



Operating Facilities Programme

Proposal to reform the use
of primary powers under
Licence Condition 23

April 2016

Executive summary

This report presents analysis and recommendations following a review of ONR's regulatory footprint of approvals against EDF Nuclear Generation Ltd (NGL) operating rules, made under Licence Condition (LC) 23(4).

This report describes the various motivating factors for appraising and reforming ONR's approach to regulation in this area, primarily:

- ONR's statutory obligations under the Regulators' Code. The Code mandates enforcing authorities to review the effectiveness of their chosen regulatory activities in delivering the desired outcomes and make any necessary adjustments accordingly;
- In light of ONR's mission, there is a need to review the requirement for use of primary powers to approve change, irrespective of nuclear safety significance, to individual limits and conditions.
- Near-term evolutions in power reactor safety cases and capital improvements, which are anticipated to further increase such permissioning requests from NGL to change approved operating rules;
- The need for ONR to develop a coherent regulatory position in this area for detailed development of the Hinkley Point C safety case and for other prospective licensees.

The analysis considers the relative merits and disbenefits associated with three principal options:

- To withdraw the current approvals;
- To refocus the regulatory footprint away from approving individual limits and conditions. Instead, to focus on the approval of licensees' protocols and arrangements for compliance with, and amendments to, limits and conditions of operation. This approach is similar in philosophy to the approval of the preface to the plant maintenance schedule under LC28(4);
- No change to the current approved operating rules. Streamline existing internal permissioning arrangements to ensure timelier approval for lower safety significant changes.

Taking into account early consultations with ONR’s leadership team, relevant specialisms, analysis of international and stakeholder expectations in this area, this review recommends Option 2. This option proposes to refocus ONR’s regulatory footprint away from individual limits and conditions and instead permission only changes to operating rules which have highest nuclear safety significance through arrangements under LC22(1). Specific detail of the proposed option is presented in this report, including output from consultation with NGL.

This report presents an analysis of associated risks and proposed safeguards necessary to uphold effective regulation of the operating reactor fleet under LC23 and the proposed schedule for phased permissioning across the NGL fleet.

The Operating Facilities programme director is invited to consider the proposals set out herein and endorse the following proposal:

- For the Operating Facilities programme to implement the reforms set out herein to the NGL fleet.
- For the New Reactors programme to take into account these proposals when assessing the Hinkley Point C (and other new build) safety cases being developed under LC23.
- This revised philosophy to be embedded within the next scheduled revision of the ONR technical assessment and technical inspection guides for LC23.

List of abbreviations

AGR	Advanced Gas-Cooled Reactor
DMG	Delivery Management Group
FID	Financial Investment Decision
GDA	Generic Design Assessment
HOW2	(ONR) Business Management System
IAEA	International Atomic Energy Agency
JER	Japanese Earthquake Response
LC	Licence Condition
LCO	Limits and Conditions of Operation
NGL	Nuclear Generation Ltd
NSR	Nuclear Safety Requirements
NII	Nuclear Installations Inspectorate
ONR	Office for Nuclear Regulation
PAR	Project Assessment Report
PWR	Pressurised Water Reactor
SSR	Specific Safety Requirements
TAG	Technical Assessment Guide(s)

