

**From:** [REDACTED]  
**To:** [Sunnica Energy Farm](#)  
**Subject:** Comments at Deadline 10  
**Date:** 23 March 2023 19:14:48  
**Attachments:** [REDACTED]

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Dear Sir/Madam

1. I attach herewith Comments at Deadline 10 in response to certain submissions by the Applicant in their  
8.108 Responses REP8-022  
8.109 Responses REP8-023

The bases for submitting these comments are:

- (i) The Applicant mis-states the HSE Letter REP7-112 within REP8-022
- (ii) The Applicant asserts a denial of my rights as a citizen within REP8-023
- (iii) In both Responses the Applicant misdirects the Examination by conflating two distinct matters.

Hence it would not be right to allow these errors to pass unremarked.

2. **(NB)** The ExA's Rule 17 Letter dated 23 March 2023 requesting further information on HSC is noted.

This will be responded to separately, by Deadline 11 (28 March) as requested.

Please confirm receipt of the attachment.

Yours faithfully

Edmund Fordham PhD FInstP EurIng

THE PLANNING INSPECTORATE

EN010106 – Sunnica Energy Farm

**APPLICATION BY SUNNICA Ltd for an Order Granting Development Consent  
for the Sunnica Energy Farm Project pursuant to The Planning Act 2008**

**To the Examining Authority (ExA)**

**COMMENTS (at Deadline 10) on Deadline 8 Submissions**

**Eurling Dr Edmund John Fordham MA PhD CPhys CEng FInstP**

**Interested Party – Unique Reference: 20030698**

Please note:

1. These comments are being submitted by Deadline 10 (24 March 2023) in response to documents released on 20 March.
2. The new material responded to is in:
  - (i) Applicant's 8.108 Responses (REP8-022);
  - (ii) Applicant's 8.109 Responses (REP8-023).
3. The bases for this D10 submission are:
  - (a) the Applicant misrepresents the HSE letter REP7-112 within REP8-022;
  - (b) the Applicant asserts a denial of my personal rights as an elector to ECDC, within REP8-023, to which I object;
  - (c) In both REP8-022 and REP8-023, the Applicant misdirects the Examination by conflating two quite distinct matters, viz.:
    - (i) the pre-construction obligations for COMAH notification and HSC;
    - (ii) the Policy and legal requirements that such subsequent obligations impose at the consenting stage.

It would it not be right to allow these errors to pass unremarked.

**NB:** The ExA's Rule 17 letter 22 March 2023 requesting further information on HSC is noted and will be responded to separately as requested by Deadline 11.

**Conventions for colour highlighting:**

Quotations from legislation are shown in blue

Quotations from policy documents, or competent authorities are shown in magenta

Quotations from Applicant are shown in ochre

Quotations from Government Statements are shown in green

## SUMMARY

[ Please refer to the Glossary following, for a list of abbreviations. ]

1. The Applicant's 8.108 Responses REP8-022 at page 8 misrepresents the HSE Letter REP7-112. Specifically the Applicant claims that HSE endorses their contentions with regard to the "timing of obtaining HSC and COMAH consents" when the letter in question contains little on either the COMAH or P(HS) Regs, and nothing at all on their timing. (Paras. 2 – 19)
2. The Applicant misdirects the Examination by conflating two distinct issues:
  - (i) obtaining HSC, or notifying as a COMAH site, subsequent to a DCO, and
  - (ii) arising from those later obligations, the Policy (Sect. 4.11 NPS EN-1) and legal requirements (R.26 P(HS)Regs 2015) for a safety appraisal *from* the COMAH CA *within* the Examination process, or for "details in their DCO" (footnote 94, NPS EN-1) where HSC is planned to be sought post-consent.
3. Paras. 11- 17 summarise once more the reasons the Application is non-compliant with requirement of both Policy and law, as in para. 2(ii) above.
4. The Applicant apparently now accepts that the Sunnica BESS are subject to the COMAH Regs 2015 and to require HSC, subject only to the Qualifying or Controlled Quantities being exceeded. (Paras. 20 -25)
5. My extensive submissions over at least five documents show that it is virtually certain that the QQs or CQs are exceeded, irrespective of cell chemistry (albeit on different criteria for the two candidate chemistries), viz.:
  - (i) Annex EF16 REP2-129e, my paper with Professor Sir David Melville CBE ;
  - (ii) Written Representation REP2-129;
  - (iii) D6 Comments REP6-084 ;
  - (iv) D7 Comments REP7-094 ;
  - (v) D8 Comments REP8-045 .
6. The Applicant has not engaged with these submissions on a comparable scientific or technical level. By this stage, the onus is surely on the Applicant to show that COMAH/HSC are *not* obligations, but has not been able to do so. The Applicant's position that "we cannot tell at this stage" is unsustainable in the face of the evidence provided.
7. The Applicant could have sought a safety appraisal from the COMAH CA on a precautionary basis. It could similarly have sought a formal decision or determination that the BESS were unlikely to constitute a COMAH site. They have done neither. There has been no consultation with HSE or the COMAH CA at any stage at which the scale of the proposed BESS (2400 MWh) was declared.

