heating and machine hall ventilation;
- Potential for recovery of heat from the ETP systems to remove the need for cooling to achieve the temperature limit of the discharge (see below).

Whilst we understand the incentive to make use of the steam, which is provided as part of the contractual arrangement between the operator and SSE until 2018, this is not an argument which is based on BAT principles.

We asked the operator to provide an alternative justification for the delayed implementation of the heat recovery measures.

They responded on 22/12/2014 with a response setting out the environmental and other consequences. The operator is currently investigating options for CHP post the SSE contract termination. An improvement condition (IC9.33) covers submission of a BAT assessment for this by the end of 2016. We have also included an improvement condition (IC9.29) for the operator to investigate and implement further heat recovery options, tied to the time scales for replacement of the current CHP plant.

Steam Management During Paper Breaks

A potential issue identified was the potential for steam to be vented during situations where demand from the mill drops rapidly, such as paper breaks, when the CHP is operating the gas turbine (GT). Notwithstanding the energy losses, there is a potential for steam venting to be a source of noise. In full production PM9 will require around 60 t/h. In break condition the SSE CHP GT is to be throttled back to a steam generation rate of 44 t/h (its minimum stable output). This tonnage is absorbed by the CHP steam dump valve (15 t/h), PM9 steam dump valve (17 t/h) and the PM9 LP steam demand (12 t/h) (total 44 t/h), plus the CHP steam dump condenser (20 t/h although this is anticipated not to be used).

The operator has stated that there will be no steam produced in excess of 44 t/h during a paper break, except for the short period of time whilst the GT is ramped down to that level. During that period it is expected that the combined capacity of the dryer section heat sink and other low pressure consumers (e.g. water systems steam injectors) and potentially the Heat Recovery Steam Generator silenced steam vent will handle any short term over pressure.

Procedures have been outlined to minimise energy losses during steam venting. The operator has stated that:

The use of vents will not change as a consequence of the duration of paper breaks. So long as the GT is running, the generation and venting of steam will be at the rate of 44 t/h and it is not anticipated that the dump condenser will be used. Paper breaks will normally be of less than 30 minutes duration, and rarely more than an hour. Beyond that it is most likely that the machine would be 'shut' to rectify any problem preventing normal transition between paper break and paper making.

The dump condenser uses at least 2.5 te/h continuously (more in cold weather) to keep it warm and ready to take full steam so its usable dump capacity is really only 17.5 te/h. The dump condenser takes about 1 hour to bring in to use, even when maintained in the warm condition, but this time is influenced by prevailing process and ambient conditions and may be uncertain. For the PM9 paper break time forecasted, the energy loss through venting steam to atmosphere is a small percentage of the energy loss to atmosphere were the dump condenser warmed continuously. With both venting & dumping, the steam's latent heat is lost to atmosphere. Only the relatively small quantity of sensible heat in the condensate is recovered when steam is routed to the dump condenser. There is a net energy saving via use of

the dump condenser only if the venting time is to exceed 8.5 hrs and it is therefore considered best to avoid use of the dump condenser. Therefore, use of the dump condenser is not considered to be BAT for managing interruptions to steam demand.

Where a machine shut is foreseen to last more than 8 hours, the GT will be stopped.

Where a machine shut is foreseen to be more than one hour, but less than eight hours, or is of unpredictable duration, the GT may be stopped at the discretion of SSE, depending on the frequency of stoppages and the potential impact on SSE plant, to avoid excessive maintenance problems and loss of plant efficiency.

We consider that the above represents the best arrangement for the current configuration of the installation. An additional procedure has been submitted and agreed as an operational technique in table S1.2 to manage the relationship between the paper mill and the CHP plant.

Water usage

With the installation of PM9, the operator proposes to reduce water usage of the installation to 2.8 - 3.3 m³ of waste water discharged per ADT of paper produced. This is within the range of 1.5 - 10 m³/ADT specified in BAT Conclusion 5 for this type of operation (previous water usage for PM7/PM8 was 6.9 m³/ADT). The operator considers that this represents BAT for light weight paper grades, as these grades have inherently higher specific water consumption than heavy weight papers due to the high surface area effect in relation to the water consumers on the paper machine.

