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# Office for Nuclear Regulation

An agency of HSE

## **ASSESSMENT REPORT**

### **Civil Nuclear Reactors Programme**

#### **NNB GenCo: Hinkley Point C Pre-Construction Safety Report 2012 – Assessment Report for Plant Commissioning Work Stream (C11)**

Assessment Report: ONR-CNRP-AR-13-109

Revision 0

Version 2

March 2014

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**EXECUTIVE SUMMARY**

This assessment report reviews that portion of the Hinkley Point C Pre-Construction Safety Report 2012 (HPC PCSR2012) that falls within the scope of Work Stream C11 'Commissioning', namely Chapter 19.

A final version of the Generic Design Assessment (GDA) Pre-Construction Safety Report (PCSR) issued in November 2012 formed the basis for issue by the Office for Nuclear Regulation (ONR) on 13 December 2012 of a Design Acceptance Confirmation (DAC) for the UK EPR™ design. The GDA PCSR addressed only the key elements of the design of a single UK EPR™ unit (the generic features on "the nuclear island") and excluded ancillary installations that a potential purchaser of the design could choose after taking the site location into account. Certain matters were also deemed to be outside the scope of the GDA PCSR.

In contrast HPC PCSR2012 addresses the whole Hinkley Point C (HPC) licensed site comprising the proposed twin UK EPR™ units and all ancillary installations. Some matters that were outside the scope of GDA PCSR are also addressed in HPC PCSR2012. The remaining, generic documentation has been copied into PCSR2012 from an earlier March 2011 GDA PCSR but this has now been superseded by the November 2012 GDA PCSR report.

It is important to note that HPC PCSR2012 alone is not sufficient to inform a future ONR decision on whether to permission construction of HPC. New Nuclear Build Generation Company Limited (NNB GenCo) intends to submit a major revision to HPC PCSR2012 before seeking consent for Nuclear Island construction which will fully integrate the final GDA PCSR and will be supported by other documentation. Furthermore, prior to the commencement of plant commissioning a further pre-commissioning safety report will need to be prepared.

Commissioning was not formally considered by ONR during GDA, therefore my assessment has considered all the material within Chapter 19. I have also considered NNB GenCo's ongoing work and organisational capability to further develop and implement the commissioning aspects of the HPC PCSR. There are no GDA Step 4 Assessment Findings (AF) associated with Chapter 19 of the GDA PCSR.

There is limited detail in Chapter 19 although I'm aware that further work has been completed since the production of HPC PCSR2012. I understand that this, along with the ongoing work will be used to provide a more detailed overview in the version of the HPC PCSR to support Nuclear Island construction. Notwithstanding the lack of detail, I am satisfied with the material currently presented within Chapter 19 and note that NNB GenCo is adopting some of the key aspects of international good practice.

I will be raising two issues on the ONR's Issues database; the first relating to the need to classify commissioning activities in accordance with their significance to nuclear safety and the second relating to the project's position with respect to claiming the results from first plant only tests undertaken on other EPRs. These issues will be progressed as matters of routine regulatory business during future level 4 meetings with NNB GenCo

Regular level 4 meetings have been held with NNB GenCo since the granting of the HPC site license. As a result I consider that NNB GenCo has put in place the means by which it can provide adequate oversight of, and influence over, the commissioning aspects of the HPC project and further development of the PCSR.

As a result of the ongoing level 4 meetings I am also satisfied that there is evidence of a good, constructive working relationship between NNB GenCo and the Responsible Designer with the former fulfilling its intelligent customer role whilst still seeking to benefit from the latter's considerable knowledge and experience.

I consider that the ongoing work within the commissioning area demonstrates suitable progress towards meeting ONR's requirement for an adequate PCSR to be available to support Nuclear Island construction. Finally, ONR expects NNB GenCo to further develop the commissioning material presented in the PCSR to support the pre-commissioning safety case as indicated in the HPC PCSR Forward Work Activities report.

No recommendations have arisen from my assessment; the need for future updates of the HPC PCSR as described in this report will be progressed as routine regulatory business.