8. Having regard to the evidence, the ExA cannot reasonably proceed on the basis that the BESS are *not* a COMAH site. Hence Policy and law requires the reports and details outlined in paras. 12 – 17. Those are not available.

9. Nor can the ExA reasonably proceed on the basis that it remains to be shown whether or not COMAH/HSC are obligations, because subsequent acceptance that COMAH/HSC *is* required would reveal the Examination to have been defective, being void of the reports required by both Policy and law.

10. The Applicant's 8.109 Responses (REP8-023) repeat the position that they are not applying for HSC in the Examination, and again conflate the two distinct issues identified in para. 2 above, without saying anything about the Policy and legal requirements for safety reports and "details in their DCO" required within the Examination (Item. 2(ii) above and Paras. 11 -17 herein).

11. The Applicant is attempting to by-pass both Policy (in NPS EN-1) and law (in R.24 and R.26 P(HS)Regs 2015) for consideration of Major Accident Prevention and Mitigation within the consenting process, by withholding technical details and asserting that "we cannot tell at this stage" (if COMAH/HSC are obligations or not).

12. If allowed to prevail, this would enable any application for any major industrial plant (not just Li-ion BESS) to by-pass the law similarly, simply by withholding details, and asserting "we cannot tell at this stage" (Paras. 34 – 36 herein).

13. The Applicant asserts quite unreasonably that I "have no locus to be involved in that process" (an application to the HSAs for HSC post-consent). As a resident and elector to ECDC I would have every right to contribute to that process, under P(HS)Regs 2015. (Paras. 41 – 42)

14. The Applicant correctly notes that application for HSC to the HSAs triggers a Notice to the COMAH CA who would report *inter alia* on major accident mitigation measures. However this is essentially the same as the safety report required by Policy and law (Item 2(ii) above), at the consenting stage. If HSC or COMAH notification is required post-consent, the Policy conditions are required at the consenting stage and cannot be by-passed. (Paras. 43 – 45).

15. Being deficient in the safety report and other conditions required at the consenting stage, both by Policy (Sect. 4.11 and 4.12 NPS EN-1) and law (R.26 P(HS)Regs 2015), the Application is premature and must fail.

( Summary 783 words )

EJF, 24/03/23

## GLOSSARY

Abbreviations used in the interests of brevity.

### Legislation and statutory permissions:

CLP	– the Classification, Labelling and Packaging Regulation
COMAH Regs 2015	– the Control of Major Accident Hazards Regulations 2015
CQ	– Controlled Quantity (of a HS as defined in P(HS)Regs 2015)
DCO	– Development Consent Order
dDCO	– draft Development Consent Order
DS	– Dangerous Substance (as defined in the Schedule to COMAH Regs 2015). Usually synonymous to HS
GHS	– Globally Harmonised System (see UN GHS)
HS	– Hazardous Substance (as defined in the Schedule to P(HS)Regs 2015). Usually synonymous to DS
HCS	– Hazard Communication Standard (USA)
HSC	– Hazardous Substances Consent
PA 2008	– The Planning Act 2008
P(HS)A 1990	– The Planning (Hazardous Substances) Act 1990
P(HS)Regs 2015	– The Planning (Hazardous Substances) Regulations 2015
QQ	– Qualifying Quantity (of a “dangerous” substance) in the COMAH Regs 2015; similar to CQ in the P(HS)Reg 2015
REACH	– Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation
S or “S”	– any “substance used in processes” which on its own or in combination with others may generate HS defined in Parts 1 or 2 of the Schedule to the P(HS)Regs 2015
Seveso	– the “Seveso III Directive” 2012/18/EU of 4 July 2012
UN GHS	– United Nations Globally Harmonised System
UN MTC	– United Nations Manual of Tests and Criteria

Direct quotations from legislation are shown in blue

### Policy documents:

NPPF	– National Planning Policy Framework
NPS	– National Policy Statement
EN-1	– Overarching National Policy Statement for Energy (EN-1)

