



Neutral Citation Number: [2019] EWCA Civ 1962

Case No: C1/2018/2968

**IN THE COURT OF APPEAL (CIVIL DIVISION)**  
**ON APPEAL FROM THE ADMINISTRATIVE COURT**  
**PLANNING COURT**  
**MRS JUSTICE LANG DBE**  
**[2018] EWHC 2962 (Admin)**

Royal Courts of Justice  
Strand, London, WC2A 2LL

Date: 19 November 2019

**Before:**

**Lord Justice Lindblom**  
**Lord Justice Henderson**  
**and**  
**Lord Justice Peter Jackson**

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**Between:**

**R. (on the application of BACI Bedfordshire Ltd.)**      **Appellant**

**- and -**

**(1) The Environment Agency**  
**(2) Covanta Energy Ltd.**      **Respondents**

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**Mr Daniel Stedman Jones** (instructed by **Richard Buxton Solicitors**) for the **Appellant**  
**Mr Guy Williams** (instructed by **the Environment Agency**) for the **First Respondent**  
**Mr Richard Harwood Q.C.** (instructed by **Hogan Lovells International LLP**)  
for the **Second Respondent**

Hearing date: 2 July 2019  
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**Judgment Approved by the court**  
**for handing down**  
**(subject to editorial corrections)**

## Lord Justice Lindblom:

### *Introduction*

1. Did an environmental permit for a waste incineration plant incorporate an error made in the permit application, and, if so, what were the consequences in law for the permit? That is the question at the heart of this appeal.
2. The appellant, BACI Bedfordshire Ltd., appeals against the order of Lang J., dated 6 November 2018, by which she dismissed its claim for judicial review challenging the environmental permit granted by the first respondent, the Environment Agency, to the second respondent, Covanta Energy Ltd., for the operation of a waste incineration plant at Rookery Pit, Stewartby in Bedfordshire. BACI is a local action group opposed to the development. The proposed waste incineration plant is known as the Rookery Pit Energy Recovery Facility. Its operation would recover energy from non-hazardous waste through incineration. It would have a capacity of about 585,000 tonnes of waste per annum. A development consent order was granted for it – as a “nationally significant infrastructure project” under the Planning Act 2008 – on 22 November 2011. Covanta applied for the environmental permit on 15 February 2017. The environmental permit was granted on 26 January 2018, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (“the Environmental Permitting Regulations”).
3. The single ground of challenge in BACI’s claim for judicial review was that the Environment Agency issued the environmental permit unlawfully, on a factually incorrect and scientifically erroneous basis, which was that the measures adopted for dealing with fugitive emissions from incinerator bottom ash (“IBA”) would prevent the discharge of potentially harmful heavy metals – such discharge being in breach of article 46(5) of Directive 2010/75/EU “on industrial emissions (integrated pollution prevention and control)” (“the Industrial Emissions Directive”) and the Environmental Permitting Regulations. BACI contended there was a risk of the unmonitored discharge of toxic dissolved heavy metals into surface water draining to Stewartby Lake, about 500 metres to the north-west of the site. The lake is within a Nitrate Vulnerable Zone, and is connected to the River Ouse system, which feeds the supply of public drinking water. The source of the factual error was said to be a sentence in the “Covanta Rookery South ERF Supporting Information” (“the supporting information document”), which was provided to the Environment Agency with the application for the permit. In the court below, both the Environment Agency and Covanta conceded the error in the supporting information document, but maintained that it had not affected the decision to issue the permit, and that the permit would be effective in preventing the discharge of dissolved heavy metals into the surface water drainage system. Lang J. accepted that argument. Permission to appeal was granted by Lewison L.J. on 8 February 2019.

### *The issues in the appeal*

4. Four main issues emerge from BACI’s grounds of appeal and Covanta’s respondent’s notice: first, whether the judge misconstrued the environmental permit as incorporating paragraph 2.4.5 of the supporting information document without the error contained in that paragraph; second, whether she misdirected herself on the law relating to mistake of fact; third, whether she ought to have acknowledged that the preparation by Covanta of its “Incinerator Bottom Ash (IBA) Dust Management Plan” (“the dust management plan”) was made necessary by the

acknowledged risk of fugitive dust emissions occurring; and fourth, whether she was wrong to rely on the concept of “margin of appreciation” in concluding the permit was not unlawful.

### *The Industrial Emissions Directive*

5. Article 1, “Subject matter”, of the Industrial Emissions Directive states:

“This Directive lays down rules on integrated prevention and control of pollution arising from industrial activities.

It also lays down rules designed to prevent or, where that is not practicable, to reduce emissions into air, water and land and to prevent the generation of waste, in order to achieve a high level of protection of the environment taken as a whole.”

“Pollution” is defined in article 3(2) as “the direct or indirect introduction, as a result of human activity, of substances ... into air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment”.

6. Article 46, “Control of emissions”, states in paragraph 5:

“5. Waste incineration plant sites and waste co-incineration plant sites, including associated storage areas for waste, shall be designed and operated in such a way as to prevent the unauthorised and accidental release of any polluting substances into soil, surface water and groundwater.

Storage capacity shall be provided for contaminated rainwater run-off from the waste incineration plant site or waste co-incineration plant site or for contaminated water arising from spillage or fire-fighting operations. The storage capacity shall be adequate to ensure that such waters can be tested and treated before discharge where necessary.”

7. Other provisions of the Industrial Emissions Directive, not directly relevant to these proceedings, were referred to in the course of argument. Article 44(c) requires an application for a permit for a waste incineration plant to describe measures to “guarantee” that “the residues will be minimised in their amount and harmfulness and recycled where appropriate”. Article 46(3) states that “[discharges] to the aquatic environment of waste water resulting from the cleaning of waste gases shall be limited as far as practicable ...”. In Article 53, “Residues”, paragraph 1 requires residues to be “minimised in their amount and harmfulness ...”; paragraph 2 states that “[transport] and intermediate storage of dry residues in the form of dust shall take place in such a way as to prevent dispersal of those residues in the environment”; and paragraph 3 requires “appropriate tests” to be carried out “to establish the physical and chemical characteristics and the polluting potential of the residues”, and that “[those] tests shall concern the total soluble fraction and heavy metals soluble fraction”.

### *The Environmental Permitting Regulations*

8. Regulation 13(1) of the Environmental Permitting Regulations on the “[grant] of an environmental permit” states that “[on] the application of an operator, the regulator may grant

the operator a permit (an “environmental permit”) authorising ... (a) the operation of a regulated facility” and “(b) that operator as the person authorised to operate that regulated facility”. Regulation 13(3) provides that Part 1 of Schedule 5, “Environmental permits”, applies to an application for the grant of a permit. Paragraph 17 in Part 1 of Schedule 5 requires the determination on such an application to be notified to the applicant. Under paragraph 17(3), the determination includes “the reasons for [it]”.

9. Regulation 35(1) gives effect to the provisions of Schedules 7 to 25B. In Schedule 7, “Part A installations: Industrial Emissions Directive”, paragraph 3 requires the regulator to “exercise its functions under these Regulations for the purpose of achieving a high level of protection of the environment taken as a whole by, in particular, preventing or, where that is not practicable, reducing emissions into the air, water and land”. In Schedule 13, “Waste incineration: Industrial Emissions Directive”, paragraph 4 requires the regulator to “exercise its relevant functions so as to ensure compliance with” several specified provisions of the Industrial Emissions Directive, including “(h) Article 46”.
10. Regulation 36(1) empowers the regulator to serve an enforcement notice on an operator if it “considers that [the] operator has contravened, is contravening, or is likely to contravene an environmental permit condition”. Regulation 38(2) makes it an “offence for a person to fail to comply with or contravene an environmental permit condition”.