**LIST OF ABBREVIATIONS**

AF	Assessment Finding
AR	Assessment Report
BMS	(ONR) How2 Business Management System
CWP	Commissioning Working Party
DAC	Design Acceptance Confirmation
EPRPP™	The generic design of pressurised water reactor submitted for GDA
FA3	Flamanville 3
FOAK	First of a Kind
FPOT	First Plant Only Test
GDA	Generic Design Assessment
HPC	Hinkley Point C
HPC PCSR2012	Hinkley Point C Pre-Construction Safety Report 2012
IAEA	International Atomic Energy Agency
IC	Intelligent Customer
IIS	Integrated Intervention Strategy (Rating) – an ONR metric on submission quality
IPR	Intervention Project Record
LC	Licence Condition
MDEP	Multinational Design Evaluation Programme
NNB GenCo	New Nuclear Build Generation Company Limited
ONR	Office for Nuclear Regulation (an agency of HSE)
PCSR	Pre-construction Safety Report
RD	Responsible Designer
SAP	Safety Assessment Principle(s) (HSE)
TAG	Technical Assessment Guide(s) (ONR)
TIG	Technical Inspection Guide(s) (ONR)
TS	Technical Specification

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## 1 INTRODUCTION

### 1.1 Background

1 This report presents the findings of the assessment of that portion of the Hinkley Point C Pre-Construction Safety Report 2012 (HPC PCSR2012, Ref.1) that falls within the scope of Work Stream C11 'Commissioning'.

2 Assessment was undertaken in accordance with the requirements of the Office for Nuclear Regulation's (ONR) How2 Business Management System (BMS) procedure AST/003 (Ref. 2). The ONR Safety Assessment Principles (SAP), Ref. 3, together with supporting Technical Assessment Guides (TAG) and Technical Inspection Guides (TIG), Ref. 4, have been used as the basis for this assessment.

3 This Assessment Report (AR) has been written to support a Summary Assessment Report that addresses whether HPC PCSR2012 demonstrates suitable progress towards meeting ONR's requirement for an adequate Pre-Construction Safety Report (PCSR).

### 1.2 Scope

4 The scope of this report covers Work Stream C11 'Commissioning' with the relevant material presented in HPC PCSR2012 Chapter 19.

5 A final version of the Generic Design Assessment (GDA) PCSR issued in November 2012 formed the basis for issue by ONR on 13 December 2012 of a Design Acceptance Confirmation (DAC) for the UK EPR™ design. The GDA PCSR addressed only the key elements of the design of a single UK EPR™ unit (the generic features on "the nuclear island") and excluded ancillary installations that a potential purchaser of the design could choose after taking the site location into account. Certain matters were also deemed to be outside the scope of the GDA PCSR.

6 In contrast HPC PCSR2012 addresses the whole HPC licensed site comprising the proposed twin UK EPR™ units and all ancillary installations. Some matters that were outside the scope of GDA PCSR are addressed in HPC PCSR2012. The remaining, generic documentation has been copied into the HPC PCSR2012 from an earlier March 2011 GDA PCSR but this has now been superseded by the November 2012 GDA report. The generic documentation has only been revisited if recent developments have materially affected the case being made.

7 ONR did not specifically consider Chapter 19 of the GDA PCSR. Therefore my assessment has considered both sub-Chapter 19.0 that is unaltered from that presented in the GDA PCSR and sub-Chapter 19.1 that has been rewritten for HPC PCSR2012.

8 It is important to note that HPC PCSR2012 alone is not sufficient to inform a future ONR decision on whether to permission construction of HPC and New Nuclear Build Generation Company Limited (NNB GenCo) intends to submit other supporting documentation. Note also that HPC PCSR2012 will be superseded by a further site-specific revision intended to fully reflect the final GDA PCSR and other design changes from Flamanville 3 (FA3) which is the reference design for HPC.

9 It should also be noted the approach to safety function categorisation and safety system classification agreed during GDA is not fully reflected in HPC PCSR2012 which largely uses the approach employed on FA3. The integration of the methodology agreed during GDA will be demonstrated in the next revision of HPC PCSR.

**1.3 Methodology**

- 10 The methodology for the assessment follows the requirements of the ONR How2 BMS 'produce assessments' step in the nuclear safety permissioning process (Ref. 2) in particular in relation to mechanics of assessment.
- 11 My commissioning Intervention Project Record (IPR) (Ref. 5) to support the overarching ONR intervention for the permissioning of the construction phase of the HPC project includes the requirement to review the development of the HPC PCSR to establish whether it adequately supports the commissioning phase.
- 12 In addition to considering HPC PCSR2012 Chapter 19, my assessment has also considered NNB GenCo's ongoing work and organisational capability to further develop the PCSR and the general arrangements being developed to support the management and execution of the commissioning phase of the project. This has been achieved by holding a number of level 4 meetings with the NNB GenCo Commissioning Manager.
- 13 I have also taken the opportunity to observe a Commissioning Working Party (CWP) meeting and attended the OECD Multinational Design Evaluation Programme (MDEP) EPR commissioning workshop in June 2013.