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1 Strategic context

1.1 Background

- 1 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.
- 2 In accordance with LC 23(4), a subset of limits and conditions (referred to in NGL's LC14 arrangements as Nuclear Safety Requirements (Risks)) were approved by ONR (Nuclear Installations Inspectorate at the time), following the progressive extension of Sizewell B Technical Specification methodology¹ to NGL's seven Advanced Gas-cooled Reactors (AGRs) after 2000. Any subsequent alteration or amendment to an NSR requires primary power approval in accordance with the requirements of LC23(5). ONR granted such approvals to a subset of limits and conditions in order to secure a continued *regulatory footprint*, following the transition from AGR station Operating Rules to Technical Specification LCOs².
- 3 ONR's delegation arrangements for permissioning using primary powers⁽¹⁾ require a deputy chief inspector to sign the associated Licence Instrument, or a further delegation of authority to a superintending inspector on an exceptional basis. Permissioning an LC23(5) approval typically involves one or more specialists, a site or project inspector; acceptance review by a superintending inspector and the deputy chief inspector. By the very nature of primary power permissions, the full complement of inspector and senior inspector resource must be engaged regardless of the safety classification of the change.
- 4 It is important to note that ONR **has not** specified for approval any operating rules, under LC23(4), for licensees operating non-power reactor licensed sites (i.e. those licensed sites regulated within the

1 Sizewell B commenced generation in 1995 and adopted Westinghouse style Technical Specifications from the outset.

2 Sizewell B Technical Specifications were not subject to Approval at the start of generation in 1995; NSRs were retrospectively applied around 2000

Sellafield, Defence and Decommissioning Fuel & Waste³ programmes). The rationale for the historical difference in regulatory posture is not entirely clear, although ONR's revision to LC23 Technical Assessment Guide in 2011 clarified for what should constitute a candidate operating rule for approval. Further analysis is presented in section 2.2.

1.2 Motivations for review and reform

- 5 There are various motivating factors for reviewing how the programme regulates NGL power stations under LC23, in particular how and to what extent ONR exercises its primary powers through approved operating rules:

Inconsistency with wider use of flexible permissioning across ONR's regulatory programmes

- 6 The requirement to employ primary powers for lower category modifications has prevented ONR employing discretion in the use of programme specialist resources to undertake assessment. This is in contrast to the flexible permissioning approach adopted more broadly across ONR.
- 7 Annex 1 quantifies the variation in LC23(5) submissions from NGL, and indicates a significant variation in such submissions over the course of fourteen years, ranging from two to twenty in number; 2011 and 2015 represent noteworthy peaks.
- 8 A range of contributory factors are considered relevant, but it is not considered likely that any single factor is dominant:
- Inconsistencies in the selection of individual limits and conditions for approval when NSRs were originally conceived. The majority of NSRs overlap with existing LCOs without any specific margin, the selection of which vary noticeably across the AGR fleet;
 - Evolutions in safety cases, notably the generic AGR failed fuel case to be submitted during 2015 and enhanced understanding of fault tolerance;
 - NSR amendments incidental to life extension and safety case-related capital investments, e.g. the back-up cooling vessel at Hunterston B and dry fuel store at Sizewell B;
 - Operational drivers such as attempts to reduce unintentional Technical Specification entries arising from inherent conservatism in the safety envelope.

3 With the exception of Wylfa power station expected to cease generation in late 2015 and defueled Magnox stations

New Reactor Construction and Generic Design Assessment (GDA)

- 9 Should the financial investment decision (FID) give the go-ahead for Hinkley Point C, it will lead to an increased pace of safety case development. NNB GenCo is currently in the early stages of this and consequently this is a key opportunity for ONR to express a clear regulatory position with regards to operating rules. The FID for Sizewell C anticipated in 2017 together with wider requesting parties undergoing GDA present further incentives to ensure a consistent and effective regulatory policy.

ONR's Strategy 2015 – 2020 and Regulators' Code

- 10 ONR's five year strategy⁽³⁾, published in December 2014, refers to:
- The organisation's mission statement: *'To provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public'*;
 - An expectation for the organisation to *'Demonstrate responsibility and accountability in the use of public money, and achieve value for money through the efficient and effective use of resources'*.
- 11 The Regulators' Code⁽²⁾ provides a framework for how regulators should engage with those they regulate. ONR has a statutory obligation to give regard to the provisions of the code when setting standards. The following statements from the code are considered relevant in the context of this review:
- When designing and reviewing policies, operational procedures and practices, regulators should consider...how they can best minimise the cost of compliance for those they regulate;
 - Regulators should review the effectiveness of their chosen regulatory activities in delivering the desired outcomes and make any necessary adjustments accordingly;
 - Regulators, in making their assessment of risk, should recognise the compliance record of those they regulate, including using earned recognition approaches and should consider all available and relevant data on compliance, including evidence of relevant external verification.
- 12 The Operating Facilities programme, in exercising ONR's statutory functions, has a clear mandate to review and implement opportunities for improved efficiency in the way it regulates NGL and future power stations.

