

5 Mar 09

SITE EVENT REPORT COMMITTEE (SERC) - ANNUAL REPORT FOR 2008

References:

- A. NB BP 19 - Reporting and Recording of Nuclear and Radiological Events.
- B. AC 7.
- C. SERC annual report for 2007, BNSO/61/136/38.
- D. PCD Hose Leak Final Report, BNSO 349/136/38/6.
- E. BR 3018 - Nuclear Safety Management of Naval Reactor Plant.
- F. Guidance for Ministerial Notification, DSC 03_03_08.

PURPOSE

1. The purpose of this report is to update the Site Safety Committee on nuclear and radiological event reporting and to provide a summary of trends and emergent issues at HM Naval Base Devonport during 2008.

SCOPE

2. This report covers all nuclear and radiological events that occurred on the MOD owned Naval Base Site during 2008 and that were reported in accordance with Reference A¹. This is a requirement for NBC to satisfy in accordance with Reference B. Also provided within the report is feedback concerning the SERC Targets set at Reference C and Targets for the SERC to work towards during 2009. Noting the favourable feedback received from the Site Safety Committee, this report follows a similar structure to its predecessor. It does not cover the DRDL Site for which the Company has separate arrangements.

EVOLUTION OF EVENT REPORTING AT HMNB DEVONPORT

3. The previous SERC Annual Report at Reference C provided comment on the advances made when considering nuclear and radiological event reporting at HMNB Devonport². The evolution involved progression from the former NBQ 19 Issue 6 (August 2006) and the employment of a single event report form NBF 703, through to the conversion of the process to form NB BP 19. At the time of the previous report, a new event cause code structure introduced to BP19 was in its infancy. Experience over the past year has confirmed early indications that the revised coding structure is more easily understood, easier to work with and meets our needs. Similarly, the reduced timescale of 1 working day (previously 10 working days) for submission of the basic event investigation report and immediate actions is being achieved in a significant majority of cases. In broad terms, following substantial change and evolution over the previous couple of years which led to improved performance, 2008 was one of consolidation for event reporting. The arrangements have just been subject to a DNSR audit and were found to be satisfactory, no non-conformances or observations were raised at the audit closing meeting; the written report of the audit is still awaited.

¹ The report does not cover the DRDL Site for which The Company has separate arrangements.

² The changes were applicable to the MoD Site nuclear and radiological event reporting system, The Company has separate arrangements for its Site.

EVENT LIST

4. A list of nuclear and radiological events reported during 2008 is at Annex A. The list includes a basic description, event cause, event consequence code and remarks where appropriate. In some cases the assessment is provisional pending ongoing investigation, implementation of recommendations and / or agreement by the SERC.

EVENT HISTORY ANALYSIS

5. As per the practice adopted for the 2006 and 2007, for the purpose of this report, this report considers trends for nuclear and radiological events reported to the SERC over the preceding 5 years, in this case 2004 up to and including 2008. To enable a direct comparison, events prior to the introduction of Reference A have been re-assessed against the current tree structure for event cause (reproduced at Annex B). A high proportion of the events have been allocated more than one IC and UC code which should be considered when comparing the total no. of events in any one year against the total no. of IC codes for the same period.

6. **History.** A total of 55 events were reported during 2008. The 5 year history is:

Year	Total No of Events
2008	55
2007	52
2006	32
2005	35
2004	50

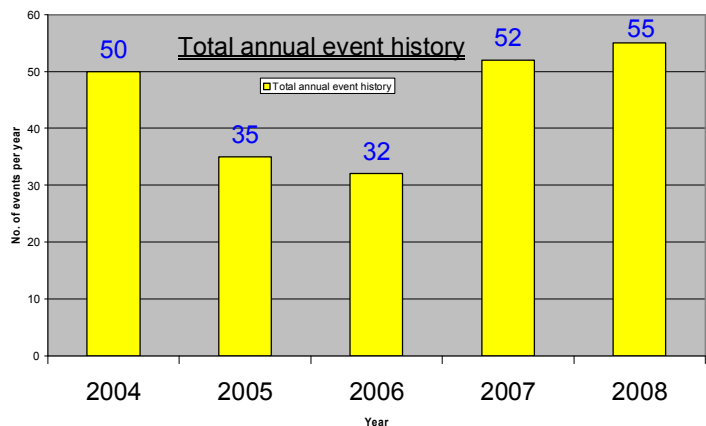


Table 1. No of events over past 5 Years.

It can be seen from the above event history that the number of events reported in 2008 is very similar to 2007 and in line with expectations reported at Reference C. The 2006 report anticipated an increase from the 2005/2006 levels following the introduction of a less burdensome, less bureaucratic reporting system that was expected to encourage reporting. This change in reporting level appears to have been sustained and initial indications are that 2009 is following a similar pattern.

7. **Event Consequence (EC).** All events during 2008 were allocated an EC code in accordance with Reference A. This functions on a sliding scale from EC Code A, the most severe, to EC Code D. This is used in conjunction with a Task Frequency code in order to determine the Level of Investigation to be attached to the event; Trend, Root Cause Analysis (RCA) or Board of Inquiry. During the period 2004 – 2007, all events fell within the two lowest EC code categories. 2008 has seen 4 NSERs (10/08, 15/08, 38/08 and 49/08) categorised at Cat B³, in all instances as a result of failure to meet regulatory compliance. In the case of two of these events (10/08 and 38/08) personnel who knew and clearly understood what was required, failed to implement the correct actions; these personnel no longer provide support to NBC's organisation. NSER 15/08 arose from a

³ Cat B Consequence = Serious actual or potentially serious event. Cat B Description = Significant impact or potential for significant impact on safety or regulatory compliance. Investigation would be required to maintain compliance. Includes HSE reportable events.

failure to appoint a replacement RPS during organisational change. NSER 49/08 was the HMS TRAFALGAR PCD hose failure which has been subject to extensive investigation (Reference D) and separately reported to the Site Safety Committee. The recommendations arising from NSERs 10/08, 15/08 and 38/08 have all been addressed. Given the extent and nature of the recommendations arising from the PCD hose failure event they are being addressed outside the SERC; to do otherwise would have run the risk of swamping remaining SERC business. Progress with these is being monitored by the PCD Hose Failure Monitoring and Steering Group specifically set up for this purpose and chaired by DCBS(N) to help ensure that the issues receive an appropriate level of management attention.