This will be achieved by using the following methods:

- Segregation of water type (fresh water as cold, warm, hot and process water as white, clarified and dirty) and reuse of the water as possible.
- Fresh water reserved for essential uses (such as chemical dilution, replacing evaporative losses, high pressure felt showers)
- Use of white water for stock preparation, approach flow and broke systems.
- Installation of a dissolved air flotation (DAF) system to recover clarified water for reuse and fibre for stock preparation. Around 70% of process effluent is returned as clarified water to the process to replace fresh water on machine showers, chemical mixing and preparation, dilution of rejects. The balance of approximately 200 m³/h will be routed to the ETP.
- Use principally of mechanical seals to minimise water use. Where seal water is used flow control units will be used to minimise fresh water use (clarified water is not proposed due to potential damage to the seals).

A list of users of freshwater consumers was provided as part of the application. This indicated several items that could potentially run on a super clear filtrate. The operator considers that:

'only process critical consumers are supplied with fresh water where essential. Re-use of process water in these applications brings problems with scaling and high wear rates due to the water chemistry and high ash loading and is not acceptable due to the high maintenance downtime which results. Use of water for cleaning purposes is restricted to fresh water for safety reasons where there are known hazards associated with biological contamination of floors'

The operator also considers that any further closure of the water circuit will have serious negative impacts, such as:

- increased raw material consumption (through more sophisticated and expensive chemicals);
- increased energy consumption;
- detrimental impacts on paper machine uptime performance and subsequent consequences for specific consumptions, of power, steam and raw materials, in addition to water usage;
- Potential impact on the anaerobic reactor if influent condition (COD) is critical and must be maintained at optimum levels to avoid deterioration of reactor performance.

We consider that the approach proposed represents BAT for the installation.

PM9 Tank Farm Bunding

The main process water tanks on site are situated in two discrete tank farms: Tank Farms 1 and 2 (TF1 and TF2). TF1 contains the Stock Tank (800 m³ capacity) and Buffer Tank (unclarified water, 500 m³). TF2 comprises the Clarified Water Tank (250 m³) and Dirty Water Tank (800 m³, but operating at 500 m³ normally, with an open overflow back to the mill drainage system). Both farms drain ultimately to the mill drainage system which has a blind sump of 190 m³ capacity, which is pumped out to the Dirty Water Tank.

TF2 is bunded to 400 m³ capacity, which taken with the capacity in the mill drainage system, provides adequate containment for the Dirty Water Tank Operating at 500 m³. TF1 is not bunded, but kerbed and drained to direct spillages to the mill drainage system. In the event of a major spillage from TF1 the Dirty Water Tank overflow at 500 m³ will be shut to provide an addition 300 m³ capacity, and a high level overflow will allow the Dirty Water Tank to overflow into the TF2 bund. Together, these provide adequate containment for the largest tank in TF1. However this relies on active measures and therefore there is the possibility that, for example, the drain system pump could fail to pump the effluent to TF2.

We asked the operator to assess the impact of a spill escaping the drain system. The operator responded that the PM9 area leads down to the Raw Materials Yard, which is concrete hardstanding and edged by a solid concrete wall, with flood gates. In accordance with their emergency

procedures the flood gates and the single drain point from the yard would be closed, allowing the spillage to be contained at the lowest point of the yard until a pump could be deployed to remove the spillage. We consider that the containment strategy is adequate.

Changes to the Effluent Treatment Plant

The operator has applied to replace the existing ETP anaerobic digestion (AD) plant (the Biothane Reactor) with a high load internal recirculation (IR) AD reactor. The system will also include a biogas desulphurisation stage using aerobic biological scrubbing system (BIDOX process) which converts hydrogen sulphide gas to sulphuric acid, which can be used on-site as an anti-scaling additive in the mill water system. The installation will include a biogas holder (Biodome, double membrane type) with a storage capacity of 400 m³, from which the gas engines will receive biogas. Effluent is held in an existing 500 m³ conditioning/balancing tank before proceeding to treatment. The existing ETP aerobic lagoon, settlement systems and discharge point arrangements will also be retained.

The new AD plant area is bunded, but the bund has water-tight access doors to allow vehicular (for desludging) and pedestrian access. The operator has confirmed that they have procedures in place for ensuring the doors are kept closed at all times except when accessing the bund, and this will be monitored. We asked the operator to assess the impact of a spill escaping the bund should the door be left open. In this scenario a spillage would either be retained ultimately in the aerobic treatment lagoon, where it could be contained, or in the nearby perimeter ditch which is blocked off and so would contain the spill on site.