2 Analysis of options

2.1 Credible options

13 The table below describes three credible options identified by the programme and a brief narrative:

Option	Basis
<p>1 Withdraw approvals under LC23(5)</p>	<p>Extant approvals for each power station to be withdrawn in accordance with schedule 2 section 1(3) of the nuclear site licence.</p> <p>Subsequent changes to NSRs to be subject to discretionary permissioning by ONR in accordance with licensee arrangements for derived powers under LC22(1).</p>
<p>2 PREFERRED OPTION Withdrawal of NSRs and refocussed regulatory footprint</p>	<p>ONR to re-specify the operating rules to be approved, with all existing NSRs to be withdrawn. Similar in concept to the LC28 preface.</p> <p>Only the preface to the NGL Technical Specifications will be approved which sets out high level conditions of operation; i.e. the protocols for operating in accordance with the LCOs derived from the safety case and the arrangements for making subsequent changes in accordance with LC22(1).</p> <p>Highest category changes (Category 1) to an LCO will be submitted to ONR for acknowledgement or agreement in accordance with arrangements under LC22(1). ONR will permission at its discretion in accordance with NGL derived power arrangements.</p> <p>ONR retaining ability to opt-in to assess any lower category change to an LCO at its discretion.</p>
<p>3 Retain existing approvals but simplify ONR permissioning processes</p>	<p>All NSR changes will continue to require approval using primary powers.</p> <p>Only highest category NSRs to be formally assessed</p> <p>Lower category NSR changes under LC23(5) to be subject to discretionary specialist assessment. Where ONR elects not to assess in detail, a standard PAR will be issued.</p> <p>This will require clarification to ONR permissioning processes in HOW 2.</p>

2.2 Influencing Factors

- 14 A range of factors have been considered that support convergence to the preferred option 2:

Existing ONR guidance

- 15 ONR's TAG on limits and conditions⁽⁴⁾ defines a hierarchical approach to defining operating rules, commensurate with the level of hazard and risk. The guidance denotes a three-tiered hierarchy of operating rules, where *Tier 3* represents limits and conditions which, if exceeded, could contribute to a very high level of realised off-site hazard. More specifically:

- An off-site fault whose unmitigated consequences exceed 100mSv (based on a conservative assessment); or
- An off-site fault whose unmitigated consequences exceed 30mSv (based on a best-estimate assessment); or
- Where either ONR has specific concerns or international precedents suggests additional regulatory control to be appropriate.

- 16 ONR's guidance further indicates that *Tier 3* type operating rules should be considered as candidates for approval under LC23(4), particularly those which make a higher contribution to preventing the hazard being realised.

- 17 The current Technical Specification methodology employed on the seven AGR stations and single PWR station specifies LCOs, a subset of which are approved by ONR as NSRs.

- 18 NGL's arrangements⁽⁹⁾ state that '*NSRs form a set of bounding limits within which operation must be constrained by the limits and conditions specified in the Technical Specifications. They have been specified in order to provide a concise set of limits similar in scope and depth to the previously approved Operating Rules*'.