8. RCA was undertaken for 28 events (just over 50 percent). This included a number of events where only a trend investigation was indicated but where the SERC Chairman in consultation with the responsible officer felt that benefit would be gained from a deeper investigation. This flexibility in the level of investigation was one of the changes introduced in late 2007 and is working satisfactorily.

9. **NRPA Incident Reports⁴**. Eight incidents on the MOD Site at Devonport were reported in accordance with Reference E⁵ during 2008, the same number as reported during 2007. Although incident report assessments have yet to be received, inattention by watchkeepers leading to scram has featured in two of the events (a similar event is understood to have occurred on the Babcock Site). As noted in 2007, when situations have arisen requiring EOP action, in general operators have assessed the situation and implemented the drill correctly.

BREAKDOWN OF EVENTS BY TYPE AND IMMEDIATE CAUSE CODE ANALYSIS

10. Events are categorised using the system described at Reference A. Three broad categories of cause are used for analysis of events.

- Equipment related event.
- Work control related event.
- Personnel failure event.

11. Each of these categories is then sub-divided to into three or four Immediate Cause (IC) codes. Applicable IC codes are allocated to each event. Thus it is possible that a single event may be allocated more than one IC code and could for instance be allocated more than one cause code under the personnel failure heading. The IC codes for events occurring over the past 5 year period are tabulated in Table 2 below.

⁴ NRPA Incident Report became known as NRPA Event Reports in Dec 08.

⁵ Reference E has now been superseded by NRPA SMAs, NRPA-3-11(Port).

IC code / description		2008		2007		2006		2005		2004	
		No.	%	No.	%	No.	%	No.	%	No.	%
1.1	Equipment Breakdown	6	6	6	8	2	4	3	5	2	3
1.2	Equipment not fit for purpose	2	2	5	7	2	4	0	0	5	7
1.3	Equipment correctly specified, incorrectly used	1	1	1	1	0	0	1	2	1	1
2.1	Preparation planning related event	9	10	16	21	10	20	9	16	15	20
2.2	Written control related event	20	20	18	24	12	24	17	31	17	23
2.3	Verbal control related event	6	6	6	8	3	6	2	4	5	7
3.1	Persons not adequately SQEP	4	4	4	5	7	14	6	11	11	15
3.2	Incorrect action taken despite suitable guidance	33	33	14	9	6	12	11	20	16	22
3.3	Persons not Available	5	5	0	0	2	4	1	2	0	0
3.4	Poor safety culture/ awareness	13	13	5	7	5	10	5	9	2	3

Table 2. Table illustrating the number of events for each IC code over the last 5 years.

12. A comparison of cause codes allocated for 2008 against the average for the 2004-2007 period is illustrated in the pie charts below:

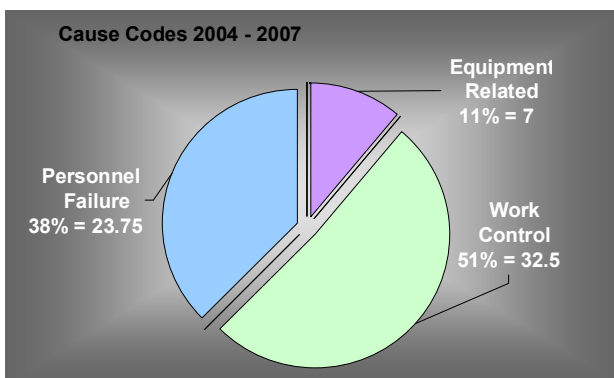


Chart 1.

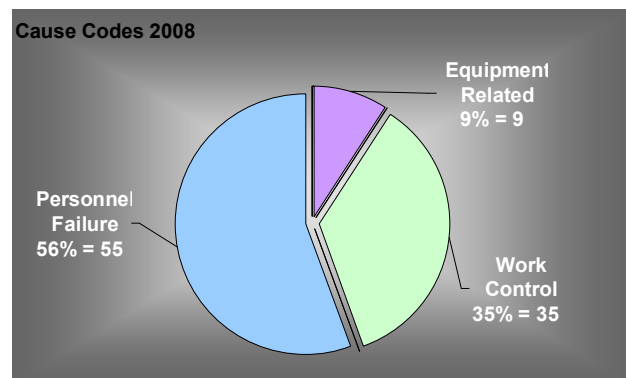
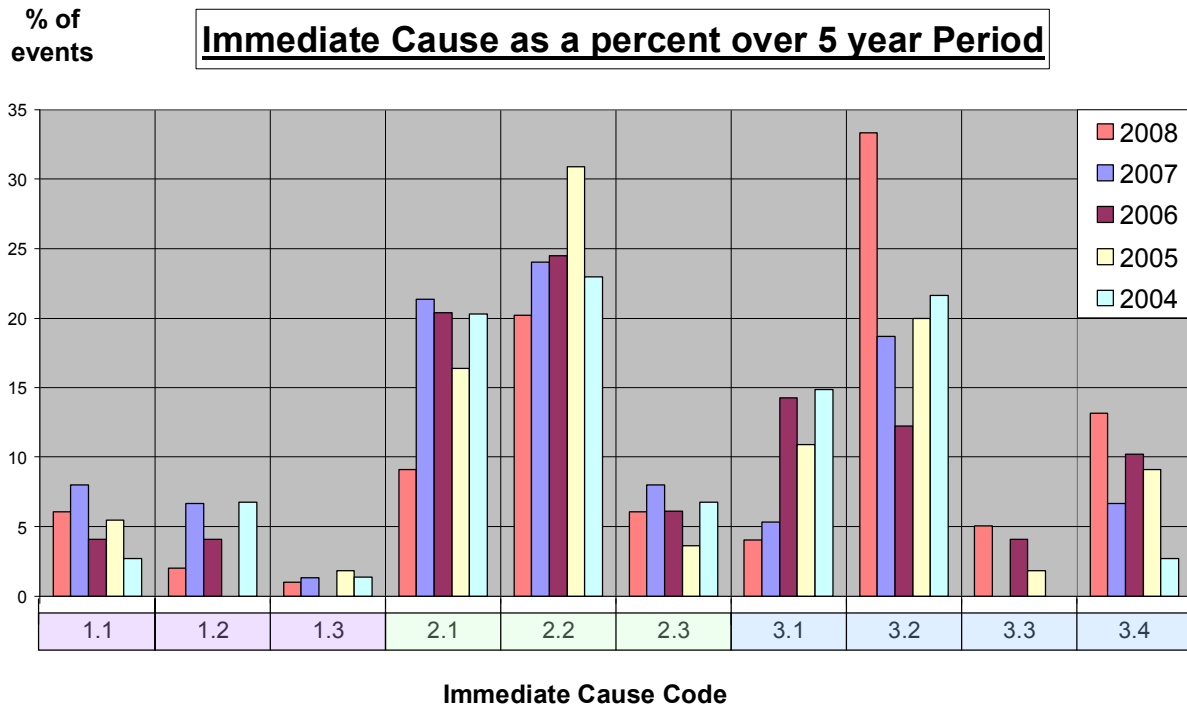