Under the old ETP arrangement around 40% of effluent bypassed the Biothane reactor and received only aerobic treatment. The revised ETP is designed to take all the effluent from the process. The ETP will take excess clarified water from the mill water system with the following parameters:

- TSS <400 mg/l;
- soluble COD 8400 mg/l;
- COD loading of 24000 kg/day.

The new ETP design is expected to deliver the following reductions in emissions from point W1 to the River Medway once the plant is optimised (non-listed parameters are unchanged):

Parameter	Reference period	Current Limit	Expected 1st Year Value	Post Optimisation Expected Value
Volume	24 hour	8000 m ³	3000 - 3500 m ³	2520 m ³
Flowrate	One second	0.28 m ³	0.15 m ³	0.09 m ³
Total Suspended Solids (TSS)	Flow proportional composite (24 hour)	60 mg/l	<40 mg/l	<40 mg/l
TSS	Spot	90 mg/l	<60 mg/l	<60 mg/l

Biochemical Oxygen Demand (BOD)	Flow proportional composite (24 hour)	40 mg/l	<20 mg/l	<20 mg/l
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The operator has proposed that any reductions to the emission limit values set in the permit in Table S3.2 are made once the performance of the ETP has been optimised. We have retained the existing emission limits and parameters for the W1 discharge but have set an improvement condition IC9.32 for the operator to review the performance of the ETP post optimisation and propose new limits based on optimised performance and appropriate BAT-AELs. All the emission limits will be reviewed in the upcoming Paper and Pulp sector review (this is separate to the variation process caused by the operator's changes).

Whilst the proposed final discharge temperature (30°C) is not reduced, this will be achieved by using an existing evaporative cooling tower to remove heat from the effluent discharge flow. This is required as the IR reactor operates at a higher temperature than the Biothane process owing to the higher operating temperatures required for optimal performance.

Although effluent discharge flows will be (after optimisation) lower than previously, there is no significant overall reduction in heat load to the river because average discharge temperature will be slightly higher than in the past.

The operator has proposed to investigate further options for the removal and, recovery to effective use, of excess heat from the effluent stream in order to reduce the discharge temperature further as efficiently as possible. This is covered by improvement condition IC9.29 investigating heat recovery.

Biogas Combustion

Around 375 Nm³/h of biogas is expected to be generated by the ETP AD plant. The operator proposes to utilise the gas produced by burning it in two spark ignition Jenbacher engines which will provide CHP. This approach was selected after an assessment of BAT for gas utilisation required as part of a previous improvement condition imposed under the permit. Previously the gas was flared with no energy recovery.

The engines are rated at 1.207 and 2.091 MW_{Th} input and provide electrical output at 0.5 and 0.835 MW_e respectively. Waste heat recovery will also be provided, recovering 1.248 MW_{Th} for pre-heating water in the new make-up water plant (approx 3% of total heat demand). Due to contractual obligations the electricity is exported to the grid rather than used on-site. See the discussion of the techniques proposed for energy efficiency which covers the SSE-operated CHP plant, which provides the power and heat for the installation.

The existing flare is retained for use as emergency back-up and for engine maintenance periods, and has sufficient capacity for all gas to be flared.

The engines will be housed in acoustic enclosures to minimise noise. The operator proposes two 5000 litre lubrication oil tanks (one for clean, one for

used oil), with dedicated aboveground pipework. The tanks are double skinned and banded to 110% of volume.

The engines will discharge to air via a 31 m tall common stack. Proposed emissions from the engines were considered and a detailed air quality assessment was provided as part of the application. The assessment concludes that there will be no exceedences of air quality Environmental Quality Standards (EQSs) at receptors for all pollutants. This has been assessed and we consider that the report's conclusions are valid. A summary of the maximum result at receptors is presented below. All results for carbon monoxide (CO) were found to be insignificant at receptors and are not repeated here. Ecological impacts are set out in the Biodiversity, Heritage, Landscape and Nature Conservation section below.