Direct quotations from policy documents are shown in magenta

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## **GLOSSARY (cont.)**

### **Competent authorities:**

CA	– COMAH Competent Authority
DHCLG	– Department for Housing Communities and Local Government
DECC	– Department of Energy and Climate Change
DWP	– Department for Work and Pensions
EA	– Environment Agency
ECDC	– East Cambridgeshire District Council (LPA)
ExA	– Examining Authority
FRS	– Fire and Rescue Service
HSA	– Hazardous Substances Authority
HSE	– Health and Safety Executive
HSE(NI)	– Health and Safety Executive for Northern Ireland
IPC	– Infrastructure Planning Commission (now abolished)
LPA	– Local Planning Authority
NII	– Nuclear Installations Inspectorate
ONR	– Office for Nuclear Regulation
OSHA	– Occupational Safety and Health Administration (USA)
SoS	– Secretary of State
WSC	– West Suffolk Council (LPA)
UKAEA	– United Kingdom Atomic Energy Authority

### **Parties:**

Sunnica	– the Applicant, or the proposal under Examination
SNTSAG	– Say No To Sunnica Action Group Ltd

### **Documents**

OBFSMP	– Outline Battery Fire Safety Management Plan
BFSMP	– Battery Fire Safety Management Plan
LIR	– Local Impact Report

(continued)

## GLOSSARY (cont.)

### Technical:

AEGL-3	– Acute Exposure Guideline Levels
BESS	– Battery Energy Storage System(s)
CAS	– Chemical Abstracts Service, maintains a catalogue of unique chemical substances with reference numbers
CDFR	– Commercial Demonstration Fast Reactor
EV	– Electric Vehicle
GCMS	– Gas Chromatography Mass Spectrometry
ICHEME	– Institution of Chemical Engineers
IDLH	– Imminent Danger to Life and Health
IUPAC	– International Union of Pure and Applied Chemistry
Li-ion	– Lithium-ion
M-factor	– Multiplying Factor used for certain substances Toxic to the Aquatic Environment in eco-toxicity classifications
NFPA	– National Fire Protection Association (USA)
PPSE	– Professional Process Safety Engineer
PM	– Particulate Matter
PM <sub>2.5</sub>	– Particulate Matter of diameter less than 2.5 µm
SoC	– State Of Charge of cells, usually given as percentage, between fully charged (100%) and completely discharged ( 0% )
SLOT	– Specified Level of Toxicity
SLOD	– Significant Likelihood of Death
STEL	– Short Term Exposure Limit, i.e. limiting allowed concentration for short-term exposures (typically 15 minutes)
SVHC	– Substance of Very High Concern
VCE	– Vapour Cloud Explosion
UHI	– Urban Heat Island

(continued)

## GLOSSARY (cont.)

### Chemical substances:

CH <sub>4</sub>	– Methane
C <sub>2</sub> H <sub>4</sub>	– Ethylene
C <sub>2</sub> H <sub>6</sub>	– Ethane
CO	– Carbon Monoxide
CO <sub>2</sub>	– Carbon Dioxide
Co	– Cobalt (as metal) ( not to be confused with CO )
CoO	– Cobalt (II) Oxide
Cu	– Copper (as metal)
CuO	– Cupric ( or Copper (II) ) Oxide
Cu <sub>2</sub> O	– Cuprous ( or Copper (I) ) Oxide
H <sub>2</sub>	– Hydrogen
HCN	– Hydrogen Cyanide
HF	– Hydrogen Fluoride
Mn	– Manganese (as metal)
MnO	– Manganese (II) Oxide
Ni	– Nickel (as metal)
NiO	– Nickel Monoxide
ONiO	– Nickel Dioxide
Ni <sub>2</sub> O <sub>3</sub>	– diNickel triOxide
POF <sub>3</sub>	– Phosphoryl Fluoride

### Li-ion cell types:

NMC	– Nickel – Manganese – Cobalt; a popular Li-ion cell type, with cathodes based on complex oxides of those elements
LFP	– Lithium – Iron [ chemical symbol Fe, hence “F” ] – Phosphate; another type of Li-ion cathode chemistry
LCO, NCA, LATP	– other cell cathode chemistries mentioned in text
LMO	– Lithium Manganese Oxide
LNO	– Lithium Nickel Oxide

(continued)