*The supporting information document*

11. The supporting information document was prepared by Covanta’s consultants, Fichtner Consulting Engineers Ltd.
12. It described the proposed installation in subsection 1.4. Paragraph 1.4.1.2. said that the “Combustion Bottom Ash and co-mingled metals, known as [IBA], will be discharged off the end of the incinerator grate into a water filled quench pit”; that the “wet ash will then be transferred by conveyor to an ash storage bunker inside the waste incineration plant for safe and secure storage”; that “the composition of the IBA is expected to be similar to that from modern UK waste incineration facilities”; and that the “IBA is expected to be transferred to the on-site IBA facility either by conveyor or truck for processing”.
13. Subsection 2.3, “Water use”, described two separate water management systems: process water and surface water. Paragraph 2.3.1 explained the arrangements for “Surface water”. It said that “[surface] water from the roofs of buildings ... will be collected in a rainwater storage tank for use within the IBA Quench System”; that “[in] the event of imminent overflow of the storage tank, an outlet valve system will drain controlled quantities of water through an interceptor into the storm drains”; that [all] other surface water (roadways and areas of hardstanding) shall be collected in drains with oily water interceptors which will incorporate an isolating penstock valve installed on the discharge pipe”, and that “[this] water will then be discharged via an interceptor channel into an attenuation pond to be constructed as part of the Rookery Low Level Restoration drainage scheme”; that “[the] discharge from the interceptors will be tested periodically to verify that it is not contaminated”; and that “[the] drainage system, interceptor and penstock valve will be subject to a planned maintenance regime”.
14. Paragraph 2.3.2 explained the various arrangements for “Process water” – including the “Steam boiler”, the “Demineralisation plant”, the “Dirty Water Tank”, the “Ash Quench System” and

“IBA water use”. On “IBA water use”, paragraph 2.3.2.5 said that “[surface] water run-off originating from the IBA facility will include rainwater and run-off from roadways, areas of hardstanding and stockpile areas”, and “... will be directed towards a run-off lagoon located along the northern boundary ...”; that “[under] normal conditions the surface water collected in the run-off lagoon will be used for dust suppression at the IBA facility” and “[run-off] from this process will be directed back to the lagoon”; and that “[under] unusual conditions (such as periods of high rainfall or shutdown of the waste incineration plant), the water within the lagoon will be collected in a tanker, and transferred off-site for disposal at a suitably licensed facility”.

15. Paragraph 2.3.3.1 described the approach to “Spillage management”. It said that “[all] process areas will be located on hard standing with no direct drainage connection to the surface water drainage systems”; that “[if] there is a spillage, it will be contained either within the storage tank bund or the process water drainage network”; that “[good] housekeeping practices will be in operation to ensure that any spillages are cleared up at the earliest opportunity”; that “[spill] kits will be available for the clean-up of all chemicals and oils stored and used within [the facility]”; that “[no] material will be discharged on the internal road network which could potentially contaminate surface water run-off”; that “[under] normal operating conditions materials will be delivered to and from the waste incineration plant in dedicated transport vehicles by competent delivery drivers”; and that “[pollution] prevention measures and strict operational controls will ensure that internal roadway rainwater run-off remains uncontaminated from process materials from the waste incineration plant”.
16. It went on to say, however, that “[in] an emergency condition, such as a spillage or vehicle accident, the surface water discharge penstock valves will be closed”; that “[any] spillage or leak on the road network will be isolated, retained and remediated locally following the waste incineration plant spill procedure”; that “[the] penstock valve will retain all surface water run-off within the drainage system to prevent its release to the environment”; that “[the] retained surface water run-off will be tested and transferred off-site to an appropriately permitted waste management facility”; and that, “[if] necessary, the drainage system and interceptor will be emptied and cleaned prior to the penstock valve being opened to allow the discharge of uncontaminated rain water”.
17. In subsection 2.4, “Emissions”, paragraph 2.4.3, “Emissions to water”, stated:

“2.4.3 ...

There will be no process emissions to water. Wastewaters from the process will be collected and re-utilized.

All areas of hardstanding within the IBA will be profiled so that surface water run-off from areas subject to potential ash contamination is collected.

Clean water such as rainwater from roofs will be collected in a rainwater storage tank and utilised within the waste incineration plant or IBA facility or released through an interceptor into the storm drains. Surface water from roadways and areas of hardstanding will pass through an oil/silt interceptor prior to being discharged into the Low Level Restoration Scheme (LLRS) attenuation pond.”
18. Paragraph 2.4.4, “Contaminated water”, provided for the safe containment of chemicals, and reporting procedures to be followed in the event of spillage. It also stated:

“2.4.4 ...

Adequate quantities of spillage absorbent materials will be available onsite. These will be located at appropriate, accessible locations near to liquid storage areas. A site drainage plan which includes the locations of foul and surface water drains and interceptors will be made available onsite. Water interceptors will have penstock valves to prevent the discharge of contaminated surface water in case of an incident on site.”

It added that “[any] spillage, no matter how minor, will be reported and recorded in the Accident Log for further investigation”.

19. Paragraph 2.4.5 addressed the issue of “Fugitive Emissions from IBA Storage”. This referred to accidental or unintended discharges of IBA outside the closed processing area: for example, spillages on the road during transportation, or dust escaping from the processing area. It stated:

“2.4.5 ...

Good housekeeping practices will be implemented to ensure that any IBA spillage that does occur is cleaned up at the earliest opportunity. Spill kits will be available for the clean-up of IBA spills as procedures in the Quality and Environmental Management System (EMS) require ash spills to be cleaned up promptly.

Water released from the IBA will be also prevented from entering surface water drains through preventative maintenance, monitoring, housekeeping, and strict operational controls.

Any heavy metals within the IBA will be present as salts. These salts will be retained in solution when mixed with water and would not be expected to dissolve. Metals would be retained in solution form if there was an IBA spill on the internal roadways or other areas of hardstanding. If the IBA were to enter the surface water drainage system, it would collect within the interceptors in the surface water drainage systems for the waste incineration plant. The interceptors are designed to prevent the discharge of suspended solids and oils and grease.”

20. Subsection 2.5 dealt with “Emissions monitoring”. Paragraph 2.5.3, “Monitoring emissions to water”, confirmed that “[as] discussed in Section 2.4.3, there will be no process emissions to water and the only emissions to water will be of uncontaminated rainwater”, and “[therefore], there will be no requirement to undertake monitoring of emissions to water”.
21. In subsection 2.6, “Technology selection”, paragraph 2.6.6, “IBA facility”, explained why Covanta considered “dry treatment” of IBA by “air maturation” the “Best Available Technique”. It said that “[wet] treatment systems use water to wash soluble salts from the IBA” and that “[due] to the large quantities of effluent produced by wet system these are not considered appropriate for the Rookery South ERF”.
22. In Table 2.9, “Summary Table for IED Compliance”, for article 46(5) the entry in the column headed “How met or reference” is “Refer to Section 2.4.4 of the Supporting Information”.

### *The dust management plan*

23. Covanta submitted the dust management plan in June 2017, to address concerns about the generation, transport, storage and treatment of IBA on the site and the storage and transport of IBA aggregate (“IBAA”).
24. Paragraph 3.1 said that the quantity of IBA produced at the facility each year would be “approximately 150,000 tonnes”. Paragraph 4.2 identified the potential sources of IBA and IBAA dust and particulate emissions as the handling of IBA by conveyors and conveyor transport points between the ash dischargers and the maturation area, or by truck to the maturation area; the handling of IBA by trucks between the maturation area and “the IBA Facility”; the generation, storage and loading of IBA, IBAA, recovered metals materials; and the movement of vehicles and the transport of various materials across the site.
25. In the light of the “Best Available Techniques” described in the Environment Agency’s Sector Guidance Note EPR 5.01, “The Incineration of Waste”, paragraph 4.4 listed measures to control fugitive dust and particulate emissions. These measures included maintaining a high moisture content in the handling and storage of the IBA to reduce dust and particulate emissions to “a negligible level”; ensuring that “[all] major elements of the permanent IBA handling and IBAA generation systems (conveyors and transfer points between conveyors) are enclosed providing additional suppression of any potential dust and particulate emissions”; the sheeting of trucks transporting IBA and IBAA with tarpaulins, and the provision of a wheel wash; the monitoring of dust and particulate emissions by the use of sticky discs in the main boiler building, the maturation area and “the IBA Facility building”; and the sweeping of roadways and paved areas. Paragraph 4.4.2 referred to contingency measures, which included IBA being transported by covered trucks if the conveyor were to “fail or require maintenance”. Paragraph 4.5.1, “IBA Monitoring”, said that “[the] moisture condition in both the IBA building and the IBAA storage area will be visually monitored daily and operators will take action as necessary ... to prevent dust emissions”.

### *Consultation*

26. The Environment Agency undertook consultation on the permit application in March 2017, and on the draft decision in September 2017. On 6 November 2017, in response to the second consultation, Professor Jeremy Ramsden, a chemical physicist, submitted representations opposing the grant of a permit. One of his concerns, as he explains in his three witness statements in support of BACI’s claim, was that IBA could find its way into the attenuation pond as a result of accidental spillages from lorries during transportation, or accidental dust emissions into the air from lorries, the conveyor, or other parts of the closed processing area because of failures in dust management and other preventative measures. IBA dust would then settle on roads and hardstanding outside the closed processing area and on roofs of buildings. When it rained, the surface water would become contaminated by the IBA on these surfaces. As the surface water drained away, the dissolved heavy metals from the IBA would enter the attenuation pond. In his second witness statement, dated 7 August 2018, Professor Ramsden recommends that monitoring should be carried out by testing the water in the attenuation pond, and, if need be, removing heavy metals by precipitation, adapting a technique recommended in the Environment Agency’s technical guidance document EPR 5.01 as a “Best Available Technique” for treating soluble metals in scrubber liquors (paragraphs 12 to 14).