Pollutant	EQS/EAL	Background	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
	µg/m ³	µg/m ³	µg/m ³	% of EAL	µg/m ³	% of EAL
NO ₂ (hourly mean)	40	20.3	0.3	0.8	20.7	51.7
NO ₂ (annual mean)	200	20.3	16.2	8.1	56.9	28.4
SO ₂ (15-min mean)	266	6.4	19.8	7.5	26.2	9.9
SO ₂ (hourly mean)	350	6.4	14.8	4.2	21.2	6.1
SO ₂ (annual mean)	125	6.4	2.6	2.1	9.0	7.2

We have imposed concentration limits on Oxides of Nitrogen, Sulphur Dioxide, Carbon Monoxide and Total VOCs. Apart from Sulphur Dioxide, we have set the limits based on our AD standard conditions and LFTGN08 regarding monitoring of landfill gas engines. The Sulphur Dioxide limit is set at 160 mg/m³ as this is the level modelled in the Air Quality Assessment based on the operator's conservative performance assumptions for the proposed biogas desulphurisation plant. Oxides of Nitrogen and Carbon Monoxide were modelled at the proposed LFTGN08 concentration limits,

Waste Management

The largest waste producer on the site will be the stock preparation process feeding PM9. Other significant streams include sludge from the AD and aerobic treatment stages, and oil from the CHP engines. Oil is recovered by a specialist contractor. AD sludge is expected to be sold for landspreading once the AD process is optimised. Aerobic sludge is currently recycled to the paper making process and this will continue. PM9 will generate around 31,000 t/yr, mainly ragged wire, plastic rejects, sand and fine rejects (fibre and plastic). Heavy rejects (metal) will be sent for recovery off-site. All streams are segregated to aid recovery.

The operator proposes to develop their waste strategy for PM9 over the next 4 years, with the target to ultimately not send any waste to landfill. Initially in the first year, approximately 26,000 tonnes is anticipated to be landfilled, mainly ragged and plastics. Sand and fines will be directed for recovery (composting), though not the full tonnage.

In the medium term, the operator proposes off-site shredding to recover metal from ragger, whilst plastics will be sent off-site for secondary recovered fuel (SRF) or refuse derived fuel (RDF).

The operator has considered on-site treatment (such as pelletisation/drying), of wastes, but considered this only to be feasible prior to incineration for energy recovery as there is a benefit to increasing the calorific value. However they consider the likely tonnage of waste to be too low to render the use of incineration on-site economic, and state:

Finally, generation of steam by incineration with heat recovery introduces wider implications for the overall energy efficiency of the Mill. The proposed new CHP facility to be commissioned post 2018 will offer high energy efficiencies which will be substantially in excess of the energy efficiency likely to be achieved by a waste incineration plant. There is a complex balance to be struck between energy generation from a renewable source, energy generation using fossil fuel and waste recovery and recycle via treatment and separation (i.e., non-combustion alternatives). SKTH have concluded that this balance is best served by waste recovery and recycle for maximum raw material efficiency via material reuse coupled with high efficiency generation of heat and power which optimises the wider overall energy efficiency of the Mill. The benefit offered by fossil fuel displacement which is delivered by waste incineration, whilst desirable, is not considered to offer sufficient justification in terms of the wider aspects of raw material usage and overall energy efficiency.

In the context of the integrated operation of the Mill, drying, pelletisation and incineration for energy recovery of the produced waste streams is therefore not considered to be BAT.

Whilst the proposals broadly comply with BAT points 12 and 52, we believe that proposals could be implemented over a shorter time frame, and so we have included an improvement condition IC9.30 for the operator to re-examine their strategy once PM9 is operational and the waste streams from the new machine are appropriately stabilised.

Biodiversity, Heritage, Landscape and Nature Conservation

The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. A full assessment of the application and its potential to affect the following sites has been carried out.

Habitats Sites (located within 10 km of the Installation):

- Peters Pit Special Area of Conservation (SAC)
- North Downs Woodlands SAC

Sites of Special Scientific Interest (SSSIs) (located within 2 km of the installation)

- Holborough to Burnham Marshes
- Wouldham to Detling Escarpment
- Peters Pit

Non-statutory Sites (located within 2 km of the installation)

- Eccles Old Pit Local Wildlife Site (LWS)
- Leybourne Lakes LWS
- River Medway and Marshes LWS
- Ancient Woodland (unnamed)

