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INSPECTION REPORT OF SAFETY MANAGEMENT ARRANGEMENTS TO CONTROL SPENT NUCLEAR FUEL IN 3 BASIN DEVONPORT

1. This inspection of HMNB Devonport's arrangements to control spent fuel was held 28th – 29th September, 2015. The inspection team was IRM and IRM-a from DNSR, supported by the ONR Devonport Nominated Site Inspector and an ONR radiation protection specialist inspector.

2. The aim was to review the arrangements for interim fuel storage in 3 Basin against the principles for current good practice, as laid out in ONR's Nuclear Safety Technical Assessment Guide (TAG) TAST-GD-081, which is derived from IAEA guidance. Recall DNSR expectations 1 and 2, from JSP 518 Chapter 1:

(1) 'DNSR expects safety justifications to be developed, to be comprehensive in scope, to be of a standard equivalent to industry good practice, and to provide a depth of analysis appropriate to the risks.
(2) DNSR expects it to be clearly demonstrated that the risks from any DNP activity have been reduced so far is reasonably practicable.'

3. The scope of the inspection was: control of spent fuel, including safety case, storage period, passive safety, allowance for future changes, information recording and reporting and adequate consideration to future arrangements with respect to the future decommissioning of TRAFALGAR Class submarines.

4. The inspection comprised a tour of 3 Basin submarines and a presentation against the topics in the TAG, followed by detailed comparison of the arrangements and key aspects of the guidance. The Regulators found that the arrangements for the control of spent fuel were generally adequate; DNSR raised 3 Findings and 6 Observations, shown below. Passive safety was good, and the fuel is being managed so as to remain in a retrievable condition at the end of the storage period:

5. A summary of the results of the inspection was presented by the inspection team to HMNB(D) NBS and staff at the closing meeting held at HMNB Devonport 29th September, 2015. The Regulators thanked the Site for the frank and open dialogue, and the positive ownership of the remedial actions to close gaps that had been identified Vs good practice.

6. Evidence recorded is summarised below. I request that the Facility Operator confirms his acceptance of the Findings and Observations, and communicates remedial actions and forecast closure dates to DNSR.

serial	JSP518 clause	RGP in TAST 081	Finding/ Observation	Crux
1	Expectation 1,2	SAPs DC3 and DC4	Observation	NBC bears the consequence of historic slippage in the defueling and disposal programme
2				3 Basin arrangements link to programmes for defuel, LTB preps, SADP and dismantling.
3				Current planning involves a [redacted], and a defueling programme extending out to [redacted], which is not acceptable to ISM
4				Arrangements are being put into place to deconflict and integrate the separate programmes, and shorten the defueling programme
5			Observation	(However,) As yet there is no long term integrated strategy and plan
6	Expectation 1,2	5.19, 5.20	Finding 1	Although actions are in train to remedy the gap, it is not yet possible to quantify the maximum demand versus capacity of 3 Basin.
7				The risk from boat moves was articulated but is not formally recorded. Actions are in train to generate appropriate operating instructions (plus associated Nuclear Procedure prerequisites), including due process, by end October 2015.
8			Finding 2	The facility maintenance plan needs to take cognisance of the needs of the facility for the next 10 years (including any new requirements arising from challenges to the assumed durations)
9	ACs 23, 24, 28, 34		Observation	A clearer picture of compliance requirements might ensue if 3 Basin were viewed as an Authorised Site, rather than a Site where Authorised activities take place.
10			Opportunity	The nascent 30 year plan and upcoming PRS cycle provide a vehicles to capture adequately the full scope of compliance requirements

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11	Expectations 1 and 2	5.20 - 5.27		The site is cognisant of the potential for [redacted]. ISM challenge to the platform safety case assumptions, and NRPA challenge to the plant safety case were tabled.
12	Expectations 1 and 2	5.3, 5.10, 5.20		If the storage period does not challenge the existing safety case, then the fuel will be in a retrievable condition, with adequate criticality control, heat removal and shielding
13	FAC1	5.20,	Observation	The FO needs to continue to take cognisance of the developing challenge to the platform and plant safety cases
14	FAC1	5.21d	Observation	The FO is should engage in the ongoing LFE sharing processes
15	Expectations 1 and 2, AC 34 (1) and (2) AC 34 (1) and (2)	5.8, 5.9		Passive safety requirements are broadly met
16		5.10, ECR 4		An ALARP case was made for [redacted]
17		5.23	Finding 3	The Site need to mitigate the potential for a [redacted]
18	AC32, FAC1	WENRA SRL 17		The total inventories for each vessel are held on live files.
19	AC18		Observation	The SHP FO should formalise the periodic review of the radiological survey period

(Signed on origianl)

Distribution:

NAVY NBCD-NBS [redacted]
NAVY NBS SNAM [redacted]
DES SUSM PGMSM [redacted]
DSEA-DNSR-NPR [redacted]
DSEA-DNSR-IRM-a [redacted]
ONR Nominated Site Inspector, Devonport [redacted]
RSD AMEC [redacted]

Reference Documents:

1. slideshow presentation on facility safety case (including ORs and OIs), SMAs (including organisation, maintenance regime and dose control) and strategic programme context.
2. site self assessment versus TAST 081 good practice
3. Devonport Licensed Site Decommissioning and Defuel Programme Options Study
4. Safety Justification Plan [redacted] and NRPA specification letter
5. visibility of ISM internal challenge to the platform safety case duration
6. extract from [redacted]
7. [redacted] showing prerequisites for 3 Basin entry
8. example AC22 to FSC125 for a vessel [redacted]
10. report of 3 Basin Authorised Activities 1 September 2015
11. [redacted] for Administrative Control of Laid Up Submarines in 3 Basin
12. [redacted] Facility Safety case for 3 Basin Authorised Activities dated [redacted]
13. Terms of Reference for 3 Basin Facility Support Group Manager
14. Terms of Reference for 3 Basin Facility Support Group Services Manager
15. SFM FGSM Desk Instruction [redacted] for Planed Maintenance for LTB Submarines within the 3 Basin Facility
16. Prior Risk Assessment No 03 for DDL Submarines in 3 Basin (versus IRRs)
17. Prior Risk Assessment No 13 for routine Maintenance Operations Aboard Long term Berthing (Fuelled) Submarines in 3 Basin Including [redacted]
18. DRDL [redacted] HP Monitoring Procedures (Waterfront)
19. DRDL [redacted] Routine Survey Requirements - Laid Up Submarines in 3 Basin
20. DRDL [redacted] Internal Radioactive Material Movement within the Devonport Site