- 19 A 2013 analysis⁽⁵⁾ undertaken by NGL indicates that a margin exists between almost all NSRs and LCOs specifying plant availability. However, NSRs relating to the setting of reactor or plant protection equipment are specified on certain (but not all) stations with a margin to the LCO. Following a fleet-wide audit undertaken in 2006, ONR sought commitments from NGL to identify, where practicable, opportunities to introduce enhanced margins between LCOs and NSRs. NGL's 2013 analysis concluded that such an endeavour would not be reasonably practicable on the following basis:

'One way to increase the NSR limit and create a margin to the LCO would be to reassess and relax the safety case to tolerate either greater initiating event frequencies or increased radiological consequences.

The other way to increase the NSR limit to create a margin would be to fundamentally change the established approach to production of safety cases and the NSR Application Statements such that NSR limits become the Safety Limits assessed as being the maximum tolerable point reached during a fault. Neither approach is considered to be practicable, nor an enhancement to nuclear safety.

Conversely, decreasing the LCO limit for indicated or assessed parameters would constrain reactor operation and could also challenge safety case assumptions based on reactor operating conditions, e.g. structural integrity cases assuming operation within certain temperature ranges to ensure adequate mechanical properties of in-reactor components could be invalidated by permanent operation at lower limits. Again this is considered to be neither practicable nor an enhancement to nuclear safety'.

- 20 ONR accepted NGL's 2013 analysis subject to a commitment to review subsequent changes to NSRs on a case-by-case basis.
- 21 Regardless of whether a margin exists between LCOs and NSRs, it is evident from NGL's safety cases that NSRs correlate with accident sequences that straddle both *Tier 2* and *Tier 3* operating rule criteria.
- 22 NSRs were not conceived to specifically align to Tier 3 criteria as defined within the LC23 guidance. As a result, the current regulatory footprint has resulted in approved operating rules associated with accident sequences with consequences significantly lower than Tier 3 criteria.
- 23 It is therefore reasonable to deduce that the current basis on which ONR has approved NSRs, as a subset of station operating rules, is disproportionate to the requirements of ONR's current guidance. Furthermore, ONR's current guidance in this regard is somewhat idealised in that the complexity of power reactor accident sequences is such that LCOs and NSRs do not align to a single tier of offsite consequence.
- 24 It is therefore judged that it is not practical to differentiate on the basis of consequence or risk individual LCOs of higher significance, currently required within ONR's technical assessment guide. By extension, differentiating individual parametric limits on the basis of relative importance is not the most appropriate basis for a regulatory footprint and vulnerable to much subjectivity.

International standards and reputation

IAEA standards

- 25 In accordance with its statutory obligations, ONR is required to adopt International Atomic Energy Agency (IAEA) safety standards, in accordance with the UK's obligations as a contracting party to international convention. Specific Safety Requirements, developed

for operating nuclear power plants (SSR – 2/2) under international consensus specify⁽⁶⁾:

Requirement 6: - The operating organization shall ensure that the plant is operated in accordance with the set of operational limits and conditions.

- 26 Requirement 6 states that: *‘operational limits and conditions shall be submitted to the regulatory body for assessment and **approval** before the commencement of operation, if so required by the regulatory body’*

In the context of changing operational limits and conditions, it further states that operating organisations should implement arrangements for *‘**approval** by the operating organization and the regulatory body, as appropriate, of the changed operational limits and conditions, prior to operation under these changed operational limits and conditions’*.

- 27 ‘Approval’ in the context of IAEA safety guides is defined by the IAEA glossary⁽⁷⁾ as meaning *‘any form of consent from the regulatory body’*. It is reasonable to deduce therefore that ‘approval’ in IAEA terminology does not translate literally to the ‘Approval’ primary power within schedule 2 of the standard nuclear site licence.
- 28 There is a clear international expectation of some form of regulatory approval both prior to commencement of operation and ahead of subsequent changes. It is therefore proposed that ONR as the competent regulatory authority has the flexibility to determine which operating rules are candidates for primary power approval under LC23(4) and LC23(5).