Maximum Annual Mean Oxides of Nitrogen Concentrations

Location	NO _x PC µg/m ³	PC/CL %	Background	NO _x PEC µg/m ³	PEC/CL %
North Downs Woodlands SAC	0.02	0.1	n/a	n/a	n/a
Peters Pit SAC/SSSI	0.51	1.7	23.6	24.1	80.3
Holborough to Burham Marshes SSSI	1.5	4.9	25.1	26.6	88.6
Wouldham to Detling Escarpment SSSI	0.11	0.4	n/a	n/a	n/a
Eccles Old Pit LWS	0.21	0.7	n/a	n/a	n/a
Leybourne Lakes LWS	1.0	3.3	n/a	n/a	n/a
River Medway and Marshes LWS	0.66	2.2	n/a	n/a	n/a
Ancient Woodland	0.09	0.1	n/a	n/a	n/a

Maximum Annual Mean Sulphur Dioxide Concentrations

Location	SO ₂ PC µg/m ³	PC/CL %	Background	SO ₂ PEC µg/m ³	PEC/CL %
North Downs Woodlands SAC	<0.1	<0.1	n/a	n/a	n/a
Peters Pit SAC/SSSI	0.2	0.8	n/a	n/a	n/a
Holborough to Burham Marshes SSSI	0.5	2.4	3.2	3.7	18.4
Wouldham to Detling Escarpment SSSI	<0.1	<0.1	n/a	n/a	n/a
Eccles Old Pit LWS	0.1	0.3	n/a	n/a	n/a
Leybourne Lakes LWS	0.3	1.6	n/a	n/a	n/a
River Medway and Marshes LWS	0.2	1.1	n/a	n/a	n/a
Ancient Woodland	<0.1	0.1	n/a	n/a	n/a

Nitrogen Deposition

Location	N dep PC kg N/ha/yr	Lower CL kg N/ha/yr	PC/CL %	Background N Dep	N dep PEC kg N/ha/yr	PEC/CL %
Peters Pit SAC	0.15	-	-	36.26	36.41	-
North Downs Woodlands SAC*	0.01	5	0.2	n/a	n/a	n/a
Holborough to Burham Marshes	0.21	20	1.1	18.76	18.97	94.9
Peters Pit SSSI	0.15	10	1.5	36.26	36.41	362.6
Wouldham to Detling Escarpment*	0.03	5	0.6	n/a	n/a	n/a

* Operator did not include this assessment, concluding it was insignificant. It has been derived from Operator's figures for completeness.

Acid Deposition

Location	N acid dep PC keq/ha/yr	S acid dep PC keq/ha/yr	MinCL Max N keq/ha/yr	MinCL Max S keq/ha/yr	PC/ N acid CL %	PC/ S acid CL %
Peters Pit SAC	0.01	0.04	-	-	-	-
North Downs Woodlands SAC*	0.00	<0.02	1.983	1.841	0.00	<1.08
Holborough to Burham Marshes	0.02	0.06	4.86	4.00	0.31	1.39
Peters Pit SSSI	0.01	0.04	11.04	10.90	0.09	0.35
Wouldham to Detling Escarpment*	0.002	<0.02	1.983	1.841	0.1	<1.1