Chart 2.

13. These charts indicate that as a percentage of the total number of IC codes allocated, personnel failure has increased, work control has decreased and equipment issues have remained broadly steady. In the past some Site Safety Committee members have expressed the view that they would have expected personnel failures to feature more strongly as Immediate Causes and experience at other sites tends to support this view. A partial explanation for this change may be that SERC members, through their own training and change of members have become more aware and questioning of human factors such as training, awareness, availability and performance than in the past. It is also possible that the exercise to retrospectively allocate IC codes to events occurring

before the latter part of 2007, because of a lack of fresh knowledge of the events has failed to assign personnel failure IC codes that would now be allocated.

IMMEDIATE CAUSE CODE ANALYSIS



Graph 1. Graph of IC codes reported over the last 5 years, shown as a percent of events.

14. **Trends.** Table 2 and Graph 1 give a breakdown of the Immediate Causes of these events. Incorrect action taken despite suitable guidance (3.2) and written control (2.2) are the two most significant ICs allocated. In previous years, written control has been the most significant IC allocated. In a number of events, these two ICs can be related and it is often a matter of judgment as to which may be applicable. If the example of failing to follow a procedure is considered, was the procedure readily understood by SQEP personnel who failed to be sufficiently diligent in which case IC 3.2 would be applied or did the procedure lack clarity allowing staff to make an error in which case IC 2.2 would be applied. It has been clear to SERC members that in a number of events, SQEP staff have failed to take the action that would be normally expected of staff in that position.

15. When considered in greater detail, the most frequent Underlying Causes for these particular IC codes are:

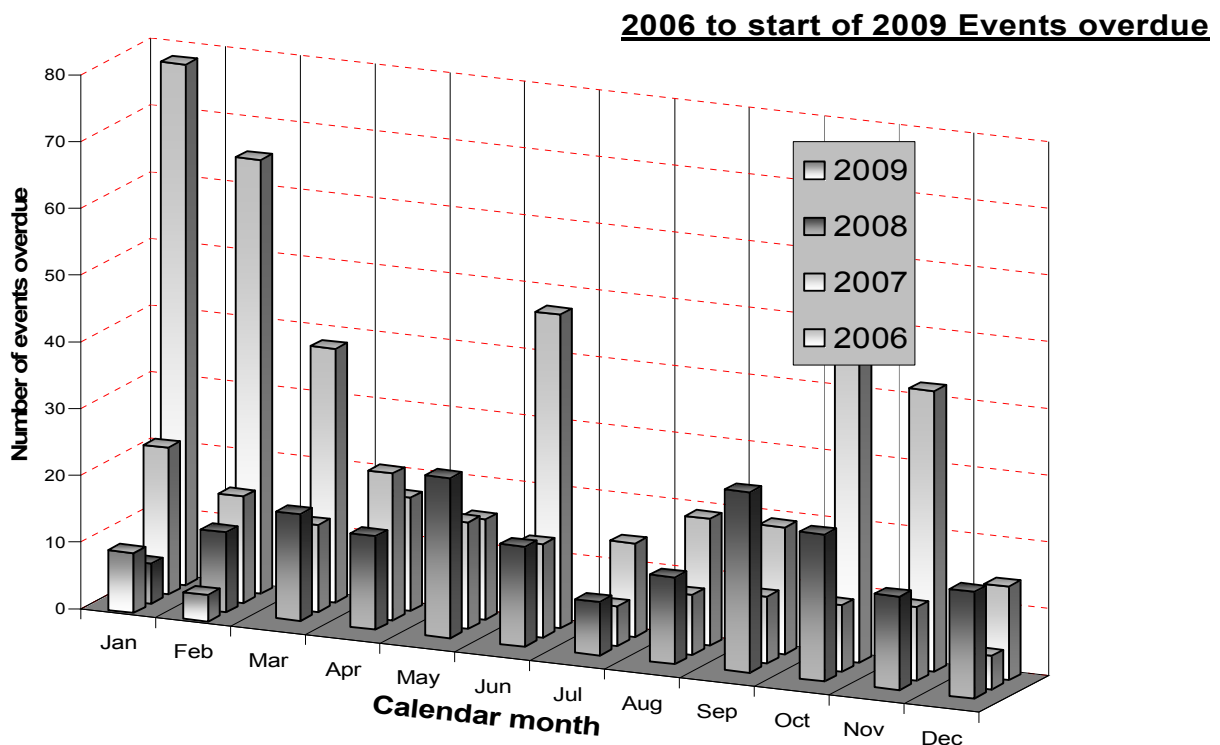
- Personal error (3.2.1)
- Written instruction not followed (2.2.3)
- Ineffective plan or preparation (2.1.2)
- Failure to comprehend risk present / impact on safety (3.4.2)
- Person failed under pressure (3.2.2)
- Action not completed in full (3.2.3)
- Maintenance related cause (1.1.2)