## GLOSSARY (cont.)

### Measurement units:

GW	– gigawatt, or one billion watts, or one thousand megawatts 1000 MW
MW	– megawatt, or one million watts, a unit of <i>power</i> , i.e. <i>rate</i> of transfer of <i>energy</i>
MWh	– megawatt- <i>hour</i> , or one million watt-hours, a unit of <i>energy</i> e.g. the <i>energy</i> transferred by a <i>power</i> of 1 MW acting for 1 <i>hour</i>
m <sup>2</sup>	– square metre (area)
ha	– 1 hectare = 10,000 m <sup>2</sup>
MWh ha <sup>1</sup>	– energy storage density (on the land) in the BESS compounds, as MWh energy storage capacity, per hectare of land allocated
MWh / tonne or MWh tonne <sup>1</sup>	– energy density of the BESS cells themselves, as MWh energy storage capacity, per tonne of cells
Wh / kg or Wh kg <sup>1</sup>	– energy density of the BESS cells themselves, as Wh energy storage capacity, per kg of cells 1 MWh / tonne = 1000 Wh / kg
mg / Wh or mg (Wh) <sup>1</sup>	– gas generation from cells in failure, in milligrams gas per watt-hours of energy storage capacity
tonne	– 1 metric tonne or 1000 kg or 1 Mg
µg m <sup>3</sup>	– trace concentrations of highly toxic gases, in micrograms of toxic contaminant per cubic metre of air
µm	– 1 micrometre or 10 <sup>6</sup> metre

## Scope and Purpose of these Comments

1. These Comments respond to
  - (i) the Applicant's 8.108 Responses to "Other Parties" D7 Submissions (REP8-022), released only on 20 March 2023;
  - (ii) certain comments regarding me personally within the Applicant's 8.109 (REP8-023).

### Applicant's 8.108 (REP8-022): misrepresentation of HSE letter REP7-112

2. The Applicant responds to the HSE letter REP7-112 at page 8 of REP8-022: *The Applicant also notes the HSE's position on the timing of obtaining HSC/COMAH consent, which accords with the Applicant's position. The Applicant will review the HSC/COMAH requirements during detailed design phase and will apply for consent, should the thresholds be met.*
3. The second sentence is discussed below, paras. 20 – 25. The first sentence claims that *"HSE's position on the timing of obtaining HSC/COMAH consent ... accords with the Applicant's position"*.
4. No such endorsement is apparent in the HSE letter REP7-112 and to claim that HSE *"accords with the Applicant's position"* appears to have no basis.
5. The HSE letter mentions COMAH only in a footnote, in the context of the definition of a "major accident hazard" (dealt with in Paras. 20-38 of my D8 Comments REP8-045).
6. The HSE letter mentions HSC only as a general issue that HSE will highlight in statutory advice on NSIPs, as in fact they have done for Sunnica, see e.g. Annex EF54 REP8-045a. That advice (to consult the HSAs on the need for HSC) was dismissed by the Applicant, as we have seen (quote and references in para. 21).
7. The ExA's Third Questions included:  
**Qu. 3.1.10 BESS: health and safety related consents**  
Please comment on the Applicant's response to our ExQ2.1.18, with particular reference to the statement that *"... it is not practical at this stage to outline in detail a programme of these consents ..."*  
to which the HSE Letter provides only the most general of responses:  
*Many areas of Health and Safety law do not require consents depending on the detail of the design and operation and therefore consents may not be required. HSE would expect compliance with all aspects of Health and Safety legislation at the stage it becomes applicable.*
8. This amounts to an unremarkable statement that HSE (along with anyone else endorsing the rule of law) would expect compliance with the law.

9. The HSE letter therefore says nothing about the “the timing of obtaining HSC/COMAH consent”.

10. The Applicant is also misdirecting the Examination by once again by conflating two distinct matters (i) the obtaining of HSC, or notifying as a COMAH site (ii) the Policy (Sect. 4.11 NPS EN-1) and legal requirements (R.26 P(HS)Regs 2015) for a safety appraisal *from* the COMAH CA within the Examination process, or for “details in their DCO” (footnote 94, NPS EN-1) where HSC is sought post-consent.

11. It is the Policy and procedural requirements set by law that the ExA must have regard to now, within the Examination, and in advice to the SoS, on the matters of COMAH or HSC, not the subsequent legal obligations on the operator at the construction stage.

12. COMAH notification (*to* the COMAH CA) is an obligation on the operator, before construction begins. What is required in the Examination is a safety appraisal, *from* the COMAH CA. Policy (Sect. 4.11 NPS EN-1) requires that the SoS must receive an “assessment” that the “inherent features of the design are sufficient to prevent, control and mitigate major accidents”. The regulatory law requires (R.26(2)(b) P(HS)Regs 2015) that “the COMAH CA is consulted about the project” and that (R.26(2)(c)) the reports “are made available to the public concerned” “at the time the public concerned was informed pursuant to paragraph 2(a)” i.e. as part of the Application. These are required for all “establishments” which will *subsequently* require COMAH notification.

13. Similarly, with regard to HSC, Policy in Sect. 4.12 NPS EN-1 (footnote 94) allows HSC to be obtained “post-consent” but sets clear conditions, viz. (i) pre-application consultation with HSE (ii) “details in their DCO”. Again these are Policy requirements for the Examination itself, a completely different matter from an actual application for HSC.