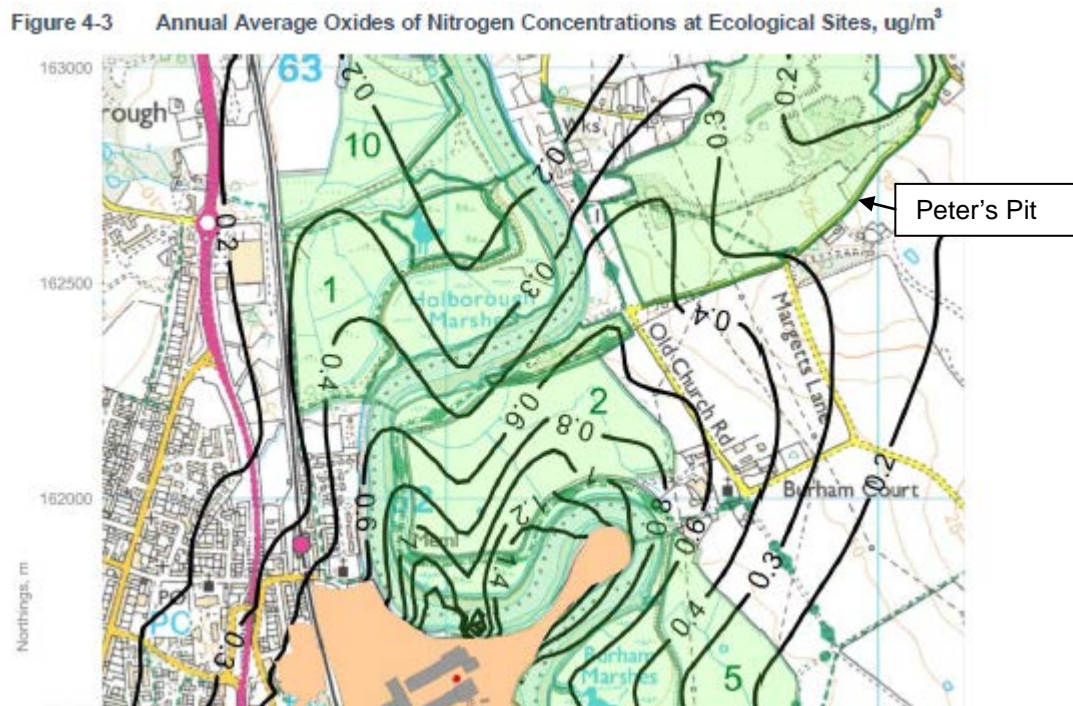
* Operator did not include this assessment, concluding it was insignificant. It has been derived from Operator's figures for completeness.

For Peter's Pit SAC, there is no site relevant Critical Load for acid deposition in APIS - no Critical Loads are set for freshwater. For North Downs Woodlands SAC, Holborough to Burham Marshes SSSI, Peters Pit SSSI Wouldham to Detling Escarpment SSSI, we produced a Critical Load Function Graphs from the APIS website using the above acid deposition data, which shows that there is no exceedence of the Process Contribution CL Functions.

Peters Pit SAC is designated purely for Great Crested Newts (*T. cristatus*), and as such APIS does not provide any critical load data from which to derive a result for nitrogen deposition and acid deposition. In line with our guidance, where a conservation site is designated purely for a species, we do not consider the impacts of aerial emissions from the proposal on that conservation site, and hence we can conclude that there will be no likely significant effect from aerial emissions on Peters Pit SAC either alone or in-combination.

Looking at the criteria for Peter's Pit SSSI status, Nitrogen Deposition does not screen out because in this location the background concentration is currently exceeding the appropriate environmental criterion and the new process contribution will cause an additional small increase. We consider that this small additional impact is not significant with respect to the existing levels. The calculation of nitrogen deposition is derived from the Annual Average NO_x concentration - in this case the highest figure for Peters Pit was used for the deposition calculation (0.51 µg/m³). An extract of the contour plot of NO_x concentrations at Peters Pit (Figure 4-3 below) shows that this level is likely only in the southwest part of the SSSI, and that levels across the majority of the site will be lower. As stated above is designated primarily for Great Crested Newts (*T. cristatus*). APIS does not provide critical load data for nitrogen deposition for *T. cristatus*, which are not directly impacted by high levels on nitrogen. Emission limits will be placed on the engines in the permit to ensure compliance with the proposed emissions used in the assessment.

Peter's Pit - Annual Average NO_x contour plot



There are no other likely mechanisms by which the application may impact the sites. We consider that the application will not affect the features of the site/species/habitat.

Formal consultation has been carried out with Natural England regarding potential impacts on the SACs and SSSIs. The consultation response (Annex 2) was taken into account in the permitting decision.

Improvement Conditions

In addition to the improvement conditions discussed in the Key Issues above, we have also set a condition (IC9.31) for the operator to report on

the commissioning of PM9 to ensure that the plant as installed and operates is in accordance with expectations. We have also clarified the existing improvement programme requirements - one existing improvement condition (IC9.27) regarding the site drainage system is still uncompleted and we have extended the completion date to tie in with proposed works. All other existing conditions are either completed or superseded by recent developments.

Annex 1: decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/ notice.