EVENT PROCESS PERFORMANCE

16. Over the past couple of years, the SERC has worked hard to reduce the backlog of long standing events that had not been closed and overdue events. A change from bi-monthly to approximately monthly meetings of the SERC (11 meetings were held in 2008), a much more proactive approach by the SERC Secretary chasing up event reports and significant changes to the reporting process in late 2006 have all contributed to improved performance. This is despite the approximately 60% increase in numbers of events reported in 2007 and 2008 compared with the preceding two years.

17. Noting that the SERC do not consider an event closed until the recommendations have been addressed and any consequent changes implemented, in 2006 some events had been open for up to 4 years. By the end of 2007 all 2006 and earlier events had been closed. By January 2009, all 2007 events had been closed and 32 of the 55 events notified during 2008 had also been closed. Typically, 6 months is allowed to address recommendations emerging from an event, noting that in some cases such as implementation of a design change, longer may be required. Thus it is reasonable that at any time there will be approximately 6 months worth of events open.

18. The following two graphs demonstrate the change in performance that has been achieved by over the past three years as a result of improvements described at paragraph 16 above, remembering also that approximately 60% more events have been raised during this period.

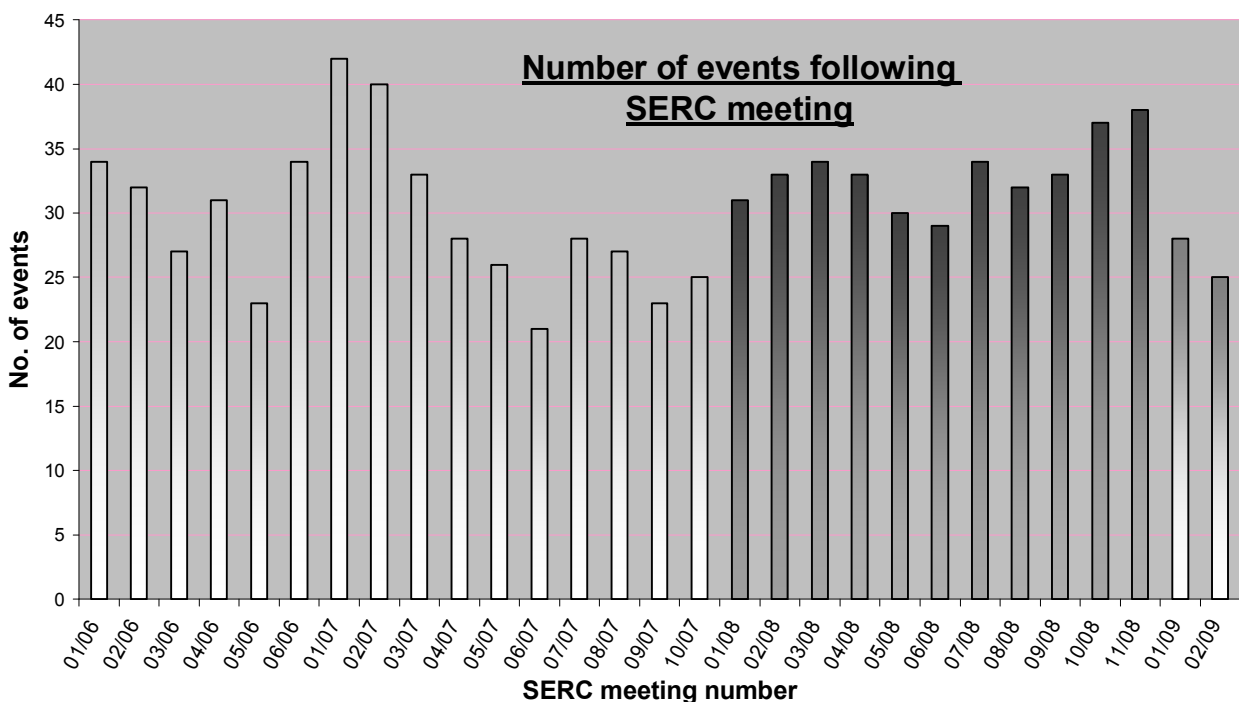


Graph 2. No of events report submissions overdue each month⁶.

19. Graph 2 illustrates how the number of overdue event report submissions for a given calendar month has varied since 2006 when the revised reporting arrangements were

⁶ Overdue NSER submissions include overdue Part 1, Part 2, Part 3 and Part 4 aspects of the NSER.

introduced. In general, the performance during 2007 and 2008 has been a significant improvement over 2006. Whilst the performance during the bulk of 2008 has not been as good as that reported during 2007, it is noted that January 2009 saw the number of overdue events fall below 10 and this fell further to 4 in February 2009, the lowest level that the SERC Chairman has experienced during his tenure. It is considered that the peaks for overdue events observed during Spring and Autumn 2008 reflect a number of issues. Resources available to address event reporting have been severely stretched at times such as seasonal leave and this was compounded by a heavy loading at the TXB during the summer and early autumn. The TXB Facility has experienced turnover and gapping amongst staff who deal with the bulk of TXB reporting although recent drafting and recruiting action has now resolved this. Within NBRSD, co-located health physicist demands and long term staff absence have contributed to the peaks.