## 2 ASSESSMENT STRATEGY

14 My assessment strategy is set out in this section. This identifies the scope of the assessment and the standards and criteria that have been applied.

### 2.1 Standards and Criteria

15 The relevant standards and criteria adopted within this assessment are principally the ONR SAPs, Ref. 3, internal ONR TAGs and TIGs, Ref. 4, relevant national and international standards and relevant good practice informed from existing practices adopted on UK nuclear licensed sites. The key SAPs and relevant TAGs/ TIGs are detailed within this section. National and international standards and guidance have been referenced where appropriate within the assessment report. Relevant good practice, where applicable, has also been cited within the body of the assessment.

#### 2.1.1 Safety Assessment Principles

16 The key SAPs applied within the assessment are included within Table 1 of this report.

#### 2.1.2 Technical Assessment Guides

17 The following TAGs/ TIGs mention commissioning and have been referred to as part of the assessment (Ref. 4):

- TAST/009: Maintenance, Inspection and Testing of Safety Related Systems, Structures and Components, Revision 2, November 2012
- TAST/028: Control and Instrumentation Aspects of Nuclear Plant Commissioning, Revision 3, May 2013
- TAST/057: Design Safety Assurance, Issue 2, November 2010
- T/INS/021: Licence Condition (LC) 21 Commissioning, Revision 3, March 2013

#### 2.1.3 National and International Standards and Guidance

18 The following international standards and guidance have been used as part of this assessment (Ref. 6):

- SSR-2/2: Safety of Nuclear Power Plants, Commissioning and Operation Specific Safety Requirements
- NS-G-2.9: Commissioning for Nuclear Power Plants

### 2.2 Use of Technical Support Contractors

19 Technical Support Contractors have not been used in undertaking this assessment.

### 2.3 Integration with other Assessment Topics

20 My assessment has focused on HPC PCSR2012 Chapter 19, NNB GenCo's ongoing work and organisational capability to further develop the PCSR and the general arrangements being developed to support the management and execution of the commissioning phase of the project.

21 The detailed commissioning tests required to verify performance claims identified in the safety case are considered by the relevant ONR specialist inspectors. For example, during GDA the fault analysis inspector raised a number of assessment findings relating to the use of commissioning tests to further validate certain aspects claimed in the GDA PCSR and supporting documents. These and other findings will be followed up in the

relevant ONR work streams and presented in future updates to the HPC PCSR as appropriate.

**2.4 Out of Scope**

22 A number of HPC PCSR2012 Chapters include commitments to future commissioning activities to verify safety related elements of the design and installed plant. My assessment has not considered the adequacy or otherwise of these aspects of the PCSR.

### 3 LICENSEE'S SAFETY CASE

#### 3.1 HPC PCSR2012 Material Assessed

23 The material relating to Work Steam C11 'Commissioning' is located in Chapter 19, specifically sub-Chapters 19.0 and 19.1:

- sub-Chapter 19.0 outlines the regulatory framework for nuclear and non-nuclear safety during commissioning, introduces the concept of a commissioning programme and describes at a high level the key organisational requirements, and
- sub-Chapter 19.1 provides a preliminary overview of the commissioning programme.

24 The HPC PCSR Forward Work Activities report (Ref. 7) notes the following for Chapter 19:

- there are neither GDA Step 4 Assessment Findings (AF) nor Fukushima resilience enhancements directly relevant to Chapter 19;
- the development of the NNB GenCo commissioning strategy will be reflected in future safety case documents;
- a commissioning safety management system will be developed to include a suite of documents defining the processes under which commissioning will be carried out;
- the plant commissioning programme will be further developed prior to the issue of the HPC PCSR to support consent for Nuclear Island construction, and
- a commissioning manual will be prepared describing the key stages and processes under which commissioning will be executed.

## 4 ONR ASSESSMENT

25 This assessment has been carried out in accordance with ONR HOW2 BMS policy (Ref. 2).

### 4.1 Scope of Assessment Undertaken

26 My assessment has focused on HPC PCSR2012 Chapter 19, NNB GenCo's ongoing work and organisational capability to further develop the PCSR and the general arrangements being developed to support the management and execution of the commissioning phase of the project.

