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REGULATORY OBSERVATION Resolution Plan	
RO Unique No.:	RO-UKHPR1000-0024
RO Title:	Control of Changes to the UK HPR1000 Design
Technical Area(s)	Management of Safety Quality Assurance
Revision:	Rev 0
Overall RO Closure Date (Planned):	31/05/2020
Linked RQ(s)	-
Linked RO(s)	-
Related Technical Area(s)	1. Chemistry 2. Civil Engineering 3. Control & Instrumentation 4. Conventional Fire Safety 5. Conventional Health & Safety 6. Cross Cutting 7. Electrical Engineering 8. External Hazards 9. Fault Studies 10. Fuel & Core 11. Human Factors 12. Internal Hazards 14. Mechanical Engineering 15. Probabilistic Safety Analysis 16. Radiological Protection 17. RadWaste, Decommissioning & Spent Fuel Management 18. Security 19. Severe Accident Analysis 20. Structural Integrity 21. Environmental
Other Related Documentation	-

Scope of Work

Background

As part of its normal design development process, the Requesting Party (RP) may wish to make changes to the generic design after the Design Reference Point (DRP) has been agreed. Changes to the design may also

be necessary to respond to Regulatory Observations or Regulatory Issues. It is therefore important that a GDA design change process is implemented by the RP so that any impacts on the safety case (i.e. the Safety, Security, and Environment Reports and supporting documentation) and design reference can be fully understood and implemented effectively.

The following issues regarding controls of changes to UK HPR1000 design have been identified:

- GNS procedures [1] [2] were not consistent with CGN internal procedure [3] and that the GNS arrangements were only being applied to design changes arising directly from GDA. Design changes arising from Fangchenggang Unit 3 (FCG3, the reference design) were sentenced differently and so were not considered at the Modifications Committee.
- RP has developed an updated Modification Control Procedure [1] that differs from that previously discussed with ONR and EA, which contains inconsistencies and is not being applied in practice.

ONR therefore issued RO-UKHPR1000-0024, which placed the following actions:

A1 – Conduct a review of written arrangements for the categorisation and control of changes to the UK HPR1000 Design
A2 – Provide an implementation plan for the updated UK HPR1000 design change control arrangements

Scope of work

The scope of work is described as follows:

- GNS & CGN review and update the UK HPR1000 Modification Categorisation Procedure [2] and Modification Control Procedure [1].
- GNS provides brief introduction to CGN project management department to ensure common understanding on both sides.
- CGN reviews Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project [3], updates the procedure (if needed), to ensure consistency with GNS updated procedures.
- CGN organises internal training to ensure all personnel with a role in design change management have a clear view on control process and relevant arrangements.
- GNS organises monthly Design Modification Committee meeting and performs quarterly design modification process check to ensure sufficient oversight on design modification control.
- GNS performs audit and CGN preforms internal audit on modification control to ensure updated procedures are applied appropriately.

Plan and Deliverable Description

The main actions required to resolve this RO are described as follows.

RO-UKHPR1000-0024.A1 – Conduct a review of written arrangements for the categorisation and control of changes to the UK HPR1000 Design

Actions requested by the Regulator as stated in the RO:

- *Review its existing written arrangements for the UK HPR1000 design change control to ensure that they are suitable and sufficient and are consistent across GNS and CGN.*
- *Submit the updated arrangements to ONR and EA.*

Resolution Plan:

1) UK HPR1000 Modification Categorisation Procedure [2] and Modification Control Procedure [1] will be reviewed and updated to ensure a robust process for design control to implement after DRP, which include:

- A consistent way to manage all kinds of design change, including changes arising from FCG3
- An efficient mechanism for inform ONR and EA of any design changes after DRP.

Deliverables (reports):

1) UK HPR1000 Modification Control Procedure (revision 002)
2) UK HPR1000 Modification Categorisation Procedure (revision 001)
3) Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project (revision D)

RO-UKHPR1000-0024.A2 – Provide an implementation plan for the updated UK HPR1000 design change control arrangements

Actions requested by the Regulator as stated in the RO:

- *Describe how it will ensure the updated arrangements described in RO-UKHPR1000-0024.A1 will be effectively applied in practice, including:*
  - *The approach and schedule for providing training to all personnel with a role in design change control so that they understand the expectations placed upon them.*
  - *How GNS will ensure that there is sufficient oversight of the design change control arrangements to ensure that they will be applied in practice.*
  - *Any additional MSQA activities that will be used to determine the effectiveness of the arrangements, such as internal inspections and audits.*
  - *Whether any of the design changes that have arisen during Step 3 but have not been formally considered by the Modifications Committee will be retrospectively reviewed in accordance with the updated arrangements.*

Resolution Plan:

1) GNS will provide a briefing on updated GNS procedures to CGN project management department to ensure common understanding on both sides.

2) Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project [3] will be reviewed, checked and updated to ensure consistency with GNS procedures. GNS will review Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project before it is issued to ensure that it is consistent with GNS procedures and captures all the key points.

3) After Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project is updated, CGN will organise internal briefings to ensure all personnel with a role in design change management have a clear understanding of the control process and relevant arrangements by 14th February 2020.

4) GNS organises monthly Design Modification Committee meeting and CGN provides modification detail information before the meeting using modification forms to ensure GNS gets up-to-date information about design modifications. [This is already in place].

5) GNS will perform quarterly checks of CGN's implementation of the design modification process to ensure sufficient oversight on design modification control. The first quarterly check will be performed by the end of March 2020.

6) GNS/CGN performs audit/internal audits (aligned with planned Step4 MSQA audit) on modification control process to ensure updated procedures are applied appropriately.

7) GNS has considered the position regarding design changes raised during Step 3 that have not been formally considered by the Modifications Committee. In view of the nature of these changes, which consisted of relatively minor developments in the Fangchenggang 3 design, GNS has concluded that there is limited value in retrospectively submitting these changes through the updated process. It is therefore proposed not to take any further action with respect to these design changes.

References

[1] UK HPR1000 Modification Control Procedure, HPR/GDA/PROC/0053, Rev 001, July 2019

[2] UK HPR1000 Modification Categorisation Procedure, HPR/GDA/PROC/0033, Rev 000, January 2019

[3] Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project, GH-40M-012, Rev B, February 2019

Impact on the GDA Submissions

NA

Timetable and Milestone Programme Leading to the Deliverables

The planned submissions and date are listed in the following table.

No.	Title	Planned Submission Date
1	UK HPR1000 Modification Control Procedure,	8th January 2020
2	UK HPR1000 Modification Categorisation Procedure	8th January 2020
3	Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project	8th January 2020

See attached Gantt Chart in APPENDIX A.

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APPENDIX A RO-UKHPR1000-0024 Gantt Chart

Task and Schedule		2019		2020												2021				
		30-Nov	31-Dec	31-Jan	29-Feb	31-Mar	30-Apr	31-May	30-Jun	31-Jul	31-Aug	30-Sep	31-Oct	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr	31-May
RO Action 1																				
	UK HPR1000 Modification Control Procedure																			
	UK HPR1000 Modification Categorisation Procedure																			
	Provisions on Configuration Change Management for UK HPR1000 Generic Design Assessment (GDA) Project																			
	Target ROA1 Close Date																			
RO Action 2																				
	GNS/CGN briefing on updated procedures																			
	Target ROA2 Close Date																			
Assessment																				
	Regulatory Assessment																			
	Target RO Close Date																			