Graph 3. No of NSERs remaining open following a SERC meeting⁷.

20. Graph 3 illustrates the number of events open following each SERC meeting. As stated earlier, it should be borne in mind that the number of events during 2007 and 2008 is approximately 60% greater than for 2006. Thus with no other change in performance in processing events a substantial rise over the 2006 figures could be expected. That this is not the case is due to the effort that staff have directed to event reporting work. Unsurprisingly, the same resource issues that contributed to the Spring and Autumn peaks of overdue events have also adversely affected the number of open events during much of 2008. The improvement seen at the beginning of 2009 reflects the easing of these pressures.

21. The SERC identified last year and reported at Reference C that sustaining the performance achieved during 2007 would prove difficult during 2008. This has proved to

⁷ A nuclear site event report is deemed open until the SERC endorse the submitted Part 4 of the NBQ703 form. Endorsement is only granted once the implementation of the recommendations is complete.

be the case. Occasionally during 2008, the intervention of the SERC Chairman and CBS with senior managers in the Naval Base has been required to ensure that event reporting is not sidelined in response to other pressures. A positive response has followed these interventions.

EVENTS OF NOTE

22. **Return of radioactive items to Naval Base stores.** As in previous years, a number of the events addressed by the SERC are unrelated to submarines and submarine support. During the early part of 2008, 6 NSERs were raised as a result of stores items that potentially incorporate radioactive material being returned to the Devonport Distribution Facility (DDF) without complying fully with the process for such items. These items came from surface vessels (Devonport and Portsmouth based units) and a shore establishment and the problem was identified due to the vigilance of DDF Staff. Investigation into these events revealed a number of issues including training and knowledge of personnel, problems within the MOD stores system with the physical marking and computer flagging of radioactive stores items and poor practice onboard some surface ships. All recommendations have been addressed as far as possible within the Naval Base. A number of external authorities are now progressing the work further. Following the initial flurry and with assistance from COMDEVFLOT and Navy Command, there have been no further occurrences of these events suggesting the immediate preventative actions have been effective.
23. **HPG(W) related events.** By late summer, the SERC Chairman formed a view that there may be a preponderance of HP related events thus far during 2008. This was discussed at a SERC meeting and other members shared this view. Some concern was expressed that a factor in this may be the level of provision of HP supervisors at the waterfront: this was also the subject of a letter from SHPFO to Babcock Marine. SHP(RPA) took an action to review HP related events to identify any key factors or discernable trends and his report is at the Enclosure. In light of the letter and report, discussions have been held with Babcock Marine and revisions to HP supervisor manning at the waterfront are being implemented.
24. **Power operations at the TXB.** Two NSERs were raised during 2008 as a result of submarines operating at power whilst berthed at the TXB without having the appropriate radiological surveys conducted in accordance with the associated nuclear procedures. Personnel failures and failures in procedure co-ordination have featured in both events. Procedural changes were made as a result of the first event in an attempt to improve clarity and ensure that responsibilities for actions were more clearly understood. In July 2008, there was a further failure to undertake a survey when required. On this occasion, an individual who failed to pass on the request for the survey when asked was largely responsible. Following further problems at the start of 2009, the nuclear procedure covering these surveys has been subject to extensive revision.
25. **Procedural non compliance.** 11 NSERs (20 percent) were raised in 2008 that feature procedural non-compliance as a factor for the event. A common weakness identified throughout is failure to follow the procedure as a result of human factor underlying causes. However, on some occasions a weakness has been identified with the procedure concerned and amendments have subsequently been recommended. It is disappointing that two NSERs in this category relate to submarines operating without complying with the nuclear logic issued to the submarine, demonstrating again that

procedure shortfalls are not always the underlying cause but simply a failure to follow documentation, in this instance in the form of the nuclear logic. It is understood that other sites MOD and Civil experience similar problems in relation to procedural compliance.

26. **PCD Hose Failure.** The HMS TRAFALGAR PCD hose failure event was the subject of an extensive investigation which has already been reported separately to the Site Safety Committee. The investigation was undertaken jointly with Babcock Marine, nevertheless it made substantial demands on the limited Naval Base resources available for this work at the same time as supporting other, more routine business. Some staff involved with the investigation had attended the Investigator Training Course at AWE Aldermarston earlier in the year and felt that this training proved most valuable for such a task. The emergent recommendations are now being progressed through a dedicated steering and monitoring group and it is not intended to report further in this document.

FUTURE DEVELOPMENT 2008 - REVIEW OF PROGRESS

27. Reference C identified 3 areas for future development:

a. To continue the work started in 2007 which aimed to reduce the backlog of NSERs and improve NSER performance.

b. To review Operating Experience and Feedback arrangements within the MOD organisation at the Naval Base with the aim of achieving single point data capture for all Site events.

a. To ensure adequate provision exist for SERC members to receive investigation training, to better support the NSER process and facilitate improved report submissions.

