



PROJECT ASSESSMENT REPORT			
Unique Document ID and Revision No:	ONR-OPF-PAR-16-003 Revision 0	TRIM Ref:	2016/166723
Project:	Review of regulation under Licence Condition 23		
Site:	Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B		
Title:	Specifications under condition 23(4) for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B power stations		
Licence Instrument No: (if applicable)	Specification numbers 539, 559, 607, 550, 552		
Nuclear Site Licence No:	Sc.14, 59, 60, 61, 62C		
Licence Condition:	23(4)		

Document Acceptance and Approval for Issue / Publication

Role	Name	Position	Signature	Date
Author	[REDACTED]	Principal Inspector		20.05.2016
Reviewer	[REDACTED]	Inspector		20.05.2016
Accepted by ¹	[REDACTED]	Superintending Inspector		20.05.2016
Approval for publication ²	[REDACTED]	Superintending Inspector		

Revision History

Revision	Date	Author(s)	Reviewed By	Accepted By	Description of Change
A	09.05.2016	[REDACTED]	N/A	N/A	1 st draft for review
B	12.05.2016	[REDACTED]	[REDACTED]	N/A	2 nd draft incorporating reviewer comments
0	20.05.2016	[REDACTED]	N/A	[REDACTED]	First accepted issue

Circulation (latest issue)

¹ Acceptance of the PAR to allow release of LI

² Approval is for publication on ONR web-site, after redaction where relevant

Organisation	Name	Date
Office for Nuclear Regulation	<p>██████████ – Sub programme Delivery Lead</p> <p>██████████ – Sub programme Head of Assessment</p> <p>Files: 4.4.1.3106.</p>	20.05.2016
Licensee	<p>██████████ – Station Director, Torness Power Station</p> <p>██████████ – Station Director, Hartlepool Power Station</p> <p>██████████ – Station Director, Heysham 1 Power Station</p> <p>██████████ – Station Director, Dungeness B Power Station</p> <p>██████████ – Station Director, Hinkley Point B Power Station</p>	20.05.2016



Review of regulation under licence condition 23

**Specifications under condition 23(4) for Torness, Hartlepool, Heysham 1, Dungeness B
and Hinkley Point B power stations**

Project Assessment Report ONR-OPF-PAR-16-003
Revision 0
May 2016

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Published 05/16

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EXECUTIVE SUMMARY

Title

Specifications under condition 23(4) for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B power stations.

Proposed regulatory action

This project assessment report presents the basis and rationale for issuing specifications under condition 23(4) of the nuclear site licenses for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B power stations.

This will constitute the second of two tranches of specifications to be issued to EDF Energy Nuclear Generation Ltd (NGL) power stations following a review undertaken by ONR into regulation under licence condition 23^[1].

Background

NGL power stations are operated in accordance with limits and conditions of operation (referred to by NGL as LCOs) that are set down within Technical Specifications; these typically specify the plant configuration and availability requirements, protection settings and parameter values that define a safety envelope beyond which the plant shall not be intentionally operated.

In accordance with Licence Condition (LC) 23(4), a subset of limits and conditions (referred to in NGL's LC14 arrangements as Nuclear Safety Requirements) were Approved by ONR (Nuclear Installations Inspectorate at the time), following the progressive extension of Sizewell B Technical Specification methodology to NGL's seven Advanced Gas-cooled Reactor (AGR) stations after 2000. Any subsequent alteration or amendment to a Nuclear Safety Requirement (NSR) requires primary power approval in accordance with the requirements of LC 23(5). NII granted such approvals to a specified subset of limits and conditions in order to secure a continued regulatory footprint, following the transition from AGR station Operating Rules to Technical Specification LCOs.

In 2015, the CNRP operating reactors sub-programme undertook a review of ONR's regulatory oversight of LC 23 approvals^[1]. This review recommended that ONR should refocus its regulatory oversight away from individual limits and conditions and instead permission, using derived powers, only changes to operating rules which have the highest nuclear safety significance through arrangements under LC 22(1); it is considered that ONR's regulatory oversight will be more risk-informed and will ensure ONR has improved agility to employ its specialist resource in a more discretionary manner. In effect, this will result in the withdrawal of all NSRs from Technical Specifications at each power station.