27. Among the several points Professor Ramsden made in his representations were that “[given] their toxicity, heavy metals such as cadmium and mercury, and organic compounds such as dioxins and furans should be monitored continuously”; and that “[it] is highly inadequate to monitor them only quarterly, or biannually, as specified in Table S3.1 [of the draft permit]” (paragraph 13). He went on to say (in paragraphs 15 and 16):

“15. It would be naïve not to suppose that ash residues will be deposited throughout the proposed facility. According to the Applicant’s Supporting Information (2.4.3) the proposed design means that some leachate from the ash will inevitably end up in the LLRS attenuation pond.

16. The Applicant appears to lack basic knowledge of dissolution phenomena. In Supporting Information 2.4.5 it is stated that “Any heavy metals within the IBA will be present as salts. These salts will be retained in solution when mixed with water and would not be expected to dissolve.” In so far as this statement is intelligible, it is wrong.”

He also pointed out (in paragraph 17) that “Table S3.4 in the Draft Permit gives no limits for metals in bottom ash and [Air Pollution Control (“APC”)] residues”.

#### *The environmental permit*

28. The “Introductory note” to the environmental permit, which is not part of it, describes the intended operation of the installation. It states, in its first paragraph, that “[the] permit implements the requirements of the EU Directives on Industrial Emissions and Waste”. It explains that “[bottom] ash will either be transferred off-site for processing, or transferred by conveyer to a storage area for processing into different size fractions”; that “[the] processed material will then be stored prior to transfer off site”; and that “[the] processing and storage will all be carried out in enclosed areas”. It confirms that “[only] uncontaminated site surface water will be discharged; via an interceptor and then into an onsite attenuation pond”; and that “[the] attenuation pond will subsequently discharge into the Low Level Restoration Scheme (LLRS) for the Rookery South development site”.

29. The permit was issued subject to numerous conditions. Condition 1.1.1 requires the operator to manage and operate the “activities” in accordance with “a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints ...”. Condition 2.1.1 confirms that the operator is only authorized to carry out the activities specified in Table S1.1 of Schedule 1. The “specified activity” referred to in Table S1.1 is “[the] incineration of non-hazardous waste in a waste incineration plant with a capacity of 3 tonnes per hour or more”, and the limits of that activity include the requirement that the “storage and processing” of IBA and IBAA is to be “in fully enclosed buildings” – defined in Schedule 6, “Interpretation”, as “a construction that is fully enclosed (except for ventilation) consisting of walls and a roof with the objective of minimising fugitive emissions”. One of the “Directly Associated Activities” is “Surface water management”, which is described as the “[management] of uncontaminated surface water drainage”.

30. The conditions in section 2 of the permit restrict “Operations”. Under the heading “Operating techniques”, conditions 2.3.1 and 2.3.2 state:



“2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.”

31. Table S1.2 in Schedule 1 identifies the “Operating techniques”. It refers to the operating techniques set out in specified sections and paragraphs of the supporting information document, including paragraph 2.4.5 – “... sections 1.4, 2.2.2, 2.2.3, 2.3, 2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.5, 2.6.4, 2.6.5, 2.8, 2.9”. It also includes the dust management plan.

32. Condition 2.5.1, “Pre-operational conditions”, states that “the activities shall not be brought into operation until the measures specified in [Table S1.4 of Schedule 1] have been completed”. Those measures include PO3, which requires the operator, “[prior] to the commencement of commissioning” to “submit to the Environment Agency for approval a protocol for the sampling and testing of [IBA] for the purposes of assessing its hazard status”. It states that “[sampling] and testing shall be carried out in accordance with the protocol as approved”, and that “[the] protocol shall be in line with Environment Agency guidance M4 (Guidelines for Ash Sampling and Analysis)”. PO10 states:

“If it is proposed to undertake on-site processing of IBA, the operator shall submit an updated dust management plan, after detailed design stage of the IBA facility, to the Environment Agency and obtain written approval from the Environment Agency.

The plan shall include the location of suppression system nozzles and dust monitoring equipment and the frequency of monitoring. The plan shall also include details of the IBAA storage building to demonstrate that storage will be in a fully enclosed building.”

33. Section 3 of the permit deals with “Emissions and monitoring”. It distinguishes between particular sources of pollution, for which specified emission limits are set, and other fugitive emissions. Condition 3.1.1 requires there to be “no point source emissions to water, air or land except from the sources and emission points listed” in three tables in Schedule 3, including Table S3.2 – other than in “abnormal operation”. Table S3.2, which is the table for “Point Source emissions to water ... and land – emission limits and monitoring requirements”, provides for “[uncontaminated] surface water run-off via interceptor” from the “surface water attenuation pond”. No limits are set. Condition 3.1.3 requires that “[wastes] produced at the site shall, as a minimum, be sampled and analysed” in accordance with Table S3.4 in Schedule 3, “Emissions and monitoring”. In Table S3.4, “Residue quality”, the second relevant “parameter” specified for “Bottom Ash” is:

“Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs”.

And the third is this:

“Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions”.

No limits are set for either of these parameters.

34. Under the heading “Emissions of substances not controlled by emission limits”, conditions 3.2.1 and 3.2.2 state:

“3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.”

“[Emissions] of substances not controlled by emission limits” are defined in Schedule 6 as “emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit”.

35. Condition 3.5.1, under the heading “Monitoring”, requires the operator to undertake the monitoring specified in several tables in Schedule 3, which includes the monitoring of “Residue quality” specified in Table S3.4. Condition 4.2.3(a) requires the reporting of monitoring data, in accordance with the “parameters and emission points” specified in Table S4.1, “Reporting of monitoring data”, in Schedule 4, “Reporting”. The parameters for “Bottom Ash” in Table S4.1 correspond to those in Table S3.4.

### *The decision document*

36. The environmental permit was accompanied by a lengthy document – running to 220 pages – entitled “Determination of an Application for an Environmental Permit under the Environmental Permitting (England & Wales) Regulations 2016, Consultation on our decision document recording our decision-making process” (“the decision document”). The decision document sets out the Environment Agency’s reasons for issuing the permit and imposing the conditions it did. It concludes in section 3, “The legal framework”, that the permit “will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health”.

37. In section 4, “The Installation”, paragraph 4.2.2, “Proposed site design: potentially polluting substances and prevention measures”, describes the “IBA area” and its “sealed drainage system”. Paragraph 4.3.6, “Operating techniques”, confirms that the Environment Agency had “specified that [Covanta] must operate the Installation in accordance with” specified parts of several documents – including paragraphs 2.4.4 and 2.4.5 of the supporting information document – which “describe the techniques that will be used for the operation of the Installation that have been assessed by the Environment Agency as BAT” and “form part of the Permit through Permit condition 2.3.1 and Table S1.2 in the Permit Schedules”. Paragraph 4.3.9 describes the measures to be taken for the “[avoidance], recovery or disposal with minimal environmental impact of wastes produced by the activities”, including IBA. It says that “[monitoring] of incinerator ash will be carried out in accordance with Article 53(3) of [the Industrial Emissions Directive]”.
38. In section 5, “Minimising the Installation’s environmental impact”, paragraph 5.6 addresses “the risk from fugitive dust impacts from the IBA storage and treatment area”, agreeing with Covanta’s assessment that “the risk is low”, but acknowledging the proposed “control measures to minimise dust emissions including those set out in [the] dust management plan”.
39. In section 6, “Application of Best Available Techniques”, paragraph 6.1 refers to the relevant “BREF”, a reference document on the Best Available Techniques for waste incineration published by the European Commission, which explains, among other things, “Bottom ash composition and leachability” (subsection 3.4.2).
40. Paragraph 6.5.1 deals with “Emissions to water”:

“6.5.1 ...

Surface water from roadways and areas of hardstanding will be collected in drains. Oil / water interceptors will be used and there will be an isolating penstock valve installed on the discharge pipe. The water will then be discharged via an interceptor channel into an attenuation pond.

Surface water from the roofs will be collected in a rainwater storage tank for use within the IBA Quench System. Excess water can overflow by use of an outlet valve system to drain controlled quantities of water through an interceptor into the attenuation pond.

The attenuation pond will drain into the Rookery Low Level Restoration Scheme (LLRS). The LLRS is a pond serving the drainage for the wider Rookery Pit development area. The LLRS will ultimately drain into Stewartby Lake.

The discharge from the interceptors will be tested periodically to verify that it is not contaminated. The drainage system, interceptor and penstock valve will be subject to a planned maintenance regime.

Based upon the information in the application we are satisfied that appropriate measures will be in place to prevent and/or minimise emissions to water.

There will be no discharge of contaminated water. Water from process areas including wash-down water and boiler blow down will be collected in a dirty water tank and used for quenching bottom ash.”