28. All 3 areas have been taken forward although refinement is likely to continue. The details are as follows:

a. Whilst 2008 has not been without difficulties as explained in earlier paragraphs, it is considered that the improvements reported in 2007 over earlier years have been sustained. The progress with closing events, the number of open events and the number of overdue events are kept under constant review and if adverse trends emerge they are addressed.

b. An initiative was instigated by CBS to review Operating Experience and Feedback arrangements within the MOD organisation at the Naval Base with the aim of achieving single point data capture for all Site events. Several meetings were held during 2008 as part of the review. After considering a number of options, it was agreed in principle that the Babcock Marine OEF system should be utilised for initial event capture. In broad terms the intention would be that the Babcock Marine OEF Team would receive the initial event report, enter the data onto their database and then inform the appropriate event owner requesting an investigation and report. If the event was allocated to a MoD Site facility, i.e. a nuclear event at the TXB, then the event would complete the standard MoD Site process as directed by Reference A in this case up to event close out. At this point the Babcock Marine database would be updated to reflect the condition of the event; closed. At present the initiative needs taking forward to investigate and overcome potential IT issues, after which an event team stakeholder map and suitable guidance can be issued to

support the Babcock Marine OEF Team when issuing notification to MoD Site event owners. Unfortunately, competing demands for the very limited resource available including tasks such as the PCD Hose failure have precluded progress during the Autumn. The current gapping of the NEO 2 position will only serve to exacerbate this problem and further progress is unlikely until the NEO2 post is filled.

c. Two training courses have been reviewed in a bid to identify a suitable course or courses for SERC members to attend to support Site investigations and subsequent reporting. Two MOD staff attended the Investigator Training Course at AWE Aldermarston and found the training highly beneficial when undertaking the PCD Hose Failure Investigation. Independent Peer Review of AWE's LC7 arrangements commented favourably on this training course with other organisations expressing a strong interest in using it. Another two staff are attending the same course at the time of writing. It is anticipated that further places may be available on the course later this year. The Babcock Marine Independent Investigations 2 day course was also reviewed, however, this is not currently available.

FUTURE DEVELOPMENT - 2009

29. Further evolution rather than fundamental change of the event reporting process is required. A number of minor changes are required to address recommendations emerging from an independent audit of the Naval Base AC7 arrangements undertaken to support the PRS and issues identified from routine SERC business. Similarly additional changes are required to address previously untested aspects of the reporting arrangements emerging from the PCD Hose Failure event. The changes will be taken forward during 2009.

30. It is intended to expand the number of trained investigators, noting that a lesson emerging from the AWE IPR was that if the pool of investigators is too large, problems emerge with maintaining SQEP and quality control of investigations.

31. Allied to the training issue, in 2008, some guidance was developed to support investigators completing NSERs. This needs to be formalised and captured in appropriate guidance notes.

32. As soon as resource is available, the development and implementation of a common initial event capture arrangement working with Babcock Marine should be taken forward, noting that the NEO2 post is currently gapped.

FREEDOM OF INFORMATION (FOI) ACT REQUEST

33. No direct FOI requests were received during 2008 relating to nuclear and radiological events at HMNB Devonport⁸, however, following the 2007 request, the report at Reference C was redacted and forwarded to DE&S Abbey Wood for release on the MoD pages of the internet. The effort involved to achieve this was more significant than originally envisaged given the number of questions and briefing material that had to be prepared before publication was finally achieved. There is a difficult balance to be struck between this publication and the negative impact on the resource available for other event reporting related tasks.

⁸ It is noted that requests for this specific information were received at HMNB Clyde during 2008.

MINISTERIAL REPORTING

34. NSER 49/08 required action to be taken in accordance with Reference F⁹. This was achieved within the mandated timescales, however the investigation report associated with NSER 49/08, which reviewed on and off site communications as part of the investigation, identified shortfalls with the arrangements to support Reference F. In summary, whilst 24 hours is allocated to the Site to release a ministerial notification of the event, it was felt by the investigation team that the Naval Base should have issued a formal response regarding the event sooner. The necessity for prompt formal notification is driven by the off site needs to have accurate information for wider briefing. Evidence post the event suggests that early verbal briefing from the Naval Base and subsequently off site ultimately lead to duplication of effort across sites and poor/confused briefing at a Senior level. The report at Reference D provides full details of the recommendations relating to ministerial reporting requirements.

CONCLUSIONS

35. As anticipated, the number of events reported in 2008 was broadly in line with those reported during 2007.

36. Four Cat B NSERs were raised during 2008, with the most significant being the PCD Hose Failure. Two of the Cat B events were directly attributable to performance of individuals below what should be expected. Those individuals no longer support the Naval Base.

37. Personnel failure features more strongly as an immediate cause than in previous years. Although in some instances this has been due to poor performance by individuals, at least in part this change is considered to be due to increased awareness and probing of these issues by SERC members and those undertaking investigations. It is noted that this puts the Naval Base more in line with what is observed at other sites.

38. Incorrect action taken despite suitable guidance (IC 3.2) was the largest contributor when considering event immediate cause, followed by written control related events (IC 2.2) which has consistently contributed to the bulk of events reported over the previous 5 years.

39. The improvements in event reporting performance achieved during 2007 has largely been sustained despite resource issues making this task more difficult. All events from 2007 and earlier are now closed. Over half of the events raised during 2008 were closed in year.

40. SERC performance has been maintained, however the number of open events following each SERC meeting has been influenced by the increase in events reported over the past 2 years.

41. Areas for further development/improvement relating to the NSER process and training support documentation have been identified.

Signed on Original

⁹ This was the first instance that has required ministerial notification of a nuclear or radiological event at the Devonport Site.

SERC Chairman

Annexes:

- A. Nuclear and Radiological Events Reported During 2007.
- B. Event Cause Classification Code Trees.

Enclosure :

- 1. RPA review of recent events with radiological protection considerations.