The review further recommended the need to retain a risk-informed regulatory footprint, embodied through adjustments to the existing LCO application statements. Application statements constitute conditions of operation that set out the protocols for operational compliance with Technical Specifications. In order for NGL to implement this change and request approval of changes to the Technical Specifications, it is necessary for ONR to issue new specifications in accordance with condition 23(4) of each nuclear site licence. These specifications will require NGL to submit to ONR modified chapters to the Technical Specifications, and will supersede those issued to all eight power stations following the introduction of NSRs.

Upon receipt of the specifications, each power station will submit to ONR requests to approve those new chapters, which will prevent further amendment without ONR's approval. These

requests will be subject to a separate project assessment report. ONR will prepare and issue specifications and consider applications for approvals in two tranches:

- Tranche 1: Specifications were issued to Hunterston B, Heysham 2 and Sizewell B in March 2016, with granting of associated Approvals in April 2016.
- Tranche 2: Specifications to be issued to Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B in May 2016, with consideration of associated Approvals in June 2016.

The approval licence instruments will withdraw all previously issued approvals extant at that time for each station.

This project assessment report underpins the basis for specifications for stations listed in tranche 2 at this time.

Assessment and inspection work carried out by ONR in consideration of this request

Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B

The draft EC 357823 ^[2], EC 356960 ^[3], EC 357968 ^[4], EC 358301 ^[5] and EC 357986 ^[6], for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B respectively all propose to re-issue Technical Specifications Chapter 1, Section 1.3 (the LCO Application Statements) and associated Commentary, with the inclusion of a new LCO Application Statement, A0 for each station ^[7, 8, 9, 10 and 11]. NGL has stated that this will provide an explicit link between the Technical Specification Application Statements and the requirements of the Site Licence. It will also include a requirement that any proposed change to Technical Specifications deemed to be a Category 1 Plant Modification will be submitted to ONR for acknowledgement or agreement.

In my opinion, the proposed revision to LCO Application Statements will strengthen, consistent with the approach adopted for Hunterston B and Heysham 2³ in the first tranche of specifications and approvals, ONR's footprint on the station's obligations to operate in accordance with the protocols set out with the Technical Specification LCOs; it further emphasises that the licensee is compelled to follow its arrangements made under LC 22(1) to control any modification to any LCO. It has been separately agreed during the consultation phase with NGL that any proposed modification to an LCO classified as Category 1 will be treated in the same manner as a proposal to implement a modification to a Category 1 safety case.

I consider that the proposal to amend the LCO Application Statements and delete Chapter 2 NSRs for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B will accord with the principles set out in ONR's review of regulation under LC 23 ^[1], and ensure an appropriate risk-informed regulatory footprint is retained.

Matters arising from ONR's work

There are no other matters arising from ONR's work in relation to the issue of specifications under LC 23(4) to Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B.

Conclusions

I conclude that the licensee's proposals to amend the Technical Specifications application statements for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B, and delete

³ For Sizewell B, the equivalent section of the Technical Specifications is referred to as the applicability statement. Also, Sizewell B retained approval of operator action statement and safety limits

Chapter 2 Nuclear Safety Requirements will accord with the principles set out in ONR's review of regulation under LC 23^[1], and ensure an appropriate risk-informed regulatory footprint is retained. This approach ensures better alignment with ONR's mission, providing effective and efficient regulation of the nuclear industry, whilst holding it to account on behalf of the public.

Recommendations

I recommend that:

- The superintending inspector should sign this Project Assessment Report to confirm support for the technical and regulatory arguments that justify issuing of Specifications under Licence Condition 23(4) to Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B.
- The Operating Facilities programme director, in his capacity as Deputy Chief Inspector, who is authorised to act on behalf of ONR, should sign Licence Instrument Specifications 539, 559, 607, 550 and 552 to require Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B respectively to submit for approval the operating rules set out below, as set out within the Technical Specifications:

Torness: Chapter 1 – Section 1.3 Application Statement (Rev 102)

Hartlepool: Chapter 1 – Section 1.3 Application Statement (Issue 3)

Heysham 1: Chapter 1 – Section 1.3 Application Statement (Issue 3)

Dungeness B: Chapter 1 – Section 1.3 Application Statement (Rev 001)

Hinkley Point B: Chapter 1 – Section 1.3 Application Statement (Rev 4)

LIST OF ABBREVIATIONS

EC	Engineering Change
ESPEC	Environmental Specification
INSA	Independent Nuclear Safety Assessment
LC	Licence Condition
LCO	Limiting Condition of Operation
NGL	EDF Energy Nuclear Generation Limited
NII	Nuclear Installations Inspectorate
NSC	Nuclear Safety Committee
NSR	Nuclear Safety Requirement
OA	Operator Assumption
OPF	Operating Facilities Programme
ONR	Office for Nuclear Regulation
PAR	Project Assessment Report

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1 PROPOSED REGULATORY ACTION

1. This project assessment report presents the basis and rationale for issuing specifications under condition 23(4) of the nuclear site licenses for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B power stations.
2. This will constitute the second of two tranches of specifications to be issued to EDF Energy Nuclear Generation Ltd (NGL) power stations following a review undertaken by ONR into regulation under licence condition 23^[1].