41. On “Fugitive emissions”, the decision document says this (in paragraph 6.5.3):

“6.5.3 [The Industrial Emissions Directive] specifies that plants must be able to demonstrate that the plant is designed in such a way as to prevent the unauthorised and accidental release of polluting substances into soil, surface water and groundwater. In addition storage requirements for waste and for contaminated water of Article 46(5) must be arranged.

- ...
- All process area will be on hardstanding with no direct drains to surface water
- The IBA area will be on an impermeable surface with a sealed drainage system to a lagoon. The water will be re-used for dust suppression.
- There will be provision to remove water from site from the lagoon and transfer for off-site disposal using a tanker, if required, during periods of high rainfall.
- APC residues will be stored in a silo and will be removed from site in enclosed tankers. ...
- The risk of dust from IBA storage and treatment will be controlled through a dust management plan. The key parts of that plan are:
  - IBA quenched in water
  - Transferred to a maturation building by covered conveyor
  - Stored in an enclosed building
  - Transferred to a processing area also within the building
  - Use of water suppression to prevent the material becoming dusty.
  - Treated IBA (IBAA) will be stored in an enclosed area or will be removed from site rather than stored on site.
  - Perimeter dust monitoring will be carried out and further actions taken if trigger levels are exceeded

Based upon the information in the application we are satisfied that appropriate measures will be in place to prevent and/or minimise fugitive emissions. We have set pre-operational condition PO10 for the dust management plan to be updated after the detailed design stage of the plant. The Applicant stated that the IBAA, if stored on site, would be in a fully or partially enclosed area. We have specified in PO10 that the IBAA enclosure must be in a fully enclosed building. We have defined ‘fully enclosed building’ in the permit to ensure that adequate containment is used. The storage area will be ~ 400 m from the nearest housing. However the plant is located within a local wildlife site (Rookery Clay Pits) as such containment is required in order to minimize emissions of dust.”

42. Paragraph 6.7.1, “Monitoring during normal operations”, explains that the Environment Agency had imposed the monitoring requirements in Schedule 3 to “demonstrate compliance with emission limit values”.

43. Annex 1, “Application of Chapter IV of the Industrial Emissions Directive”, explains how the requirements of the Industrial Emissions Directive would be complied with. It describes the requirements in Article 46(5) as being the “[prevention] of unauthorised and accidental release

of any polluting substances into soil, surface water or groundwater” and “[adequate] storage capacity for contaminated rainwater run-off from the site or for contaminated water from spillage or fire-fighting”. It says that “[the] application explains the measures to be in place for achieving the directive requirements”. Article 53(3) – whose requirement it describes as “[to] test residues for their physical and chemical characteristics and polluting potential including heavy metal content (soluble fraction)” – would be complied with by “[condition] 3.5.1 and Table S3.4 and pre-operational condition PO3”.

44. In Annex 4 the decision document describes how the Environment Agency took into account the consultation responses in making its decision. In part A, “Advertising and Consultation on the Application”, under the heading “Comments about impacts at ecological sites”, it says that “[there] are no emissions to water other than uncontaminated rainwater run-off”, and that “[measures] will be in place to prevent pollution in the event of spillages”. In response to “Comments about impacts on water courses”, it says that “Table S3.2 of the permit only allows the discharge of uncontaminated site surface water”; that “IBA storage and processing and IBAA storage will be in enclosed buildings” and “[the] Operator will also have a dust management plan”; that “[the] only emissions will be of uncontaminated surface water (rainwater) run-off to an attenuation pond and then to the nearby restoration scheme pond (LLRS)”, and “[the] LLRS will overflow to Stewartby Lake”; and that the Environment Agency was “satisfied ... there is unlikely to be an impact on any watercourses”.
45. Part B, “Advertising and Consultation on the Draft Decision”, under the heading “Comments about impacts on water courses”, says the Environment Agency had “not required monitoring of the attenuation pond”; that “[emissions] to this pond will be of clean surface water run-off only”; that the environmental permit “specifies that the surface water run-off is Uncontaminated surface water run-off”; and that its “view is that monitoring is not required”. Under the heading “Comments about residues”, it quotes the sentence in paragraph 2.4.5 of the supporting information document that said heavy metal salts in the IBA “will be retained in solution when mixed with water and would not be expected to dissolve”. It refers to Professor Ramsden’s “[concern] that use of recirculating water will result in heavy metal emissions, [and] silt traps will not prevent the release of [dissolved] heavy metal salts in ash water run-off”. The response to this concern is that “[the] IBA will be stored in an area with a sealed drainage system”; that “[there] will be no emission from the Installation of water run-off from the IBA area”; and that “[recirculated] water will be used but ... there will be no emissions from this area”. On the storage of IBA, it confirms that “[the] revised dust management plan ... describes an enclosed building for the IBA storage area”; that “[the] Permit requires that IBA and IBAA are in fully enclosed buildings”; and that this “has been incorporated into the permit as an operating technique and thus must be followed”. As for the concern that “recirculating water for dust suppression will not reduce metal leaching potential from the ash which means it does not comply with ... articles 44(c) and 53(1) [of the Industrial Emissions Directive] to minimise the residue harmfulness”, it points out that “[the] use of recirculated water that will be collected with rainwater for dust suppression is standard practice at IBA plants”, adding that Covanta had “stated that the use of recirculating water is unlikely to have an effect on IBAA composition”. It goes on to say, however, that “if testing showed that the use of recirculating water was to become an issue then fresh water could be used”. It confirms that the Environment Agency was “satisfied that recovering IBA for use as an aggregate is complying with [articles 44(c) and 53(1)]”.

*The judgment in the court below*

46. Lang J. referred (in paragraph 43 of her judgment) to the conclusion of Beatson L.J. in *R. (on the application of Mott) v Environment Agency* [2016] 1 W.L.R. 4338 (at paragraph 69) that, “[in] principle, the court should afford a decision-maker an enhanced margin of appreciation in cases involving scientific, technical and predictive assessments”, and (in paragraph 44) to the judgment of Silber J. in *Levy v Environment Agency* [2003] Env. L.R. 11, where he had accepted (at paragraph 23) the relevance of “the concept of margin of appreciation” to decision-making by the Environment Agency.
47. On her reading of the contentious passage in paragraph 2.4.5 of the supporting information document, the judge accepted that it meant that heavy metals in the IBA would be retained as suspended solids when mixed with water, and would not dissolve. The language was, she said, “confusing and scientifically inaccurate”, but “the author clearly states that the heavy metals will not dissolve”. It was “common ground that this is scientifically incorrect: heavy metals within the IBA will dissolve when mixed with water” (paragraph 48). Paragraph 2.4.5 also contained the “implication that, as the heavy metals will not have dissolved, they will be among the suspended solids collected by the interceptors and not discharged into the surface water system”. This was “incorrect; dissolved heavy metals would not be collected by the interceptors” (paragraph 49). But although paragraph 2.4.5 was “incorporated by reference” into the environmental permit by condition 2.3.1 and Table S1.2 in Schedule 1, the judge accepted that “only the operating techniques in paragraph 2.4.5 were incorporated (i.e. preventative maintenance, monitoring, housekeeping, operational controls and interceptors), not the description of heavy metals in the IBA” (paragraph 50).
48. She was satisfied that the Environment Agency “did not make the same mistake as Covanta”. It was “elementary science that heavy metals dissolve in water”. The Environment Agency was the regulator, with “wide experience” of energy recovery facilities, and “its officers have scientific expertise”. It was “implausible that [it] would make this mistake”. The references to “soluble fractions” in the IBA in Table S3.4 and Table S4.1 of the permit and to the “leaching of metals” in the decision document confirmed that the Environment Agency was “familiar with the characteristics of heavy metals” (paragraph 52). The point had also been brought to its attention in Professor Ramsden’s consultation response. The Environment Agency had referred to it in dealing with consultation responses in the decision document, and in addressing concerns about IBA pollution in the surface water drainage system, “explaining that the necessary measures were in place to ensure that only uncontaminated surface water would enter the attenuation pond and Stewartby Lake” (paragraph 53). The judge concluded, therefore, that “even though Covanta made a factual and scientific error in its application, [the Environment Agency] did not adopt it when making its decision”. The error was therefore “immaterial” (paragraph 54).
49. There was, said Lang J., “a fundamental difference of opinion” between BACI and Professor Ramsden on the one hand and the Environment Agency on the other, BACI and Professor Ramsden contending that there was a significant risk of fugitive emissions of IBA being washed by rainwater into the surface water drainage system, polluting the attenuation pond and Stewartby Lake (paragraph 55). But the Environment Agency had made it “abundantly clear” – in its replies to the consultation responses, in the decision document and in the environmental permit itself – that in its opinion the surface water drainage system was not going to be contaminated by IBA. It did not accept there was any risk of dissolved heavy metals in the IBA entering the attenuation pond. It was “under no obligation to adopt the precipitation technique Professor Ramsden recommends, as it is not a BAT in this context ...” (paragraph 56). In the

judge's view it was "impossible to characterise [the Environment Agency's] assessment as irrational, or based on incorrect science". It was not the court's role "to second guess the regulator's professional assessments". BACI had "failed to establish any error of law" (paragraph 58).