Aspect considered	Justification / Detail	Criteria met
Yes		
Receipt of submission		
Confidential information	<p>A claim for commercial or industrial confidentiality has been made by Smurfit Kappa UK Ltd.</p> <p>We have accepted the claim for confidentiality. We consider that the inclusion of the relevant information on the public register would prejudice the applicant's interests to an unreasonable degree. The reasons for this are given in the notice of determination for the claim. The decision was taken in accordance with our guidance on commercial confidentiality.</p>	✓
Consultation		
Scope of consultation	<p>The consultation requirements were identified and implemented. The decision was taken in accordance with our Public Participation Statement and our Working Together Agreements.</p> <p>Consultees: Local Authority - Tonbridge and Malling Food Standards Agency (FSA) Health & Safety Executive (HSE) Public Health England (PHE) and Director of Public Health Local Fire Service – Kent Fire And Rescue Natural England</p>	✓
Responses to consultation, web publicising	<p>The web publicising and consultation responses (Annex 2) were taken into account in the decision.</p> <p>The decision was taken in accordance with our guidance.</p>	✓
Operator		
Control of the facility	<p>We are satisfied that the operator is the person who will have control over the operation of part of the facility after the variation of the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator.</p>	✓
The facility		

Aspect considered	Justification / Detail	Criteria met
		Yes
The regulated facility	<p>The extent/nature of the facilities taking place at the site required clarification.</p> <p>The decision on the facility was taken in accordance with RGN 2 Understanding the meaning of regulated facility.</p> <p>The regulated facility is an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations and the following directly associated activities (DAAs).</p> <ul style="list-style-type: none"> • S6.1A1(b) Producing, in industrial plant, paper and board where the plant has a production capacity of more than 20 tonnes per day; • S5.4A1(a)(i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving biological treatment; • DAA Treatment of Water; • DAA Surface water disposal; • DAA Biogas combustion; • DAA Auxiliary flare operation. <p>This permit applies to only one part of the installation - a CHP plant for the installation is operated by SSE Generation Limited under permit EPR/BJ7506IM. The names and permit numbers of the operators of other parts of the installation are detailed in the permit's introductory note.</p>	✓
European Directives		
Applicable directives	<p>All applicable European directives have been considered in the determination of the application.</p> <p>The Industrial Emissions Directive applies to this installation.</p> <p><u>Condition 3.1.4 (added)</u> Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.</p> <p>This systematic appraisal would need to be revisited periodically to ensure that risks had not changed. However, it is reasonable to assume that if baseline</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>monitoring had not been originally required as part of the baseline/site condition report submitted as part of the application, and all risks remain the same, such on-going monitoring would not be required.</p> <p><u>Condition 4.3.1 (amended)</u> The Operator shall</p> <p>(a) in the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—</p> <p>(i) inform the Environment Agency,</p> <p>(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and</p> <p>(iii) take the measures necessary to prevent further possible incidents or accidents;</p> <p>(b) in the event of a breach of any permit condition, the operator must immediately—</p> <p>(i) inform the Environment Agency, and</p> <p>(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;</p> <p>(c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.</p> <p><u>Condition 4.3.2 (amended)</u> Any information provided under condition 4.3.1(a)(i), or 4.3.1(b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.</p> <p>Notification conditions 4.3.1 and 4.3.2 are amended to meet the requirements of the IED.</p>	
The site		
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility including discharge points including the location of the part of the installation to which this permit applies on that	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>site. Some small areas of the installation have moved from the control of SSE to the operator. These include a former oil storage area (now decommissioned and removed) and some pipe runs. As there is no reduction in the area of the overall installation, we are able to make these minor amendments as part of the variation. A new site plan has been submitted and included in Schedule 7 of the permit.</p> <p>A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.</p>	
Biodiversity, Heritage, Landscape and Nature Conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>A full assessment of the application and its potential to affect the site(s)/species/habitat has been carried out as part of the permitting process. See Key Issues section.</p> <p>Formal consultation has been carried out with Natural England. The consultation responses (Annex 2) were taken into account in the permitting decision.</p>	✓
Environmental Risk Assessment and operating techniques		
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility. See Key Issues section.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant with the exception of NO_x and SO₂.</p>	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. See Key Issues section.</p> <p>Relevant Guidance Includes:</p> <p>How to comply with your Environmental Permit EPR 1.00; Sector Guidance Note for Paper and Pulp EPR 6.01; Guidance for Combustion Activities EPR 1.01; Sector Guidance for Waste Treatment S5.06; Paper And Pulp BAT Reference Document BREF and</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>BAT Conclusions document; Guidance on Monitoring Landfill Gas Engines LFTGN08.</p> <p>The proposed techniques/emission levels for priorities for control are in line with the benchmark levels contained in the TGN and we consider them to represent appropriate techniques for the facility. The permit conditions ensure compliance with relevant BREFs and BAT Conclusions.</p> <p>We consider that the emission limits included in the installation permit reflect the BAT for the sector.</p>	
The permit conditions		
Updating permit conditions during consolidation	<p>We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The new conditions have the same meaning as those in the previous permit(s).</p> <p>The operator has agreed that the new conditions are acceptable.</p>	✓
Improvement conditions	<p>Based on the information on the application, we consider that we need to impose improvement conditions. See Key Issues Section.</p>	✓
Incorporating the application	<p>We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process.</p> <p>These descriptions are specified in the Operating Techniques table in the permit. We have excluded sections relating to a proposed baling plant operation at the installation, as this was withdrawn from the application.</p> <p>We have included the operator's commissioning plan as a technique. This was received during determination (and was due to be the subject of a pre-operational condition, which was subsequently removed from the final permit.) and covers techniques to be applied during the commissioning period.</p>	✓
Emission limits	<p>We have decided that emission limits should be set for the parameters listed in the permit. See Key Issues section.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Monitoring	<p>We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. See Key issues section.</p> <p>Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.</p>	✓
Reporting	<p>We have specified reporting in the permit.</p> <p>We have imposed an annual reporting requirement for the emissions monitoring carried out on emissions to air from the biogas engines and flare. This is in accordance with our Guidance on Monitoring Landfill Gas Engines and Flares, and is a standard requirement for AD plants combusting biogas in this manner.</p> <p>Annual production of digestate is required to be reported. Performance parameters are left unchanged apart from the addition of flare operational hours. This has been added as monitoring is required if the flare is operated more than 10% of the year.</p> <p>Number and duration of paper breaks has been added to monitor potential impacts on site performance. Ragged wire and Light rejects (both EWC code 03 03 07) are reported separately so that progress with waste reduction is clear. Performance parameters in general will be reviewed during the upcoming Paper and Pulp sector review.</p> <p>We made these decisions in accordance with: Paper And Pulp BAT Reference Document BREF and BAT Conclusions document; Guidance on Monitoring Landfill Gas Engines LFTGN08.</p>	✓