### 4.2 Assessment

#### 4.2.1 HPC PCSR2012 Chapter 19.0

27 As noted in my IPR (Ref. 5), commissioning is still some considerable way off and my assessment of HPC PCSR2012 has taken due cognisance of this. However, during the pre-construction and construction phases of the HPC project NNB GenCo needs to develop appropriate arrangements, organisational capability and resources and undertake sufficient preparatory work to support the subsequent execution of commissioning activities.

28 Prior to seeking consent for Nuclear Island construction the HPC PCSR needs to reflect in appropriate detail that adequate progress has been made in preparing for commissioning, that forward work activities are identified and that NNB GenCo can fulfil its Intelligent Customer (IC) role in this area.

29 The NNB GenCo commissioning team was in its infancy at the time that HPC PCSR2012 was written with the key focus on supporting the early procurement activities in terms of providing appropriate material for inclusion in technical enquiry specifications. The project does, however, have the benefit of a commissioning manager who had played a significant role in the commissioning of Sizewell B in the 1990s.

30 Section 19 of the HPC PCSR2012 Head Document provides a clear overview as to the purpose of commissioning and correctly introduces the need to comply with the requirements of LC 21.

31 The principle goal of the commissioning process is stated as demonstrating that the safety requirements placed on systems, structures and components are met by the installed plant when tested against the design basis. It is further recognised that commissioning should:

- provide the opportunity to train operations staff and to test the operating rules, procedures and instructions, and
- be undertaken in a systematic and progressive manner.

I am satisfied that this captures the essence of international good practice and provides confidence that NNB GenCo understands the fundamental objectives of commissioning.

#### 4.2.1.1 Sub-Chapter 19.0

32 Sub-Chapter 19.0 introduces the regulatory framework for nuclear and non-nuclear safety during commissioning by identifying key legislation. As noted in the Head Document, the list provided is not exhaustive, however I am satisfied that it conveys the intent to comply with relevant statutory requirements.

- 33 The concept of the commissioning programme is introduced along with some of the key requirements which include:
- inclusion of hold points requiring verification as to the acceptability of earlier test results before entering the next phase of commissioning;
  - development of an adequate method for ensuring the completeness of the commissioning test list including the various plant configurations assumed in the safety case;
  - identification of expected performance of safety related systems and equipment, and
  - operating Technical Specifications (TS) (operating rules) derived from the safety case will be observed from when core loading is started.

I am satisfied that this reflects some of the key aspects of international good practice and provides a basis for further development in future updates to Chapter 19.0.

- 34 Clarification will be sought as to the last bullet point with respect to the point during commissioning at which TSs are observed as some will relate to the fuel building and are likely to be required prior to receipt of fuel on site. I will pursue this during future level 4 meetings with NNB GenCo.
- 35 The sub-Chapter recognises the need to have an appropriate organisation to implement the commissioning programme. Of particular note is the recognition of the need to include future operations staff in the preparation, performance and subsequent analysis of commissioning tests. I consider this to be important as it provides the opportunity to supplement the operators' training and to ensure that knowledge gained during commissioning is retained into commercial operation.

#### 4.2.1.2 Sub-Chapter 19.1

- 36 Sub-Chapter 19.1 provides a preliminary overview of the commissioning programme which will comprise of two principal phases:
- pre-operational testing (non-active commissioning), and
  - initial start-up and operational testing (active commissioning).
- 37 The pre-operational testing phase will cover individual system testing on a system-by-system basis, flushing, cold functional testing, hot functional testing and preparation for fuel load. The cold functional testing will provide the first opportunity for integrated system operation and include performance of the primary circuit hydrostatic pressure test.
- 38 Hot functional testing will be performed under normal operating pressures and temperatures; the elevated temperatures achieved by running the reactor coolant pumps. This stage of the testing will include plant endurance testing, chemical conditioning (passivation of the primary circuit) and demonstration of human-machine interface from the main control room and local control stations.
- 39 The initial start-up and operational testing phase will include fuel load, cold and hot pre-criticality tests, initial criticality and power ascension. Of particular note is that section 2.1 of the sub-Chapter states that the start-up tests will:
- include tests which gradually exercise the plant in a progressively searching and onerous manner, and
  - make use of and validate the normal operating procedures and test surveillances.

40 I am satisfied at this stage of the project that international good practice is being adopted in terms of the outline structure of the commissioning programme. The material presented provides a basis for further development in future updates.