*Did the permit incorporate the error in paragraph 2.4.5 of the supporting information document?*

50. Mr Daniel Stedman Jones, for BACI, attacked the judge's analysis. As in the court below, the main thrust of his argument was that the environmental permit was unlawfully issued because the Environment Agency adopted the error in paragraph 2.4.5 of the supporting information document, which had caused Covanta to propose the use of silt interceptors as the means of preventing the discharge of heavy metals in the IBA into surface water.
51. The essential submission was that both the erroneous text in the supporting information document and the proposed operating technique based upon it were incorporated into the environmental permit. The "materiality" of the error was undeniable. The silt interceptors would not prevent soluble heavy metals being discharged from fugitive dust emissions into the surface water drainage system, contrary to the prohibition in article 46(5) of the Industrial Emissions Directive, and with risk to both human health and the environment. The judge had not grasped the true consequences of the scientific error. She had misconstrued the environmental permit. One cannot read the permit as if it only incorporated the operating techniques mentioned in paragraph 2.4.5 without the mistaken justification that went with them. Such an interpretation, Mr Stedman Jones submitted, would go against the clear terms of the permit – in particular, condition 2.3.1 and Table S1.2 in Schedule 1, which includes paragraph 2.4.5 in its list. The inclusion of that paragraph came with no caveat. The error was not left out or corrected. If it had been, the reference to silt interceptors, which are only effective for emissions in the form of suspended solids, would make no sense. At the very least, the permit – which also referred to "metals ... soluble fractions" – was inconsistent and betrayed a lack of understanding of the relevant science.
52. Mr Stedman Jones submitted that to discharge the obligation in article 46(5) of the Industrial Emissions Directive – and thus its duty under paragraph 4 of Schedule 13 of the Environmental Permitting Regulations – "... to prevent the unauthorised and accidental release of any polluting substances into soil, surface water and groundwater", the Environment Agency had to be able to conclude there was no risk of pollution – by contrast, for example, with article 46(3), which requires only that the relevant discharges "shall be limited as far as practicable". Having made the error it did, it could not show that it had complied with its duty under article 46(5).
53. I cannot accept that argument. This is not a case where an obvious or alleged factual error said to vitiate the decision under challenge originated with the decision-maker itself. The error in question was not the result of any fault or omission by the defendant in the proceedings, whose decision is challenged. Nor was it adopted or relied upon by the decision-maker in the course of making its decision. And there is no evidence that it misled any third party. In short, there is nothing to show that it had any effect on the decision ultimately made, or that it undermined the decision-making process itself. In my view the judge's analysis and conclusions were correct.
54. As Mr Guy Williams submitted on behalf of the Environment Agency, the inclusion of an incorrect statement on a matter of science in a document submitted by an applicant for an environmental permit is not, in itself, evidence of the same error being committed by the

Environment Agency when exercising its own scientific judgment on whether the proposed facility might cause pollution. And in this case, on a fair reading of the relevant documents, one cannot conclude that when the Environment Agency was determining the permit application, and in particular when considering the efficacy of the measures for dealing with IBA and IBAA, it acted in the false belief that heavy metals do not dissolve in water. The clear inference to be drawn from the relevant documents is that it adopted a scientifically sound approach, and kept to that approach throughout. Its decision was not invalidated by false science, or any mistake of fact. The central premise in BACI's argument is mistaken.

55. Paragraph 2.4.5 of the supporting information document is one of a suite of paragraphs in subsections 2.3 and 2.4 describing the measures that would be deployed to prevent polluting emissions to water. These passages distinguish between the measures intended for surface water and those for process water. When the environmental permit was granted, conditions were imposed to compel Covanta, as operator, to implement the measures described. Each was designed to prevent pollution, including any pollution from the IBA: for example, the formation of areas of hardstanding to enable surface water run-off to be collected from areas where "ash contamination" might occur (paragraph 2.4.3); the provision of interceptors and a penstock valve to prevent the escape of contaminated water (paragraph 2.4.4); the arrangements for managing spillages (ibid.); the measures for preventing water released from the IBA area from entering surface water drains (paragraph 2.4.5); and monitoring (subsection 2.5).
56. The error on which Mr Stedman Jones based his submissions lies in a single sentence of paragraph 2.4.5. Responsibility for the mistake, such as it was, lay with the authors of that document. It was not the result of any misleading advice from the Environment Agency. It does not recur elsewhere in the application documents. And it was not perpetuated in the environmental permit, or in the decision document, or in any other document prepared or produced by the Environment Agency itself. It has not been shown that it had any bearing on the decision to issue the environmental permit subject to the controls and restrictions imposed in conditions.
57. Mr Richard Harwood Q.C., for Covanta, submitted – correctly – that the sentence containing the error does not make sense. To say, as the first part of the sentence does, that the heavy metals present as salts in the IBA "will be retained in solution ..." and then to say, as does the second part of the sentence, that those metals "would not be expected to dissolve" is a contradiction. The next sentence, however, returns to the concept of the metals being "retained in solution form ...", which goes against the error in the second part of the previous sentence and reinforces the assertion made in the first part. If metals are "retained in solution", or "retained in solution form", they must be capable of dissolving. So I think Mr Harwood was right to submit that no one reading paragraph 2.4.5 would fail to see that it contained an error, though in my view it cannot be said with confidence that the authors of the document must have been ignorant of the relevant science.
58. Mr Harwood suggested that the nature of the error was that the sentence went wrong, not that the authors of the supporting information document must have misunderstood the chemistry of heavy metal salts. I can see some force in that suggestion. Not only was the error contradicted, twice, in its immediate context. It was also effectively negated elsewhere in the document. Paragraph 2.6.6 referred to wet treatment systems using water to wash "soluble salts" from the IBA. No complaint is made about the accuracy of that. It is consistent with the statements to the same effect in paragraph 2.4.5. It supports the view that the authors of the document were not themselves under a misconception of the relevant science and how it would apply to the operation of the facility – let alone that their maladroit drafting of paragraph 2.4.5 misled the



Environment Agency or any other participant in the statutory process on that question. Reading the supporting information document fairly as a whole therefore, I do not think one can be sure that they made the error of basic chemistry for which BACI contends.

59. In any event the error in paragraph 2.4.5 was noticed by Professor Ramsden, who explicitly referred to it in his representations in response to consultation. He drew attention to the contradiction in the offending sentence, before going on to express his concern that there was no limit for metals in the proposed arrangements for monitoring. If the Environment Agency had still failed to spot the error, this was enough to point it out. And it is also clear that Professor Ramsden himself was not misled, or unable to make relevant comments informed by his own expertise. Mr Stedman Jones did not suggest otherwise.
60. The crucial question here, however, is whether the error in paragraph 2.4.5 influenced the Environment Agency's decision to issue the permit and rendered it unlawful. To this question the answer is, in my view, clear. The error did not affect the Environment Agency's determination. There is no evidence to show that it did. The judge was right so to conclude.
61. The approach to be taken to the interpretation of an environmental permit is well established (see, for example, my judgment in *R. (on the application of Squire) v Shropshire Council* [2019] EWCA Civ 888, at paragraph 43). The court will concentrate on the words used in framing the permit, reading them objectively and in their full context, without straining their natural and ordinary meaning beyond what the context requires, and bearing in mind that a breach of a permit condition can lead to criminal sanction. Using other documents as aids to construction is permissible if they are incorporated by reference or if it is necessary to dispel some ambiguity within the document itself.
62. In this case the interpretation of the environmental permit presents no difficulty. The parts of the document specifically relevant to the handling of IBA are precisely expressed and their meaning, I think, is plain.
63. One does not find in the permit any reference to the mistaken concept that heavy metals cannot dissolve, or any indication that the Environment Agency assumed as much when it made its determination. There is nothing in the permit to suggest that the error in paragraph 2.4.5 of the supporting information document affected the decision.
64. Two things relevant to the issues here are stated in the "Introductory note", and then carried through into the permit conditions, including those that define and restrict the operating techniques to be used in the facility. The first is that "[the] processing and storage [of IBA] will all be carried out in enclosed areas", the second that "[only] uncontaminated site surface water will be discharged; via an interceptor and then into an onsite attenuation pond". Different measures are specified for dealing with process water, which will be in a sealed drainage system, and those for dealing with surface water.
65. There are several references in the permit to the supporting information document. Where these appear, their purpose is clear. One of those purposes is to control the operation of the facility. The provisions of the permit restricting the operation refer to the "operating techniques" described in specific parts of the supporting information document, including paragraph 2.4.5 – whose three subparagraphs describe several elements of the proposed operation. The extent of the incorporation of those parts of the supporting information document is confined to the purpose of specifying the techniques by which the facility is to be operate, so that they can be

formally regulated through the permit. Using a technique other than those specified would be a breach of condition 2.3.1, and possibly of condition 2.1.1, and could therefore be enforced against under regulation 36 of the Environmental Permitting Regulations and ultimately by a prosecution under regulation 38(2). Condition 2.3.1 requires the “activities” to be “operated using the techniques and in the manner described” in the documents specified in Table S1.2 in Schedule 1, unless the Environment Agency agrees otherwise. This requirement entails only adherence to the “techniques” described. It does not embrace text that does not describe a particular technique or mode of operation.