International reputation

- 29 ONR’s reputation as an independent statutory regulator in the UK and internationally is strongly influenced by international peer review missions such as the Integrated Regulatory Review Service (IRRS) delivered by IAEA. The recent IRRS follow-up mission to the UK (8) recognised the limited use of regulatory approvals in the context of transition between operation of facilities and their subsequent closure for post operational clean-out and decommissioning. The mission recommended that ONR standards should be further developed to align with international standards.
- 30 ONR must therefore be mindful to the interest from international peers in this context and potential reputational implications of further reduction in the extent to which primary powers are utilised.
- 31 Nevertheless, in the context of international standards and reputation, ONR does have ability to transpose IAEA specific safety requirements according to the UK regulatory framework; however there is a consensus within the international community for competent authorities to employ, with discretion, some form of formal consent in the context of operating rules.

Programme specialist resource

- 32 Option 1 would obviate the requirement for ONR to approve any NSR under primary powers in the future. ONR would be able to opt-in on any future higher category NSR change at its discretion, in a similar manner to regulation of any other form of plant or safety case modification under LC22(1) using derived powers.
- 33 The re-focussed regulatory footprint proposed under Option 2 would effectively eliminate the need to approve subsequent changes to operating rules using primary powers. However, highest category (Category 1) changes to LCOs, whilst uncommon, would require ONR to either acknowledge or agree to the change in accordance with licensee arrangements made under LC22(1). This approach is consistent with the flexibilities recently introduced into permissioning of category 1 safety cases. The ability to acknowledge the submission provides ONR with the discretion as to the extent of assessment required.
- 34 Under Option 3, ONR would continue to permission all future changes to approved operating rules; through an adaption to ONR's permissioning processes, lower category submissions would be subject to initial screening followed by a generic PAR and licence instrument. This is a similar approach adopted for category 1 safety cases subject to acknowledgement as opposed to assessment and agreement under LC22(1). It is further judged that this meets both the intent and spirit of IAEA specific safety requirements.
- 35 Overall it is judged that option 1 would result in the greatest reduction in demand on specialist resource, with option 3 being the least beneficial. Option 3 would not result in any tangible reduction on NGL's design authority resource.

3 Development of preferred option

3.1 Rationale for preferred option – Option 2: Re-focussed regulatory footprint

36 Taking into account the analysis presented in section 2.2, Option 1 is discounted on the following basis:

- ONR has discretion in interpreting what ‘approval’ means in the context of operating rules under IAEA’s specific safety requirements. However, the withdrawal of a regulatory footprint in its entirety would not align with IAEA standards and may unnecessarily degrade ONR’s international credibility.

37 Option 3 is similarly discounted on the following basis:

- Option 3 would notionally reduce the demand on ONR resource for lower category changes to approved NSRs. However, it is considered that invoking primary powers and the associated administrative requirements to both ONR and NGL are disproportionate to the nuclear safety significance of lower category NSR amendments.
- Continued approval of changes to lower category limits and conditions, even if not formally assessed, is a substantially more onerous philosophy of regulation when compared to ONR’s approach to flexible permissioning adopted for major evolutions in safety cases and major plant modifications. The implications of major safety case or plant modifications usually far exceed the impact of minor lower category changes to NSRs yet ONR has much greater discretion to employ its resources in a risk informed manner in such cases.
- ONR has a statutory obligation under the Regulators’ code to *‘recognise the compliance record of those they regulate, including using earned recognition approaches and should consider all available and relevant data on compliance, including evidence of relevant external verification’*. To this end, it is argued that Option 3 would not adequately align with the principles set out in the Regulators’ code.