2 BACKGROUND

3. EDF Energy Nuclear Generation Ltd (NGL) power stations are operated in accordance with limits and conditions of operation (referred to by NGL as LCOs) that are set down within Technical Specifications; these typically specify the plant configuration and availability requirements, protection settings and parameter values that define a safety envelope beyond which the plant shall not be intentionally operated.
4. In accordance with Licence Condition (LC) 23(4), a subset of limits and conditions (referred to in NGL's LC14 arrangements as Nuclear Safety Requirements) were Approved by ONR (Nuclear Installations Inspectorate at the time), following the progressive extension of Sizewell B Technical Specification methodology to NGL's seven Advanced Gas-cooled Reactor (AGR) stations after 2000. Any subsequent alteration or amendment to a Nuclear Safety Requirement (NSR) requires primary power approval in accordance with the requirements of LC 23(5). NII granted such approvals to a specified subset of limits and conditions in order to secure a continued regulatory footprint, following the transition from AGR station Operating Rules to Technical Specification LCOs.
5. In 2015, the operating reactors sub-programme undertook a review of ONR's regulatory oversight of LC 23 approvals^[1]. This review recommended that ONR should refocus its regulatory oversight away from individual limits and conditions and instead permission, using derived powers, only changes to operating rules which have the highest nuclear safety significance through arrangements under LC 22(1); it is considered that ONR's regulatory oversight will be more risk-informed and will ensure ONR has improved agility to employ its specialist resource in a more discretionary manner. In effect, this will result in the withdrawal of all NSRs from Technical Specifications at each power station.
6. The review further recommended the need to retain a risk-informed regulatory footprint, embodied through adjustments to the existing LCO application statements⁴, such that:
 - The requirement for operation at all times to be carried out in accordance with the Technical Specifications is an approved condition of operation;
 - NGL is required to submit to ONR, for acknowledgement or agreement in accordance with arrangements made under LC 22(1), the highest classification of changes to LCOs. This will provide ONR with the ability to opt-in to permission modifications to the highest safety significant limits or conditions of operation;
 - NGL is required to manage all modifications to LCOs in accordance with arrangements made under LC 22(1) (against which ONR already has the ability to opt-in to any modification at its discretion). This will ensure that ONR retains

⁴ Application statements constitute conditions of operation that set out the protocols for operational compliance with Technical Specifications.

appropriate visibility of all changes to lower safety significant LCO changes before they occur.

7. In order for NGL to implement this change and request approval of changes to the Technical Specifications, it is necessary for ONR to issue new specifications in accordance with condition 23(4) of each nuclear site licence. These specifications will require NGL to submit modified chapters to the Technical Specifications, and will supersede those issued to all eight power stations following the introduction of NSRs.
8. Upon receipt of the specifications, each power station will submit to ONR requests to approve those new chapters. These requests will be subject to a separate project assessment report.
9. In light of the requirement for power station nuclear safety groups to administer these changes at a time that coincides with a busy outage season, ONR has agreed to issue specifications and consider applications for approvals in two tranches:
 - Tranche 1: Specifications were issued to Hunterston B, Heysham 2 and Sizewell B in March 2016, with associated Approvals granted in April 2016.
 - Tranche 2: Specifications to be issued to Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B in May 2016, with consideration of associated Approvals in June 2016.

This project assessment report underpins the basis for specifications for stations listed in tranche 2 at this time.