66. This is all that condition 2.3.1 has to do, and it does no more. There is no need for a permit condition restricting the operation of a facility to specified operating techniques to venture into explaining or justifying the choice of a particular technique. What it must do is to ensure that an adequate description of the technique itself is provided in the permit or incorporated by reference, so that the basis for enforcement is clear. Condition 2.3.1 and Table S1.2 achieve that. In doing so they avoid infecting the environmental permit with the error in paragraph 2.4.5 of the supporting information document. The permit incorporates only the parts of paragraph 2.4.5 that describe the relevant techniques by which the facility will be operated. The reference to that paragraph in Table S1.2 does not graft into the permit the comment that heavy metals in the IBA “would not be expected to dissolve” or the comment, made twice, that they would “be retained in solution”. Neither comment is the description of an operating technique.
67. The provisions of the permit for the control of “Residue quality”, and specifically “Bottom Ash”, in condition 3.1.3 and Table S3.4 – which refers to the “[total] soluble fraction and metals ... soluble fractions”, the corresponding requirements for monitoring in condition 3.5.1 and Table S3.4, and for the reporting of monitoring data in condition 4.2.3(a) and Table S4.1, also indicate that the Environment Agency was not misled by the error. These provisions are incompatible with the concept of heavy metal salts in IBA not being soluble. They plainly recognize the possibility of heavy metal salts present in the IBA containing “soluble fractions”.
68. By its restrictions on emissions in conditions 3.1.1 and 3.2.1 the permit effectively prohibits any polluting emissions to water. Table S3.2 identifies only one “[point] source emission to water” under condition 3.1.1, which is from the “surface water attenuation pond ...”. It stipulates that this is to be “[uncontaminated] surface water run-off via interceptor”, without any acceptable limits set. Contaminated emissions to water from this single permitted “point source” are therefore wholly prohibited, not merely limited. Condition 3.2.1 carries the further and unequivocal requirement that emissions of substances not controlled by emission limits – which are widely defined in Schedule 6 – “shall not cause pollution”. The effect of these restrictions is that any discharge of contaminated surface water from the facility, and, in particular, any discharge of water containing heavy metal salts from the IBA, contrary to article 46(5) of the Industrial Emissions Directive, would be in breach of a permit condition. To use the words of article 46(5), the operation of the facility in accordance with these very exacting controls must be such as “to prevent”, and not merely to minimize, “the ... release of any polluting substances ...”. The controls are entirely consistent with, and as rigorous as, the article 46(5) obligation.
69. In the course of argument, we invited submissions from counsel on the qualification in condition 3.2.1, which deems compliance with the condition if the operator has taken “appropriate measures ... to prevent or where that is not practicable, to minimise [the] emissions”. In my view this qualification does not offend the provisions of articles 1 and 46(5) as they bear on the prevention of polluting emissions and, in particular, on the design and operation of a “waste incineration plant [site]” to “prevent the unauthorised and accidental release of any polluting

substances into soil, surface water and groundwater”. The requirement in the condition is clear: that the emissions to which it relates “shall not cause pollution”. The effect of the qualification is to prohibit polluting emissions unless there are no practicable measures by which they can be prevented or, failing that, minimized. This effectively compels the operator to do all that practically can be done in the design and operation of the facility to prevent such emissions. If their prevention is capable of being achieved, it must be achieved. Minimization would not be enough.

70. Condition 3.2.1 must be read together with other relevant conditions, including those specifying the operating techniques by the incorporation into the permit of those parts of the supporting information document in which they are described. Inherent in this is that the specified operating techniques are, in the Environment Agency’s view, “appropriate measures”. When, as here, the description of a particular operating technique in the supporting information document confirms both that it is practicable and that it will be effective in preventing – rather than merely minimizing – polluting emissions, and that operating technique is tied into the permit by condition, the operator cannot realistically claim to have complied with condition 3.2.1 unless the prevention of pollution is actually achieved. This applies to the operating techniques concerned with “Emissions to water” and “Monitoring emissions to water” – described in paragraphs 2.4.3, 2.4.4, 2.4.5 and 2.5.3 of the supporting information document – where practicable measures for the prevention of polluting emissions are described in detail.
71. That, in my view, is wholly consistent with the duty in article 46(5) to design and operate the facility “in such a way as to prevent the unauthorised and accidental release of any polluting substances into soil, surface and groundwater”. Indeed, it is a true reflection of that duty.
72. Thus the environmental permit, in its own terms, is disproof of the argument that the error in paragraph 2.4 5 of the supporting information document invalidated the Environment Agency’s assessment of the permit application on its merits, or had the effect of producing a breach of the obligation in article 46(5).
73. But it is also clear from the contemporaneous account of the decision-making set out in the decision document that the error did not, in fact, affect that process. It is there that the reasons for the decision are given, in accordance with the requirement in paragraph 17(3) of Schedule 5 to the Environmental Permitting Regulations. The relevant parts of the decision document demonstrate that in approving the permit application, and in formulating the conditions it imposed, the Environment Agency did not make the mistake of thinking that heavy metal salts from the IBA would not dissolve in water.
74. Amplifying the corresponding provisions of the environmental permit, paragraph 4.2.2 of the decision document referred to the “sealed drainage system” within which the IBA will be dealt with; paragraph 4.3.6, to the operating techniques specified in condition 2.3.1 and Table S1.2 – including those described in paragraphs 2.4.4 and 2.4.5 of the supporting information document – and their status as Best Available Techniques; and paragraph 4.3.9, to the proposed monitoring of IBA, in accordance with article 53(3) of the Industrial Emissions Directive, which requires the testing of “the total soluble fraction and heavy metals soluble fraction”.
75. Emissions to water, and the measures proposed for preventing pollution in such emissions, are discussed in paragraphs 6.5.1 and 6.5.3. It is acknowledged that surface water and process water will be dealt with differently and separately; that effective measures – which are described in detail – will be taken for the collection and discharge of surface water; that there will be “no

discharge of contaminated water” (paragraph 6.5.1); that the “IBA area will be on an impermeable surface with a sealed drainage system to a lagoon ...”; and that the “risk of dust from IBA storage and treatment will be controlled through a dust management plan”, the contents of which are described. These observations are placed explicitly in the context of the requirements in article 46(5) of the Industrial Emissions Directive – that “the plant is designed in such a way as to prevent the unauthorised and accidental release of polluting substances into soil, surface water and groundwater”, and that storage is provided for “contaminated water” (paragraph 6.5.3).

76. None of this betrays any misunderstanding by the Environment Agency of the properties of heavy metal salts present in IBA, or of the measures Covanta would use to ensure there would be no pollution from this source, and no contamination of the surface water draining to the Low Level Restoration Scheme and to Stewartby Lake.
77. The relevant parts of the annexes are consistent with the body of the document. Annex 1, summarizing the application of the provisions in Chapter IV of the Industrial Emissions Directive, referred to the provisions of article 46(5), as well as the requirement in article 53(3) – to test residues for their “polluting potential including heavy metal content”, and recorded the Environment Agency’s conclusion that the requirements were met.
78. Annex 4 shows that the Environment Agency had understood and addressed the concerns expressed about the possibility of pollution from the IBA, concluding that, with the proposed measures in place, only uncontaminated water would be discharged from the site. It responded directly to the comments made by Professor Ramsden about the erroneous statement in paragraph 2.4.5 of the supporting information document that heavy metal salts in the IBA “would not be expected to dissolve”, and his concern that the proposed “silt traps will not prevent the release of [dissolved] metal salts in ash water run-off”. It cannot be said, therefore, that the Environment Agency overlooked the suggestion that the “silt traps”, however effective they might be in arresting suspended solids, would not intercept heavy metal salts in solution. The point made in Professor Ramsden’s representations was noted and dealt with. The Environment Agency’s response was not that the idea of heavy metals in IBA dissolving in water was scientifically misconceived, or that this was not a potential cause of contamination. Rather, it was that in this facility the IBA would be “stored in an area with a sealed drainage system”; that there would be “no emission ... of water run-off from the IBA area”; that “[recirculated] water” would be used; but that in any event there would be “no emissions from this area”. There is no support here for the notion that the Environment Agency was ignorant of the fact that heavy metal salts in the IBA would dissolve. On the contrary, it is quite clear that it had this consideration well in mind when making its decision.
79. This is also apparent in the Environment Agency’s response to the concern that “recirculating water for dust suppression will not reduce metal leaching potential from the ash ...”. The point it made was not that the concept of “metal leaching potential from the ash” was scientifically wrong, but rather that the concern itself was misplaced – given that the use of recirculated water was “standard practice at IBA plants”, that Covanta had said this was “unlikely to have an effect on IBAA composition”, but that, if necessary, “fresh water could be used” instead. The tenor of this response was, clearly, that the Environment Agency judged the proposed arrangements for the handling of the IBA to be satisfactory, knowing perfectly well that heavy metal salts present in it would be soluble in water.