- 38 Option 2 is proposed on the basis of the following rationale:
- A regulatory footprint will be retained through approval of the preface to meet expectations of IAEA standards and safeguard stakeholder confidence and that of ONR’s international peers;
 - Option 2 will negate the default requirement to approve any future changes to operating rules under LC23(5), and allow ONR to electively permission only the changes to limits and conditions with the highest significance to nuclear safety. This option would increase the agility and flexibility of the programme to use resources to monitor LCO compliance through both flexible permissioning for higher category changes (in accordance with licensee arrangements under LC22(1)) and routine LC23 compliance inspections;
 - ONR would need to re-specify, in accordance with LC23(4) which elements of the Technical Specifications are to be approved. It is proposed that Chapter 2 (and hence the NSRs) be removed and amendments made to the LCO application statement in Chapter 1.3 which is also currently approved. NGL has proposed textual changes to Chapter 1.3 for a typical AGR which would oblige NGL to submit to ONR for acknowledgement or agreement all changes to LCOs classified as Category 1. Similar changes would have to be implemented for Sizewell B. The scope of work for NGL and ONR in implementing Option 2 is self-contained and a one-off administrative burden associated with issuing eight new specifications and approvals under LC23, supported by a project assessment report.

4 Risks and mitigations

- 39 The preferred option proposes to refocus ONR’s regulatory footprint associated with approved reactor operating rules. The underlying philosophy of this option will lead to ONR reducing the extent to which individual limits and conditions are to be approved; however the proposed option is designed to sustain an appropriate regulatory footprint of the licensee’s operating rules. A range of technical, regulatory, resource and reputational risks have been considered and appropriate mitigations proposed:

Risk	Proposed Mitigation
<p>1 ONR loses visibility of higher category modifications to individual limits and conditions (LCOs) proposed by the licensee.</p>	<p>It is proposed that the LCO application statements will be adjusted to reflect existing LC22 arrangements that already require LCO changes meeting highest classification (Category 1) criteria to be submitted to ONR through derived power arrangements under LC22(1). In practice, very few LCO / NSR modifications have, historically, been classified as Category 1.</p> <p>Operating Facilities programme will request increased visibility of forthcoming Category 2 LCO modifications across the fleet; it is proposed that LCO changes are sampled through routine LC23 compliance inspections and called-in at the discretion of ONR for permissioning if any circumstances warrant so.</p> <p>NGL’s Independent Nuclear Assurance team is currently developing mechanisms for routinely increasing visibility of forthcoming LCO changes at Category 2. It is anticipated this will align to wider objective being led by the corporate inspector for higher visibility of all Category 2 modifications under LC22.</p>
<p>2 Inappropriate under-classification of modifications under LC22(4) results in failure to submit LCO modifications to ONR that would otherwise have met permissioning criteria.</p>	<p>It is recognised within Operating Facilities, following some recent high profile submissions from NGL, that legacy concerns over under-classification across the NGL fleet have not been satisfactorily addressed.</p> <p>Potential under-classification of LC23(5) modifications to NSRs or LCOs is a subset of a more broad concern in relation to under-classification of LC22 modifications.</p> <p>The sub-programme will initiate a specific intervention to evaluate and lever improvements (where necessary) in LC22 classification. In the meantime, it is proposed that the mitigations proposed for Risk 1 will provide a satisfactory safeguard until this work is complete.</p>

Risk	Proposed Mitigation
<p>3 Adverse stakeholder and international perception of degraded regulatory control</p>	<p>This paper is intended to provide an auditable basis for demonstrating the rationale, benefits and safeguards associated with the proposed shift in regulatory footprint as opposed to a wholesale withdrawal of operating rules.</p> <p>Stakeholder and international reputation can be assured through continuing to permission the most risk significant LCOs under LC22 and sampling compliance through routine LC23 compliance inspection</p>
<p>4 Higher operational priorities within the Operating Facilities programme prevent ONR from undertaking timely permission of re-cast operating rules.</p>	<p>It is proposed that the permissioning process will be a largely administrative process. The re-casting of approved operating rules onto a less prescriptive footing does not affect the operating envelope to which reactors operate, particularly as where margins between LCOs and NSRs do exist, the LCO requirements are typically more onerous.</p> <p>It is proposed that the permissioning process will be self-contained and broadly focussed on whether the principles proposed herein have been met.</p>
<p>5 There is an existing backlog of NSR modification requests. There is potential for abortive work and use of programme resource due to re-cast NSRs likely to supersede those already in process.</p>	<p>Individual site inspectors will be asked to review existing NSR submissions that await permissioning and engage with respective stations as to relative urgency of implementation. Further NSR submissions made to ONR during the course of this initiative will be considered on a case-by-case basis as to the relative urgency for permissioning. Where such an NSR change is not urgent, the new re-cast NSRs will effectively supersede those in process.</p>