14. As shown by the HSE letter (REP7-112) and my D8 Comments (REP8-045), the only consultations with HSE were those made at up to S.56 stages, when the Applicant had made no disclosure of the scale of the proposed BESS. The s.56 letter is not in Appendix B of the Applicant’s 8.96 REP7-056 but around April 2022 no BESS size or scale had been declared. My own enquiries recorded in Annex EF57 (REP8-045d) in November 2020 asked this question but all approaches to the Applicant were consistently refused until ISH1, when the scale of the BESS was finally disclosed as an unprecedented 2400 MWh.

15. The evidence therefore shows that there has been no consultation with HSE (or the COMAH CA) with actual declaration of the most fundamental possible parameter for an energy storage system (viz. the energy storage capacity in MWh). No outline where the Major Accident Hazard might reasonably be recognised or suspected has been declared to the regulatory agencies.

16. Similarly there are no “details in their DCO” required for post-consent HSC, required by Policy in footnote 94 of NPS EN-1.

17. The Application is thus non-compliant with the Policy (Sect. 4.11 NPS EN-1) and legal (R.26(2)(b)) requirements for consultation with the COMAH CA, required by Policy before the SoS takes any decision, and by law at the time of informing the public i.e. at the time of Application. The Application is similarly non-compliant with the Policy conditions in footnote 94 of NPS EN-1 for obtaining HSC post-consent.

18. Nothing in the HSE letter REP7-112 says anything regarding these Policy and legal requirements for consultation, and the Applicant cannot claim that the HSE letter does.

19. The subsequent paragraphs in the Applicant's 8.108 responses (REP8-022) (pages 8-9) provide further rehearsal of irrelevant considerations of regulatory compliance *after* a DCO is granted. What is relevant are the Policy and legal requirements *now*, within the Examination, *before* the SoS takes a decision, for a proposal to build an establishment which will subsequently be COMAH-notifiable and require HSC.

#### **Applicant's 8.108 responses (REP8-022): HSC/COMAH requirements post-consent, subject to thresholds**

20. The second sentence cited in Para 2. from page 8 of REP8-022 reads:  
"The Applicant will review the HSC/COMAH requirements during detailed design phase and will apply for consent, should the thresholds be met."

21. This position is a very considerable distance from the Applicant's original position (cited in my PHS after ISH1, REP2-082a, Summary para. 2) where HSE advice (in Appendix B of REP7-057, also in my Annex EF54 REP8-045a) to consult the HSAs with regard to HSC was dismissed (Applicant's REP2-025 Ch 16 "Other Environmental Topics") as "a generic comment and not considered to be relevant to this project as no hazardous materials are expected".

22. It is also notable that the Applicant no longer relies upon the Parliamentary Answer Annex EF38 REP4-090 (cited elsewhere but dissected in my PHS on ISH3 REP4-089) to the effect that BESS are exempt from the COMAH Regs and from HSC by reasons of being "articles" under the definitions in the CLP Regulation (a disputable contention).

23. On the contrary, it appears the Applicant accepts that BESS are subject to the COMAH Regs 2015 and require HSC where it is "reasonable to foresee" dangerous/hazardous substances being "generated during loss of control of the processes", subject only to Qualifying or Controlled Quantities being exceeded i.e. "the thresholds be met" (page 8 REP8-022). This was noted (with citations to the Applicant's REP6-036) in my D7 Comments REP7-094.

24. I believe that BESS are also subject to the COMAH Regs 2015 on the grounds of the Part 2 Note 5 "provisional assignment" to the "most analogous" hazard category in Part 1 of the Schedule. This was also acknowledged by the

Applicant in pages 66-68 of their REP6-036 and discussed in my D6 Comments REP6-084).

25. The only remaining question therefore is whether “the thresholds be met” i.e. the Qualifying Quantities for COMAH are exceeded or the Controlled Quantities for HSC (the QQs for lower-tier COMAH being generally though not totally aligned with the CQs for HSC).

26. The main point and purpose of my technical submissions to this Examination is to show beyond reasonable doubt that the QQs and CQs are indeed exceeded, even without a full design specification, and even without deciding upon the choice between NMC and LFP cells. The criteria will be different for the two different chemistries, but both have been analysed. The scale of the proposal (2400 MWh) and the large size of the individual BESS cabins are sufficient to reach this conclusion. It is almost inconceivable that either COMAH or HSC can be avoided, for all the many reasons analysed in depth within:

- (i) Annex EF16 REP2-129e, my paper with Professor Sir David Melville CBE
- (ii) Written Representation REP2-129
- (iii) D6 Comments REP6-084 (especially regarding the Part 3 Note 5 provisional assignments of Part 1 hazard categories)
- (iv) D7 Comments REP7-094 (especially on Inhalable Nickel Oxides)
- (v) D8 Comments REP8-045 (especially on the decision tree from HSE’s Guidance Notes “Do the COMAH Regulations apply to me ?”)