80. That the decision document did not correct, or refer to, the error in paragraph 2.4.5 of the supporting information document does not matter. The decision document should not be read in an overly exacting way, or with the unrealistic expectation that it will cover every point, or any particular point at undue length (see the judgment of Silber J. in *Levy*, at paragraph 21). The correction by the Environment Agency of errors made by applicants for environmental permits in their application documents is not generally required under the legislative scheme. In some cases it may be necessary for this to be done if the error, left uncorrected, would undermine the reasons given by the Environment Agency for deciding to issue the permit. But here that was not so. The error did not influence the decision itself, or leave the reasons for it unclear.
81. I therefore accept the submission of Mr Williams and Mr Harwood that both the environmental permit and the decision document display the Environment Agency's grasp of the relevant science – including the fact that heavy metals in the IBA would be soluble in water, and its conclusion that contaminated process water would be successfully contained in a sealed system and pollution to surface water prevented. The reality here is that when it made its decision it knew how the proposed facility was going to operate, what measures would be put in place to prevent polluting emissions from the IBA, and how those measures would work. Equally clear, in my view, is that it was conscious of, and complied with, the obligations in article 46(5) of the Industrial Emissions Directive.

*Did the judge misdirect herself on the law relating to mistake of fact?*

82. Mr Stedman Jones submitted that the judge misdirected herself on a decision-maker's mistake of fact. She was wrong to rely on the retrospective explanation given by the Environment Agency after the event (see *R. v Westminster City Council, ex p. Ermakov* [1996] 2 All E.R. 302). Such explanations do not displace the principles set out by the Court of Appeal in *E v Secretary of State for the Home Department* [2004] EWCA Civ 49. The error here was obvious and uncontentious. It did not need to be proved. Its effect was to undermine the rationale for the operating techniques intended to prevent fugitive emissions from the IBA. The judge was wrong to run together the question of "materiality" and the question of whether the error was taken into account. It was a material error, and the Environment Agency did adopt it.
83. That argument is, in my view, untenable. It is not supported by the authorities on mistake of fact. Those authorities, as one would expect, are predicated on the mistake being made by the decision-maker itself, not merely by an applicant. The judge clearly understood that. She did not misdirect herself on the relevant law.
84. Giving the judgment of this court in *E*, Carnwath L.J., as he then was, accepted (at paragraph 66) that "the time [had] come to accept that a mistake of fact giving rise to unfairness is a separate head of challenge in an appeal on a point of law, at least in those statutory contexts where the parties share an interest in co-operating to achieve the correct result". In the light of the decision of the House of Lords in *R. v Criminal Injuries Compensation Board, ex p. A* [1999] 2 A.C. 330, there were four "ordinary requirements" for a finding of unfairness:

"66. ... First, there must have been a mistake as to an existing fact, including a mistake as to the availability of evidence on a particular matter. Secondly, the fact or evidence must have been "established", in the sense that it was uncontentious and objectively verifiable. Thirdly, the appellant (or his advisers) must not have been responsible

for the mistake. Fourthly, the mistake must have played a material (not necessarily decisive) part in the Tribunal’s reasoning.”

Implicit in those four requirements is that the claimant challenging the decision can point to a mistake of fact made by the decision-maker itself, or at least a mistake made by someone else but adopted by the decision-maker in its own deliberations.

85. My conclusions on the previous issue are also relevant here. BACI’s complaint goes to a mistake made by Covanta in its application for the environmental permit, not a mistake made by the Environment Agency in determining that application. The fact that the error itself is clear and is not denied either by Covanta or by the Environment Agency is immaterial. It does not mean that the Environment Agency accepts that it made any error of its own, whether a mistake of fact or of some other kind, or that it adopted the error made by Covanta. The Environment Agency has never conceded it did. And one can see – both in the environmental permit itself and in the decision document – that it did not. The principles in the case law on mistake of fact are therefore not satisfied. It cannot be said that the mistake in paragraph 2.4.5 of the supporting information document played any part, let alone a decisive or even a material part, in the Environment Agency’s reasoning.
86. Mr Stedman Jones’ submissions gain no strength from the first instance decision in *Wealden District Council v Secretary of State for Communities and Local Government* [2017] EWHC 351 (Admin). There Jay J. held that the local planning authority had lapsed into “irrationality” when adopting an assessment under regulation 102 of the Conservation of Habitats and Species Regulations 2010, in reliance on advice about the likely effects of traffic on the Ashdown Forest SAC that was plainly illogical and incorrect. The judge rejected the contention that the unlawfulness was a mistake of fact; rather, it was a legally flawed planning judgment (paragraphs 105 and 111 of the judgment). This case, however, is different. Here the Environment Agency’s decision is not flawed either by any obvious mistake of fact or science, or by irrationality – nor by any other public law error.
87. As the judge recognized (in paragraph 52 of her judgment), the Environment Agency’s role as regulator requires it to bring its own scientific and technical expertise to bear on the decisions it makes under the Environmental Permitting Regulations. Judging the likely polluting effects of a waste incineration plant, and the reliability of the operating techniques designed to prevent such pollution, is a familiar task for it, which calls for that expertise to be used. In this case, as the environmental permit and the decision document show, it was. Unless there is clear evidence revealing a failure of such expertise – for example, some conspicuous factual or scientific error – the court is entitled to conclude there was no such failure. Here the evidence goes the other way. The contemporaneous documents speak for themselves. As they show, the Environment Agency’s decision was not impaired by any error of fact or science.
88. In the absence of any such flaw, the scientific integrity of the Environment Agency’s assessment is not for the court to explore beyond the normal scope of a public law challenge. It is not the court’s duty to substitute its own view for the Environment Agency’s exercise of scientific, technical or predictive judgment. Unless the decision is based on an unlawful exercise of judgment, or manifests some other distinct legal error, the court will not interfere.
89. Finally on this issue, the submission that the Environment Agency has impermissibly attempted to explain its decision-making or justify an error after the event, contrary to the well-known jurisprudence in *Ermakov*, is misguided. Correctly in my view, the Environment Agency has

never conceded that it fell into any error of its own, or that it adopted the error made in the supporting information document. It denies committing any such error. And it finds that denial on documents already in existence at the time of its decision, and not at all on evidence produced later. Though it makes its position clear in submissions to the court, both here and below, this does not put it in breach of the rule against retrospective justification.

*Did the judge fail to acknowledge the significance of the dust management plan?*

90. Mr Stedman Jones submitted that although the judge had referred to a conflict of expert opinion on the risk “from potential IBA dust emissions”, the need for a dust management plan was itself evidence that the risk of such emissions from the facility, in everyday operation, was real. Both the decision document – for example, in paragraph 6.5.3 – and the environmental permit itself – for example, in condition 3.2.1 – refer not simply to preventing emissions, but to “minimising” them, which is less than the “absolute prohibition” in article 46(5) of the Industrial Emissions Directive requires. The measures for preventing dust emissions would have to eliminate the possibility of any contamination of Stewartby Lake and the supply of public drinking water – which would be seriously damaging to the environment as well as to human health. But, submitted Mr Stedman Jones, the measures described in the dust management plan would only reduce the risk of such emissions; they would not remove it altogether. The Environment Agency’s comments in Annex 4 to the decision document suggesting that the surface water run-off would be uncontaminated could only be correct if the silt interceptors would trap all heavy metals – which would require them to be precipitated, in solid form, not dissolved. The penstock valve would only be used if there was an accident. Monitoring of pollution after it had occurred was no answer; it was not the same as prevention. And in any event the permit did not require the monitoring of contamination levels in the attenuation pond, where surface water would collect before being discharged through the silt interceptors.
91. This argument is, in my opinion, insupportable. It seems to invite the court to revisit, and reject, the Environment Agency’s own judgment on the efficacy of the relevant operating techniques. It does not allege a distinct legal error, such as mistake of fact or irrationality, or any other kind of unlawfulness. It attacks the Environment Agency’s assessment on its merits, which is not possible in a claim for judicial review.
92. The silt interceptors were only one of a comprehensive set of measures designed to prevent any polluting emissions from the IBA. Dust emissions would be suppressed by quenching the IBA and transporting it moist (paragraph 4.5.1 of the dust management plan). It would be transferred to the IBA area on an enclosed conveyor, and taken away from the site by truck, fully sheeted (paragraph 4.4). Process water would be kept separate from the surface water drainage system (paragraphs 2.3.3 and 2.4.3 of the supporting information document), which, together with the interceptors and penstock valve, would be regularly maintained, and the discharge from the interceptors would be tested (paragraph 2.3.1). The escape of water from the IBA area would be prevented by “... maintenance, monitoring, housekeeping and strict operational controls” (paragraph 2.4.5). Accidental escapes of IBA, such as by spillage, would be dealt with promptly, under the Quality and Environmental Management System (paragraphs 2.3.3.1 and 2.4.5). Contrary to BACI’s suggestion, the interceptors would not be otiose. Far from it, they would have an important function. They would act to prevent the discharge of suspended solids, which would include any heavy metals from the IBA in solid form rather than in solution, as well as discharges of oils and grease (paragraph 2.4.5). In an emergency, the penstock valves would be closed to prevent contaminated water getting out, the retained water tested and transferred to a