#### **4.2.2 GDA Assessment Findings**

41 There are no GDA Step 4 AFs associated with Chapter 19 of the GDA PCSR.

#### **4.2.3 Further Development and Implementation of HPC PCSR**

42 Section 3.1 of this report has already mentioned the PCSR forward work activities relating to Chapter 19. I am satisfied that this work should facilitate the development of an adequate PCSR; noting that further details will need to be provided in the subsequent pre-commissioning safety case.

43 Since the HPC site license was granted in December 2012 I have arranged a number of level 4 commissioning meetings with the NNB GenCo Commissioning Manager to support my intervention in this area.

44 A key feature of these meetings is to give ONR the opportunity to gather evidence on the extent that NNB GenCo is fulfilling its IC role. This IC capability being necessary to ensure that the Responsible Designer's (RD) proposals are acceptable from a UK perspective, that the project has the ability to further develop the HPC PCSR and that adequate preparatory work is being undertaken to support the management and execution of the commissioning phase of the project.

45 The following are some of the key findings from the level 4 meetings:

- the NNB GenCo commissioning strategy document (NNB-OSL-STR-000061) sets out the approach to preparing the commissioning arrangements and executing site commissioning activities. The strategy forms the basis of the suite of commissioning documents which will define the commissioning process. The document is owned by the Operations Decision Meeting with joint sign off by both the construction and pre-operations directors. The document includes commissioning milestones associated with the various project milestones.
- a commissioning guide (NNB-OSL-GUI-000040) has been prepared that provides a route map of the policies, processes and procedures that will be applied to the commissioning of NNB GenCo's EPR projects and is intended to be periodically updated to reflect learning that emerges from both the UK EPR project and other EPR projects around the world. I consider that the guide provides a useful means for capturing the project's intentions with respect to commissioning activities and for identifying those enablers that need to be put in place early in the project such as support for contract tendering, securing sufficient operations resource and training of station staff including secondments to FA3.
- it is noted that there are certain commissioning activities that can only be undertaken during the first refuelling outage. I consider that this, along with the arrangements for delivering such activities, needs to be made clear in the project documentation and reflected in the version of the HPC PCSR supporting the request for Nuclear Island construction. I shall be seeking further information from NNB GenCo in relation to this aspect of commissioning as a matter of routine regulatory business.
- neither the HPC PCSR2102 nor the commissioning strategy document make any mention of the need to classify commissioning activities in accordance with their

nuclear significance; this being recognised as good practice in the International Atomic Energy Agency's (IAEA) guidance and is reflected in the ONR LC21: Commissioning TIG (Ref. 4). The classification needs to take due cognisance of the activities being inadequately conceived or executed and the associated review process should be commensurate with the safety significance. I consider that NNB GenCo needs to address this omission in both the strategy document and the version of the HPC PCSR supporting the request for Nuclear Island construction.

The need to classify commissioning activities will be raised as an issue in ONR's database and progressed as part of my ongoing intervention.

- a CWP has been established with representatives from NNB GenCo and the RD. The CWP is a top level forum to ensure a common understanding on the topic of commissioning, to develop and then implement the commissioning strategy for HPC and to oversee the production of material for the HPC PCSR. I observed the CWP meeting held on 18 October 2013 and am satisfied that NNB GenCo is using the forum to influence and challenge the RD.
- Areva gave a presentation at the MDEP EPR commissioning workshop held in June 2013 on their proposals for the EPR commissioning programme to make use of First of a Kind (FOAK) tests and in particular First Plant Only Tests (FPOT). During the workshop it was noted that the final decision as to whether to reuse the results rests with an individual project/ regulator.
- I will be raising an issue in ONR's Issues database relating to the project's use of FPOTs to ensure that there is an adequate basis for accepting such tests. I would expect NNB GenCo to explain the role of, and the basis for accepting, any FPOTs for HPC and follow on stations in the version of the HPC PCSR supporting the request for nuclear island construction.
- NNB GenCo commissioning resource currently consists of a Commissioning Manager and a commissioning engineer. It is understood that further commissioning resource will not be secured until post HPC financial investment decision, however the Commissioning Manager is satisfied that the short term workload can be managed. I accept this view recognising that the key enablers at this stage of the project are being prioritised.

46 I consider that NNB GenCo has put in place the means by which it is fulfilling its IC role with respect to preparatory work to support commissioning activities and the further development of the HPC PCSR. There is evidence of the project influencing and challenging the RD whilst still seeking to benefit from the latter's considerable knowledge and experience.