27. The Applicant has not been able to engage with or dispute these submissions at a comparable level. In the face of this evidence that HSC and COMAH notification are almost certainly required, the onus by now is surely upon the Applicant to show that they are *not*, and at this stage.

28. This is because an establishment that is subject to the COMAH Regs 2015 requires, at the consenting stage, the safety appraisal from the COMAH CA and the “details in their DCO” that Policy in NPS EN-1 requires, and the law requires in R.26 P(HS)Regs 2015, rehearsed once more in paras. 12 – 17 above. Without such reports and details, the Application must fail.

29. The Applicant’s current position, that “we cannot tell at this stage” if HSC/COMAH are obligations, is unsustainable in view of the weight of technical evidence provided.

30. It was at all stages open to the Applicant to obtain the necessary appraisal from the COMAH CA, purely on a precautionary basis. They have not done so.

31. There been no consultation with HSE or the COMAH CA with the size of the proposed BESS declared (para. 15).

32. It was open to the Applicant to seek, within the Examination, a decision or determination from HSE or the COMAH CA that, on evidence provided, the proposed BESS were unlikely to be a COMAH establishment. They have not done so.

33. In case of dispute on matters of technical fact, e.g. on the question of “is it likely the Qualifying Quantities for COMAH would be exceeded?”, it was open to the ExA to have referred the matter for an independent opinion from the statutory regulator or other independent experts (on the lines of, for example, the report from consulting engineers Atkins for HSE(NI) in Annex EF28 REP2-129p).

34. If the Applicant’s position that “we cannot tell at this stage” were allowed to prevail, then simply by withholding technical details (as Sunnica have done) and declaring “we cannot tell at this stage if it will be a COMAH site”, almost any application for major industrial plant (not just BESS, more conventional chemical plant included) would be able to subvert the law in R.24 and R.26 P(HS)Regs 2015.

35. Those Regulations implement the intention in Article 13(3) of Seveso that Planning decisions must consider Major Accident prevention and mitigation within the decision process, and must make available sufficient technical information on risks, when decisions are taken i.e. within the Examination.

36. It cannot be the intention of enacted UK law in force that it should be readily subverted simply by withholding technical details and declaring “we cannot tell at this stage”.

37. Given the evidence provided, the Sunnica BESS almost certainly constitute a COMAH site and require HSC. Having regard to the technical evidence, the ExA cannot reasonably proceed on the basis that the BESS are *not* a COMAH site. Hence Policy and law requires the reports and details outlined in paras. 12 – 17. Those are not available, so the Application must fail.

38. Nor can the ExA reasonably proceed on the basis that it remains to be shown whether or not COMAH/HSC are obligations, because any subsequent acceptance that COMAH/HSC is required after all, would reveal a basic defect in the Examination process. Policy and legal requirements for the Application and Examination would have been presumed *not* to be required, a presumption subsequently shown to be wrong.

#### **Applicant’s 8.109 responses (REP8-023): HSC/COMAH post-consent**

39. On page 15 of the Applicant’s REP8-023, the Applicant once more declares: **Fundamentally, the Applicant is not seeking COMAH/HSC consent at this stage and the ExA/SoS is entitled to assume those two regimes will operate as they are meant to do should DCO consent be granted.**

40. Once more the Applicant confuses and conflates subsequent obligations (for COMAH notification and HSC) prior to construction, with Policy and legal obligations required now, that arise from those subsequent obligations. If COMAH notification



and HSC are required for the Sunnica BESS subsequent to a DCO but prior to construction, the Policy (Sect 4.11 NPS EN-1) and legal (R.26(2)(b) P(HS)Regs 2015) requirements apply *now*, within the Examination (paras. 12 – 17 above.)

### **Applicant's 8.109 responses (REP8-023): personal commentary on myself**

41. The Comments in pages 15 – 16 of REP8-023 refer to me personally:

The Council seems to be suggesting they would be taking advice from Dr Fordham in respect of its discharge of requirement 7 or granting hazardous substances consent. Such an approach is not reasonable. Dr Fordham has no locus to be involved in that process and would clearly have a conflict of interest given his opposition to the Scheme. It is clear from HSE's response at Deadline 7 that it will engage in matters where it has a statutory function, but not in respect of reviewing of Battery Fire Safety Management Plans prepared for the planning process. There is no reason to suppose that they would not engage in a Hazardous Substances Consent application as consultee to the LPAs.