Annex 2: Consultation and web publicising responses

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process.

Response received from
Public Health England (07/11/2014)
Brief summary of issues raised
<p>We recommend that any Environmental Permit issued for this site should contain conditions to ensure that the following potential emissions do not impact upon public health: emissions to air of biogas, nitrogen oxides and sulphur dioxide from anaerobic digestion as part of the combined heat and power plant processes.</p> <p>Based solely on the information contained in the application provided, PHE has no significant concerns regarding risk to health of the local population from this proposed activity.</p> <p>This consultation response is based on the assumption that the permit holder shall take all appropriate measures to prevent or control pollution, in accordance with the relevant sector guidance, industry best practice and guidance for preventing and responding to fires. It is recommended that further consideration is given to the implementation of fire prevention measures, and measures to minimise the public health impacts in the event of a fire incident, such as fire breaks and adequate access for firefighting.</p>
Summary of actions taken or show how this has been covered
<p>Emissions to air from the from anaerobic digestion and combined heat and power plant processes are covered by the emission limits set on the engines in table S3.1. Procedures are in place to cover breakdown and other emergency situations. The arrangement of the proposed CHP engines, the buffer capacity in the biogas holder and the automatic diversion to flare in the event of a failure or excess biogas pressure, mean that it is unlikely that there would be a release of unabated biogas. The operator has assessed combustion emissions as part of the application and the limits set in the permit will ensure no exceedence of air quality standards.</p> <p>The site operates to an Accident Management Plan (AMP), which covers the existing risks from a fire on site. A revised AMP is being developed to cover proposed new operational plant.</p> <p>Note also that a waste paper baling operation and additional storage associated with it were included in the variation application at time of consultation, but have since been withdrawn by the operator.</p>

Response received from
HSE (27/10/2014)
Brief summary of issues raised
No significant issues raised.
Summary of actions taken or show how this has been covered
n/a

Response received from
Natural England (28/11/2014)
Brief summary of issues raised
Agree with our conclusions of no likely significant effect.
Summary of actions taken or show how this has been covered
n/a