SERC ANNUAL REPORT 2008 GLOSSARY

Abbreviation	Definition
10 microSv	10 micro sieverts
10uSv/hr	10 micro sieverts per hour
8W N	8 Wharf North
AC 6	Authorised Condition 6
AC 7	Authorised Condition 7
AMF	Active Materials Facility
AWE ALDERMASTON	Atomic Weapons Establishment Aldermaston
AWE IPR	AWE Independent Peer Review
BNSO	Base Nuclear Safety Organisation
CBS	Captain Base Safety
CCB	Cable Connection Box
COM 1 KPI	COM 1 Key Performance Indicator
COMDEVFLOT	Commodore Devonport Flotilla
CTCRM	Commando Training Centre Royal Marines
D/QHM	Deputy Queens Harbour Master
DCBS(N)	Deputy Captain Base Safety (Nuclear)
DDF	Devonport Distribution Facility
DEVNUSAFE	Devonport Nuclear Safe Plan
DNSR	Defence Nuclear Safety Regulator
DRDL	Devonport Royal Dockyard Limited
DSC	Directorate of Safety & Claims
EA	Environment Agency
EMHQ	Emergency Monitoring Headquarters
EPD	Electronic Personal Dosimetry
FOST	Flag Officer Sea Training
FP18-01-126	Functional Procedure 18-01-126
HMNB	Her Majesty's Naval Base
HMNB(D)	Her Majesty's Naval Base (Devonport)
HP	Health Physics
HPG	Health Physics Group
HPG(W)	Health Physics Group (WaterFront)
IC	Immediate Cause
IRR 99	Ionising Radiation Regulations 1999
LC 7	License Condition 7
MAXIMO	MAXIMO (trade name)
ME Staff	Marine Engineering Staff
MESM	Marine Engineering Submarine
MG Defect	Motor Generator Defect
MOD	Ministry of Defence
NABUST	Nuclear Accident Back-Up Support Team
NARO	Nuclear Accident Response Organisation
NB BP 24	Naval Base Business Process No 24
NB BP 68	Naval Base Business Process No 68
NBC	Naval Base Commander
NBQ	Naval Base Quality
NBQF	Naval Base Quality Form.
NBRSD	Naval Base Radiation Safety Department
NCF	Nucleonic Calibration Facility

NE02	Nuclear Engineer Officer 2
NESTLE	Normal Sea Going Line Up
NP	Nuclear Procedure
NB BP 19	Naval Base Business Procedure 19
NRPA	Nuclear Reactor Plant Authority
NSCC	Nuclear Safety Co- ordination Committee
NSER	Nuclear Site Event Report
OEF	Operating Experience Feedback
OPDOC	Operational Documentation
PAG	Procedure Authorisation Group
PCD	Primary Coolant Discharge
PET	Polyethylene terephthalate
PRS	Provisioning Review Statement
PSA	Probabilistic Safety Assessment
PSB	Plant State B
QHM	Queen's Harbour Master
RAMP	Revalidation Assisted Maintenance Period
RCA	Request for Contract Action
Reg 28 of IRR 99	Regulation 28 of the IRRs 99
RPA	Radiation Protection Advisor
RPS	Review of Protective Security
S2022a	Material State Defect Report Form
SHP(RPA)	Senior Health Physicist (Radiation Protection Advisor)
SHPFO	Senior Health Physicist Facility Operator
SIRS	Ship Installed RADIAC System (Radiation Detectors)
SMA	Safety Management Arrangements
SOP	Standard Operating Procedures
SOUTH DSU	South Distribution/Supply Unit
SQEP	Suitably Qualified & Experienced Persons
SSHP	Ship Staff Health Physics
TLP	Torpedo Loading Party
TRAMS	Transportable Monitoring System
TXB	Tidal X Berth
TXBFO	Tidal X Berth Facility Operator
UC	Underlying Cause
UFF	Used Fuel Flasks
W024	Building W024

NUCLEAR AND RADIOLOGICAL EVENTS REPORTED DURING 2008

Annex A to
BNSO 389/136/38
 Dated 5 Mar 09

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
01/08	15-Jan-08	During a rounds of the Defiance Plant room a number of ventilation filters were found bagged and stored just inside the door of the plant room entrance. Subsequent enquiries revealed that the filters had been removed from the Defiance Active Ventilation system as part of a routine maintenance requirement in June 07. As potentially active items, once removed, the filters should have been removed from the plant room to the Active Waste Facility for assessment and subsequent disposal on completion of the filter change.	Equipment Related Event & Personnel Related Event	C	This NSER received a RCA investigation. The Part 4 was later endorsed at the 09/08 meeting of the SERC. Preventative actions included adding the maintenance requirement to the bring up system MAXIMO with some changes to documentation implemented / training issued.
02/08	16-Jan-08	A submarine signalled intent to return to base port at short notice for defect rectification out of hours. The vessel berthed safely on the morning tide on the at 9W. The following aspects of NB BP 24, Nuclear Submarine Movement and Planning at Devonport, was not fully adhered to: 1. Failure to inform some duty personnel, Chart 2 activity 2. 2. The standby berth (8W N) was not used. 3. A quorum of the NSCC did not approve the use of the alternative berth 9W, Chart 2 activity 9.	Work Control Related Event	D	The NSER received a trend investigation. The Part 4 was endorsed at the 04/08 meeting of the SERC. Preventative actions included a review of BP 24, an update to appropriate Duty Officer packs and reminder training to appropriate Duty Officers.
03/08	18-Jan-08	Radioactive stores items returned from a surface ship to Devonport Distribution Facility (DDF - W024) with out following correct procedures. A transceiver sub assembly containing radioactive material was found amongst other stores items returned to the DDF. The required notification to	Personnel Related Event	C	This NSER received RCA investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. 03/08 was the first in a series of NSERs of a very similar nature in a short space of time. As such they were investigated collectively to determine the

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Part 4 accepted means that the Part 4 of the submitted NBQ703 form has been endorsed by the SERC on the understanding that the implementation of the agreed recommendations has been completed. At this point in time the event is deemed closed.