42. The Council(s) must speak for themselves, but I take exception to the idea that I “**have no locus to be involved in that process**”. I have every right to be involved in a HSC application to a District Council in whose electoral area I reside, and to suggest otherwise would be denial of my rights as a citizen, affected member of the public (under R.6(1)(a)(iv) and R.11(2) P(HS)Regs 2015 and elsewhere), and elector to ECDC. It does not require me to be formally engaged as an expert witness. Even if ECDC sought that it would be up to them to manage any conflicts of interest and if any such existed I would of course formally declare a position which is in any case well-known to them already. ECDC are also objectors to the scheme. If the relevant HSA (ECDC) is also an objector, that cannot stop them determining a HSC application on its merits. On the contrary it would be their statutory duty.

43. The Applicant is correct that HSE would be obliged to engage in a Hazardous Substances Consent application, which automatically triggers a formal Notice to the COMAH CA, who would report *inter alia* on the “**the measures taken or proposed to be taken to limit the consequences of a major accident;**” required in applications for HSC, by R.5(1)(d)(viii) P(HS)Regs 2015.

44. This is of course essentially the same as the safety appraisal from the COMAH CA required by Policy in Sect. 4.11 NPS EN-1 for the SoS to receive an “**assessment**” that the “**inherent features of the design are sufficient to prevent, control and mitigate major accidents**”.

45. Yet, if the safety report from the COMAH CA is required as a consequence of a post-consent application for HSC, it is required now, according to Policy in Sects 4.11 and 4.12 NPS EN-1, and according to law in R.26 P(HS)Regs 2015.

46. For the legal and Policy reasons in paras. 12 – 17, the Application must fail.

(2598 words)

EJF, 24/03/2023





**List of Annexes referred to: –**      Comments at Deadline 10: Dr Edmund Fordham  
( dated 24<sup>th</sup> March 2023 )

EF1 – Personal details

EF2 – “Safety of Grid Scale Lithium-ion Battery Energy Storage Systems”  
by E J Fordham (Interested Party), with  
Professor Wade Allison DPhil and  
Professor Sir David Melville CBE CPhys FInstP

EF3 – “Hazardous substances (Planning) Common Framework”  
CP 508 Presented to Parliament by the SoS for DHCLG August 2021

EF4 – Directive 2012/18/EU of the European Parliament and of the Council  
on the Control of Major-Accident Hazards involving dangerous substances  
commonly known as the “Seveso III Directive”

EF5 – The Planning (Hazardous Substances) Regulations 2015

EF6 – Explanatory Memorandum to the P(HS)Regs 2015

EF7 – The Planning (Hazardous Substances) Act 1990

EF8 – Overarching National Policy Statement for Energy (NPS EN-1)

EF9 – Speech of Dame Maria Miller MP, House of Commons, 7 September 2022  
*Hansard*, (House of Commons) Volume 719, Columns 275-277

EF10 – Battery Storage Guidance Note 1: Battery Storage Planning. Energy  
Institute, August 2019, ISBN 978 1 78725 122 9

EF11 – D. Hill (2020).  
“McMicken BESS event: Technical Analysis and Recommendations”  
Technical support for APS related to McMicken thermal runaway and  
explosion.  
Arizona Public Service. Document 10209302-HOU-R-01  
Report by DNV-GL to Arizona Public Service, 18 July 2020.

EF12 – Underwriters Laboratories incident report into McMicken explosion

EF13 – (5 items) News items and English translation from Chinese of official  
accident investigation into April 2021 BESS fire and explosion in Beijing

EF14 – (3 items) Reports from Merseyside Fire and Rescue Service into September  
2020 BESS fire and explosion in urban Liverpool

EF15 – Larsson *et al.* (2017), *Scientific Reports*, **7**, 10018,  
DOI 10.1038/s41598-017-09784-z