suitable facility elsewhere, and, if need be, the surface water drainage system emptied and cleaned (paragraph 2.3.3.1). All these measures were within the scope of the operating techniques controlled by condition in the environmental permit.

93. The judge did not err by failing to investigate the need for a dust management plan. It is not the court's role to ask itself why a dust management plan was required, to speculate whether it was made necessary by a risk of fugitive emissions occurring, or to go behind the Environment Agency's stated reasons for endorsing the measures in the dust management plan that Covanta produced. Whether the requirements of the Industrial Emissions Directive, and in particular article 46(5), made it necessary to require Covanta to commit itself to those measures, as well as those described in the supporting information document, and whether, taken as whole, the proposed operating regime, including the dust management plan, was acceptable, were questions for the Environment Agency to tackle – not the court.
94. The Environment Agency did that. In doing so, it directed itself properly on the obligations in article 46(5). It recited that provision, accurately, in paragraph 6.5.3 and Annex 1 of the decision document. And in the relevant parts of the decision document it applied the obligations as strictly as the language of the provision requires – considering all the measures by which “the ... release of ... polluting substances into soil, surface water and groundwater” would be prevented, not merely those provided for in the dust management plan. For the reasons given in the decision document, it was obviously satisfied that the proposed arrangements in their entirety would prevent the harm to which article 46(5) is directed. And in my view, as Mr Harwood submitted, that overall conclusion is not undone by the sentence in paragraph 6.5.3 acknowledging that “appropriate measures will be in place to prevent and/or minimise fugitive emissions” – a comment closer in its phrasing to article 1 of the Industrial Emissions Directive than to article 45(6).
95. No cogent criticism has been made of that conclusion, nor could it be. As the Environment Agency clearly accepted, the measures described in the dust management plan complemented those for preventing polluting emissions described in the supporting information document – including the contamination of surface water by heavy metals present in the IBA. It satisfied itself that the proposed measures corresponded to Best Available Techniques, were practicable, and could be made the subject of enforceable conditions in the environmental permit. This was a paradigm of decision-making under the Environmental Permitting Regulations. It was not unlawful.

*Was the judge wrong to rely on the concept of “margin of appreciation”?*

96. Mr Stedman Jones contended that the judge was wrong to rely on the authorities – in particular, *Mott and Levy* – on the “margin of appreciation” appropriate where a decision-maker has had to apply expert scientific judgment. This case, he submitted, is not about expert scientific judgment. It is about the consequence of an acknowledged error of science, which was, as Jay J. put it in *Wealden District Council* (in paragraph 105 of his judgment), “part of the overall judgmental or evaluative basis” for the decision. The consequence was that an ineffective technique for preventing emissions of dissolved heavy metals from the IBA was proposed by Covanta, and accepted by the Environment Agency. This was not the kind of issue with which the court was concerned in *Mott*. A wide “margin of appreciation”, or discretion, is not available to the Environment Agency in a case where it commits a basic and material error of fact, whose indirect effect was to weaken the protection of the environment. Other operating techniques



secured by the permit conditions might be effective. But the silt interceptors intended to protect against “fugitive dust emissions” would not be. Given the “absolute prohibition” in article 46(5) of the Industrial Emissions Directive, the judge should have applied the “precautionary principle” to avoid any possible risk of pollution from the IBA, and ought therefore to have quashed the permit.

97. In my view this argument adds little, if anything, to the submissions made by Mr Stedman Jones on the previous issues. And it is not well founded. The judge did not misapply the principle recognized by this court in *Mott*. To conclude, as she did, that the Environment Agency had exercised its own judgment lawfully, she did not need to rely on the jurisprudence establishing for statutory regulators an enhanced “margin of appreciation”. Even without the benefit of that more generous approach, the decision here would, in my view, survive the challenge to it. As the judge found, the Environment Agency made no mistake of fact nor any error of basic science. Nor was its assessment marred by any unlawful exercise of scientific, technical or predictive judgment apparent in the environmental permit or any other document before the court, or any other error of law.
98. It will not be unusual for differences of expert opinion or judgment to arise when an environmental permit is sought for a large waste facility such as this. There may be disagreement over the appropriateness of the intended operating techniques, or on the likely effectiveness of measures proposed for the prevention or acceptable mitigation of polluting emissions. Objectors may suggest other measures, as Professor Ramsden did here. But these are, in the end, matters for the Environment Agency to resolve. They fall comfortably within the scope of a “decision of [a] designated statutory regulator that is the result of an evaluation of assessments made using scientific material as to what might happen in the future, and is in that sense predictive” – as Beatson L.J. said in *Mott* (in paragraph 68 of his judgment, with which Lord Dyson M.R. and McFarlane L.J. agreed).
99. I see no need to enlarge or refine the basic principle itself, which – as Beatson L.J. put it – was that “the court should afford a decision-maker an enhanced margin of appreciation in cases ... involving scientific, technical and predictive assessments” (paragraph 69). This was, as he showed (in paragraphs 70 to 82), a principle already reflected in several decisions of this court. He cited the observation of May L.J. in *R. (on the application of British Union for the Abolition of Vivisection) v Secretary of State for the Home Department* [2008] EWCA Civ 417 (at paragraph 1) that although scientific analysis is “not immune from lawyers’ analysis”, a reviewing court must be “careful not to substitute its own inexpert view of the science for a tenable expert opinion”. And he added that the court “should be very slow to conclude that the expert and experienced decision-maker assigned the task by statute has reached a perverse scientific conclusion” (paragraph 77). I agree. The court must always be astute not to step into the statutory remit of a regulator, or to engage in its own exercise of quasi-scientific judgment.
100. Invoking that principle to excuse a patent mistake of fact or basic science would of course be misguided. But that is not what Lang J. did. She found, rightly, that the only real error evident in this case was in the text of the supporting information document, and that this had not impaired the Environment Agency’s own exercise of expert judgment when deciding to issue the environmental permit, and in framing the conditions it imposed.
101. Lastly, I see no force in the argument that the judge failed to apply the “precautionary principle”. Her analysis exemplifies the supervisory role of the court in a claim such as this. As she recognized, it was for the Environment Agency, as regulator, to assess the permit application on

its merits, consistently with the legislative scheme. It did that. The introductory note in the environmental permit declares that it “implements the requirements of the EU Directives on Industrial Emissions and Waste”. The conditions in the permit are formulated to prevent polluting emissions, in accordance with the scheme of the Industrial Emissions Directive, which may itself be seen as consistent with the “precautionary principle” (see article 191(2) of the Treaty on the Functioning of the European Union). Condition 1.1.1 specifies a “written management system that identifies and minimises risks of pollution ...”. Conditions 2.3.1 and 2.3.2 provide for the variation of the operating techniques by agreement with the Environment Agency, but require the revision of any plan specified in Table S1.2 if the activities are giving rise to pollution. Conditions 3.1.1 and 3.2.1 act to prevent polluting emissions, including the discharge of contaminated water. Condition 3.2.2 requires the submission of an emissions management plan if any of the activities gives rise to pollution. This framework of restriction and control is underpinned by the Environment Agency’s enforcement powers. The permit is constructed to ensure the protection of human health and the environment, and compliance with the relevant obligations under the Industrial Emissions Directive, including those in articles 1 and 46(5).

*Conclusion*

102. For the reasons I have given, I would dismiss this appeal.

**Henderson L.J.**

103. I agree.

**Peter Jackson L.J.**

104. I also agree.