3 ASSESSMENT AND INSPECTION WORK CARRIED OUT BY ONR IN CONSIDERATION OF THIS ACTION

10. As part of the second tranche of permissions, NGL has presented draft engineering change documents for Torness ^[2], Hartlepool ^[3], Heysham 1 ^[4], Dungeness B ^[5] and Hinkley Point B ^[6]. These documents have not been verified and subject to independent nuclear safety assessment (INSA) at this stage, but set out the basis with which NGL has proposed to implement a modified regulatory footprint in the context of parameters set out in paragraph 6.
11. NGL has proposed to delete Chapter 2 Nuclear Safety Requirements from the Technical Specifications for all eight stations.
12. Specific detail of proposed changes is presented below for each of the stations in tranche 2:

Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B

13. The draft EC 357823 ^[2], EC 356960 ^[3], EC 357968 ^[4], EC 358301 ^[5] and EC 357986 ^[6], for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B respectively propose to re-issue Technical Specifications Chapter 1, Section 1.3 (the LCO Application Statements) and associated Commentary, with the inclusion of a new LCO Application Statement, A0 for each station ^[7, 8, 9, 10 and 11]. NGL has stated that this will provide an explicit link between the Technical Specification Application Statements and the requirements of the Site Licence. It will also include a requirement that any proposed change to Technical Specifications deemed to be a Category 1 Plant Modification will be submitted to ONR for acknowledgement or agreement.
14. In my opinion, the proposed revision to LCO Application Statements will strengthen, consistent with the approach adopted for those stations in tranche 1, ONR's footprint on the station's obligations to operate in accordance with the protocols set out with the

Technical Specification LCOs; it further emphasises that the licensee is compelled to follow its arrangements made under LC 22(1) to control any modification to any LCO. It has been separately agreed during the consultation phase with NGL that any proposed modification to an LCO classified as Category 1 will be treated in the same manner as a proposal to implement a modification to a Category 1 safety case.

15. In summary, I consider that the proposal to amend the LCO Application Statements and delete Chapter 2 NSRs for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point will accord with the principles set out in ONR's review of regulation under LC 23 ^[1], and ensure an appropriate risk-informed regulatory footprint is retained.

4 MATTERS ARISING FROM ONR'S WORK

There are no other matters arising from ONR's work in relation to the issue of specifications under LC 23(4) to Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point.

5 CONCLUSIONS

16. I conclude that the licensee's proposals to amend the Technical Specifications applicability / application statements for Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point, and delete Chapter 2 Nuclear Safety Requirements will accord with the principles set out in ONR's review of regulation under LC 23 ^[1], and ensure an appropriate risk-informed regulatory footprint is retained. This approach ensures better alignment with ONR's mission, providing effective and efficient regulation of the nuclear industry, whilst holding it to account on behalf of the public.

6 RECOMMENDATIONS

17. I recommend that:

- The superintending inspector should sign this Project Assessment Report to confirm support for the technical and regulatory arguments that justify issuing of Specifications under Licence Condition 23(4) to Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B.
- The Operating Facilities programme director, in his capacity as Deputy Chief Inspector, who is authorised to act on behalf of ONR, should sign Licence Instrument Specifications 539, 559, 607, 550 and 552 to require Torness, Hartlepool, Heysham 1, Dungeness B and Hinkley Point B respectively to submit for approval the operating rules set out below, as set out within the Technical Specifications:

Torness: Chapter 1 – Section 1.3 Application Statement (Rev 102)

Hartlepool: Chapter 1 – Section 1.3 Application Statement (Issue 3)

Heysham 1: Chapter 1 – Section 1.3 Application Statement (Issue 3)

Dungeness B: Chapter 1 – Section 1.3 Application Statement (Rev 001)

Hinkley Point B: Chapter 1 – Section 1.3 Application Statement (Rev 4)

7 REFERENCES

1. TRIM 2015/322669 – Proposal to reform the use of primary powers under licence condition 23 – [REDACTED] – February 2016
2. TRIM 2016/166633 – EC 357823 Draft Engineering Change proposal to delete the nuclear safety requirements at Torness
3. TRIM 2016/167824 – EC 356960 Draft Engineering Change proposal to delete the nuclear safety requirements at Hartlepool
4. TRIM 2016/167763 – EC 357968 Draft Engineering Change proposal to delete the nuclear safety requirements at Heysham 1
5. TRIM 2016/195922 – EC 358301 Draft Engineering Change proposal to delete the nuclear safety requirements at Dungeness B
6. TRIM 2016/195597 – EC 357986 Draft Engineering Change proposal to delete the nuclear safety requirements at Hinkley Point B
7. TRIM 2016/174330 – Torness – Draft LCO application statement
8. TRIM 2016/174341 – Hartlepool – Draft LCO application statement
9. TRIM 2016/167757 – Heysham 1 – Draft LCO application statement
10. TRIM 2016/195923 – Dungeness B – Draft LCO application statement
11. TRIM 2016/195598 – Hinkley Point B – Draft LCO application statement