5 Recommendations

- 42 The Operating Facilities programme director is invited to consider the proposals set out herein and endorse the following proposal:
- For the Operating Facilities programme to implement the reforms set out herein to the EDF-NGL fleet.
 - For the New Reactor programme to take into account these proposals when assessing the Hinkley Point C safety cases being developed under LC23.
 - This revised philosophy to be embedded within the next scheduled revision of the ONR technical assessment and technical inspection guides for LC23.

References

- 1 ONR HOW2 Guide NS-PER-GD-014 Revision 4 – Purpose and Scope of Permissioning. July 2014.
<http://www.onr.org.uk/operational/assessment/index.htm>
- 2 Regulators' Code
<https://www.gov.uk/government/publications/regulators-code>
- 3 ONR Strategy 2015 – 2020
<http://www.onr.org.uk/documents/2014/onr-strategy-2015-2020.pdf>
- 4 NS-TAST-GD-035 Revision 4 – Technical Assessment Guide – Limits and Conditions for Nuclear Safety
- 5 TRIM 2015/296025 DAO/EAN/JICB/046/AGR/12 – Engineering Advice Note to review relationship between NSRs and LCOs
- 6 IAEA safety standards – safety of nuclear power plants – specific safety requirements SSR-2/2
http://www-pub.iaea.org/MTCD/publications/PDF/Pub1513_web.pdf
- 7 IAEA safety glossary
http://www-pub.iaea.org/MTCD/publications/PDF/Pub1290_web.pdf
- 8 IRRS follow-up mission to the UK – 29.10.2013 to 09.20.2013
<http://www.onr.org.uk/regulatoryreview/irrs-uk-2013-final-report.pdf>
- 9 BEG/SPEC/OPS/074 – NGL company specification – Production and Modification of AGR Technical