- EF16 – Paper with Professor Sir David Melville CBE: “Hazardous Substances potentially generated in “loss of control” accidents in Li-ion Battery Energy Storage systems (BESS): storage capacities implying Hazardous Substances Consent obligations.
- In public domain on *Research Gate* preprint server  
DOI 10.13140/RG.2.2.35893.76005
- EF17 – Golubkov *et al* (2014) *RSC Advances* DOI 10.1039/c3ra4578f
- EF18 – Research Technical Report by *FM Global*: Flammability characterization of Li-ion batteries in bulk storage”
- EF19 – Bergström *et al* (2015) Vented Gases and Aerosol of Automotive Li-ion LFP and NMC Batteries in Humidified Nitrogen under Thermal Load
- EF20 – (2 items) Victorian Big Battery Fire, July 2021. Report of technical findings. Also compendium of news items with aerial photography.
- EF21 – (2 items) Letter from Commissioner Sandra D. Kennedy, Arizona Public Service Company, August 2019, regarding McMicken explosion.
- Also letter with Fire Department report into earlier 2012 BESS fire with eye-witness reports on flame length.
- EF22 – Technical Memorandum from Golder Associates re composition of BESS at Kells, Northern Ireland
- EF23 – Ouyang *et al.* (2018), *J. Thermal Analysis and Calorimetry*, DOI: 10.1007/s10973-018-7891-6
- EF24 – Essl *et al.* (2020), *Batteries*, **6**, 30 DOI: 10.3390/batteries6020030
- EF25 – Chen *et al.* (2020), *J. Hazardous Materials*, **400**, 123169  
DOI: 10.1016/j.jhazmat.2020.123169 (Citation only: article copyright)
- EF26 – Held *et al.* (2022) *Renewable and Sustainable Energy Reviews*, **165**, 112474  
DOI: 10.1016/j.rser.2022.112474
- EF27 – Wang *et al.* (2019) *Energy Science and Engineering*, **7**, 411-419  
DOI: 10.1002/ese3.283
- EF28 – Hazard Assessment of BESS, Technical Report by Atkins (Consulting Engineers) for Health and Safety Executive for Northern Ireland HSE(NI)
- EF29 – Letter 13/05/2022 from HSE(NI) to Ards and North Down Borough Council
- EF30 – Letter 22/09/2022 from HSE(NI) to Derry City and Strabane District Council
- EF31 – Letter 10/09/2021 from HSE(NI) to Armagh City, Banbridge & Craigavon Local Planning Office
- EF32 – Letter 18/07/2022 from HSE(NI) to Derry City and Strabane District Council
- EF33 – Letter 20/05/2021 from HSE(NI) to to Armagh City, Banbridge & Craigavon Local Planning Office

EF34 – Research Technical Report by *FM Global*: “Development of sprinkler protection guidance for Lithium-ion based energy storage systems”

EF35 – P. Andersson *et alia*, “Investigation of fire emissions from Li-ion batteries”, SP Technical Research Institute of Sweden, 2013.

EF36 – Barron-Gafford *et al.* (2016). The photovoltaic heat island effect: Larger solar power plants increase local temperatures. *Scientific Reports* **6**, 35070, DOI: 10.1038/srep35070

EF37 – Armstrong *et al.* (2016). Solar park microclimate and vegetation management effects on grassland carbon cycling. *Environmental Research Letters* **11**(7) 074016 DOI: 10.1088/1748-9326/11/7/074016

EF38 – Parliamentary answer

EF39 – BAILII case

EF40 – Fordham and Swords (2022). Application of the COMAH and Hazardous Substances Consents Regulations to Battery Energy Storage Systems (BESS): Does classification as “articles” exempt a technology ?

EF41 – Letter 17 December 2015 from Occupational Safety and Health Administration (OSHA) of the USA regarding classification of Li-ion batteries.

EF42 – Paper by Mr Pat Swords (2009) “Implementing EU industrial safety legislation in Central and Eastern Europe” Symposium Series No. 155, Hazards XXI, Institution of Chemical Engineers, 2009 pp 256 – 262.

EF43 – transcript of timed and recorded remarks made at OFH2

EF44 – transcript of final interview with the late Professor Sir David MacKay FRS, April 2016

EF45 – The Control Of Major Accident Hazards Regulations 2015

EF46 – United Nations Manual of Tests and Criteria, 7<sup>th</sup> edition

EF47 – Letter from DLUHC regarding operation of Part 3 of the P(HS)Regs 2015

EF48 – Letter from HSE(NI) to Armagh City, Banbridge and Craigavon Borough Council regarding application of COMAH and HSC to BESS

EF49 – Buston, J E H *et al.*, (2023) *Energy Advances* **2**, 170

EF50 – Revised Golder Memorandum, 19 Dec 2022

EF51 – Jensen Hughes memorandum, 3 March 2023

EF52 – Advice letter from HSE(NI), 12 January 2023

EF53 – KAS-43 Guidance Notes from German “Commission of Plant Safety” with English translation of Section 3.

EF54 – HSE advice to Applicant at EIA and S.42 stages

EF55 – Guidance Notes “L111” on the COMAH Regs, Health and Safety Executive

EF56 – EC Memorandum to stakeholders transposing the Seveso III Directive

EF57 – exchange of letters with Applicant, November 2020