## 5 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Conclusions

47 This report presents the findings of my assessment of Chapter 19 of the HPC PCSR2012 that falls within the scope of Work Stream C11 'Commissioning'. Commissioning was not formally considered by ONR during GDA, therefore my assessment has considered all the material within Chapter 19. I have also considered NNB GenCo's ongoing work and organisational capability to further develop and implement the commissioning aspects of the HPC PCSR.

48 There is limited detail in Chapter 19 although as discussed in section 4.2.3 of this report I am aware that further work has been completed since the production of HPC PCSR2012. I understand that this, along with the ongoing work will be used to provide a more detailed overview in the version of the HPC PCSR to support Nuclear Island construction.

49 Notwithstanding the lack of detail, I am satisfied with the material within Chapter 19 and note NNB GenCo is adopting some of the key aspects of international good practice.

50 There is evidence of a good, constructive working relationship between NNB GenCo and the RD with the former fulfilling its IC role whilst still seeking to benefit from the latter's considerable knowledge and experience.

51 I will be raising two issues on the ONR's Issues database; the first relating to the need to classify commissioning activities in accordance with their significance to nuclear safety and the second relating to the project's position with respect to claiming the results from first plant only tests undertaken on other EPRs. The issues are listed in Annex A.

52 I consider that the ongoing work within the commissioning area demonstrates suitable progress towards meeting ONR's requirement for an adequate PCSR to be available to support nuclear island construction. Finally, ONR expects NNB GenCo to further develop the commissioning material presented in the PCSR to support the pre-commissioning safety case as indicated in the HPC PCSR Forward Work Activities report. An Integrated Intervention Strategy (IIS) rating (an ONR metric on submission quality) of 3 'Adequate' is judged to be appropriate.

### 5.2 Recommendations

53 No recommendations have arisen from my assessment; the need for future updates of the HPC PCSR as described in this report will be progressed as routine regulatory business.

## 6 REFERENCES

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- 1 NNB GenCo Submission of HPC PCSR 2012, Letter NNB-OSL-RIO-000322, ONR-HPC-20337N, 6 December 2012, TRIM 2013/16143
- 2 *ONR How2 Business Management System*. Guidance on Production of Reports, AST/003 Revision 7, September 2013
- 3 *Safety Assessment Principles for Nuclear Facilities*. 2006 Edition Revision 1. HSE. January 2008.  
[www.hse.gov.uk/nuclear/SAP/SAP2006.pdf](http://www.hse.gov.uk/nuclear/SAP/SAP2006.pdf)
- 4 *Technical Assessment Guides (TAGs)*  
[www.hse.gov.uk/nuclear/tagsrevision.htm](http://www.hse.gov.uk/nuclear/tagsrevision.htm)  
*Technical Inspection Guides (TIGs)*  
[www.hse.gov.uk/nuclear/operational/tech\\_insp\\_guides/index.htm](http://www.hse.gov.uk/nuclear/operational/tech_insp_guides/index.htm)
- 5 NNB-HPC2-IPR044, Hinkley Point C Construction Intervention: LC 21 'Commissioning' – C11, Issue 1, TRIM 2013/140958
- 6 Safety of Nuclear Power Plants: Commissioning and Operation Specific Safety Requirements, SSR-2/2, International Atomic Energy Agency (IAEA), 2011  
Commissioning for Nuclear Power Plants, NS-G-2.9, International Atomic Energy Agency (IAEA), 2003  
[www.iaea.org](http://www.iaea.org)
- 7 NNB GenCo Hinkley Point C Pre-Construction Safety Report Forward Work Activities, Version 2, November 2012, TRIM 2013/16159

**Table 1**  
Relevant Safety Assessment Principles Considered During the Assessment

SAP No.	SAP Title	Description
ECM.1	Commissioning: commission testing	Before operating any facility or process that may affect safety it should be subject to commissioning tests to demonstrate that, as built, the design intent claimed in the safety case has been achieved.

## Annex A

## Issues Raised During Assessment of HPC PCSR2012 Commissioning Material

Issue No.	Issue title	Issue	Milestone (by which this item should be addressed)
1	Classification of commissioning activities	NNB GenCo shall develop a process for classifying commissioning activities in accordance with their nuclear significance, the classification taking due cognisance of inadequate conception or execution. The associated review processes should be commensurate with the safety classification.	PCSR3
2	First Plant Only Tests (FPOTs)	NNB GenCo to explain the role of, and the basis for accepting, any FPOTs for HPC and follow on stations in the version of the HPC PCSR supporting the request for nuclear island construction.	PCSR3