Annex 1

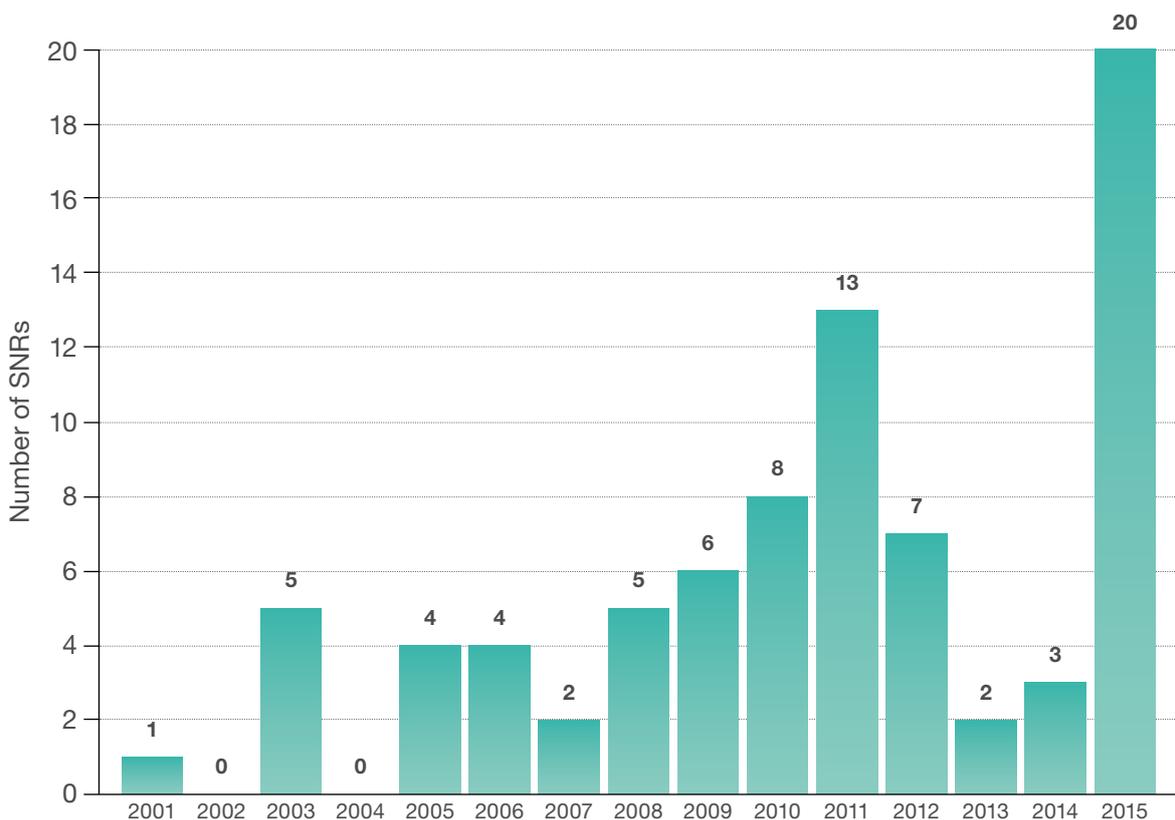
Analysis of LC23 Approvals

Analysis of Approvals granted under LC23(4) and LC23(5) across the NGL fleet since 2001 (Figure 1) indicates a progressive increase in such submissions over the course of fourteen years, ranging from two to twenty in number; 2011 and 2015 represent noteworthy peaks.

Hinkley Point B and Hunterston B together contribute 41% of such submissions from the eight NGL stations; during 2014 and 2015, Hunterston B alone submitted (or scheduled to submit) 7 out of 20 submissions (35%).

Figure 1 illustrates the variation in NSR submissions across the NGL fleet since 2001.

Figure 1 Total NSRs by year since 2001



Annex 2

Proposed text for inclusion within LC23 Technical Assessment Guide

The following text is proposed to underpin the basis for a refocused regulatory footprint; these principles also form an initial basis for improved clarification within NS-TAST-GD-035:

ONR will consider *approval* of Limits and Conditions to such an extent and degree of prescription that:

- Secures the availability of a suitable hierarchy of safety measures, utilities and resources that are necessary to safeguard nuclear safety and prevent an accident progression within the design basis.
- Secures appropriate rigour of regulatory oversight and control of changes to operating rules of higher significance, notably those that meet Tier 3 criteria, in accordance with LC23(5). In practice all operating reactors would have accident sequences with the potential to give rise to offsite consequences within this criterion. As a matter of regulatory policy therefore, ONR will always apply a regulatory footprint to the operating rules on all power reactor licensed sites in Great Britain.
- Secures a proportionate regulatory footprint against a licensee's arrangements for modifying numerical values of parametric limits and conditions, taking into account the maturity of a licensee's existing arrangements for control of modifications under LC22. ONR will not generally approve such parametric limits and conditions where there is sufficient evidence that a licensee's arrangements, for controlling such changes, are sufficiently adequate with respect to arrangements made under LC22; nor where ONR has judged that doing so would require disproportionate use of internal resource.
- ONR will typically select changes to any limits or conditions of the highest classification as candidates for assessment in accordance with arrangements made by licensees under LC22(1); licensee arrangements typically provide for a hold-point that prevents implementation of such changes until ONR has agreed for it to be lifted. This aligns to the broader principles of flexible permissioning.



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