Part 2 / 3 accepted means that the investigation and proposed recommendations detailed on the Part 2 / 3 of the submitted NBQ703 form have been endorsed by the SERC. At this point the event is still deemed open.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
		stores personnel using a Dangerous Goods Note was not carried out.			root cause. A repeat occurrence has not been reported in recent months.
04/08	18-Jan-08	Radioactive stores items returned from a surface Ship (different unit to that of 03/08) to the DDF-W024 with out following correct procedures. A SIRS Detector head (Mk28) containing radioactive material was found amongst other stores items returned to the DDF. The required notification to stores personnel using a Dangerous Goods Note was not carried out.	Personnel Related Event	C	This NSER received RCA investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. 04/08 was the second in a series of NSERs of a very similar nature in a short space of time. As such they were investigated collectively to determine the root cause. A repeat occurrence has not been reported in recent months.
05/08	31-Jan-08	A requirement existed for a submarine to return to base port at short notice for defect rectification out of hours. She berthed safely on the evening tide on the at 9W. The following aspects of NB BP 24, Nuclear Submarine Movement and Planning at Devonport, was not fully adhered to: 1. Failure to inform some duty personnel, Chart 2 activity 2.	Work Control Related Event	D	This NSER received trend investigation, the Part 4 of which was endorsed at the 04/08 meeting of the SERC. The NSER was noted as a repeat occurrence of NSER 02/08. The immediate actions imposed two weeks previous had been ineffective in one instance and the implementation of the endorsed recommendations remained ongoing. No further repeat occurrences have been reported after full recommendation implementation.
06/08	01-Feb-08	Radioactive stores items returned from a surface Ship (different unit to previous NSERs) to the DDF - W024 with out following correct procedures. A transceiver sub assembly and thermal imaging camera containing radioactive material were found amongst other stores items in a CHACON returned to the DDF. The required notification to stores personnel using a Dangerous Goods Note was not carried out.	Personnel Related Event	C	This NSER received RCA investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. 06/08 was the third in a series of NSERs of a very similar nature in a short space of time. As such they were investigated collectively to determine the root cause. A repeat occurrence has not been reported in recent months.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
07/08	16-Feb-07	Failure to correctly notify the Duty Health Physics PAG member of the requirement to attend an out of hours PAG meeting. HP coverage at the PAG meeting was maintained when an alternative HP PAG member was called and requested to attend the PAG meeting at short notice.	Work Control Related Event & Personnel Related Event	D	This NSER received trend investigation, the Part 4 was endorsed at the 09/08 meeting of the SERC. To prevent a repeat occurrence, a review of the process to provide out of hours coverage was undertaken and corrective training issued to appropriate staff.
08/08	26-Feb-07	A submarine conducted a Steam Generator de-ox fill without completing all of the required Pre-Requisite steps of the associated Nuclear Procedure.	Work Control Related Event	D	This NSER received a trend investigation supported by an Incident Report being raised by the submarine. The Part 4 was endorsed at the 11/08 meeting of the SERC. The recommendations include a review of the philosophy for the nuclear procedure and reminder issued to Ship's Staff regarding appropriate control of nuclear procedures.
09/08	26-Feb-08	During rounds of the waterfront TXB jetties a Gooseneck was found stored in the effluent hut located on 7 Wharf in contravention of waterfront procedures.	Work Control Related Event & Personnel Related Event	C	This NSER received RCA investigation as the incorrect stowage of goosenecks is a recurring event theme at the TXB and has radiological implications. The Part 4 was endorsed at the 08/08 meeting of the SERC. Preventative measures included an additional Pre-Requisite to the associated nuclear procedure, and re-briefing to HPG supervisors stressing the need for procedural adherence.
10/08	26-Feb-08	Breach of local procedures and Regulation 34 of IRR 99 - Duties of employees. During the period Nov 07 to Feb 08 a radiation worker repeatedly failed to wear dosimetry when undertaking work within the Defiance Facility radiologically controlled area. Initial estimates indicate that the total amount of radiation dose received by the individual (but not recorded) during this period to be approximately 10 microSv.	Work Control Related Event & Personnel Related Event	B	This Cat B NSER received a RCA investigation. The Part 4 was endorsed at the 05/08 meeting of the SERC. The actions taken to prevent recurrence included additional formalised training for radiation workers and an audit of the process relating to controlled areas with additional barrier control measures introduced. There has been no repeat occurrence of this type of event.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
11/08	27-Feb-08	Failure to hold records for submarine power operation surveys during period Nov 07 – Feb 08.	Work Control Related Event	C	This NSER received RCA investigation, the Part 4 being endorsed at the 06/08 meeting of the SERC. The actions taken included a change to the applicable nuclear procedures and supporting documentation, an OPDOC 1 amend to support submarine operating procedures and the introduction of submarine control tables to forecast and notify workers of planned power operations.
12/08	27-Feb-08	Radioactive stores item returned by a non base port surface Ship to the DDF - W024 with out following correct procedures. A thermal imaging camera containing radioactive material was found amongst other stores items returned to the DDF. The required notification to stores personnel using a Dangerous Goods Note was not carried out.	Personnel Related Event	C	This NSER received RCA investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. 12/08 was the fourth in a series of NSERs of a very similar nature in a short space of time. As such they were investigated collectively to determine the root cause. A repeat occurrence has not been reported in recent months.
13/08	27-Feb-08	Radioactive stores items returned from CTCRM Lympstone to the DDF - W024 with out following correct procedures. A box of 100 compasses were brought down from Lympstone and dropped off at the returns store with out any notification. The required notification to stores personnel using a Dangerous Goods Note was not carried out.	Work Control Related Event & Personnel Related Event	C	This NSER received RCA investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. 13/08 was the fifth in a series of NSERs of a very similar nature in a short space of time. As such they were investigated collectively to determine the root cause. A repeat occurrence has not been reported in recent months.
14/08	04-Mar-08	Whilst conducting DG Ranging a submarine suffered steering gear miss alignment, subsequently a Full Astern telegraph order was passed and acknowledged. The resulting operator induced plant transient resulted in a reactor partial scram on power/flow. Prior to the scram the plant was in the Normal Sea Going Line Up (NESTLE) with all parameters nominal. Fast recovery commenced at immediately and the NESTLE was swiftly achieved .	Equipment Related Event & Personnel Related Event	C	This NSERs received trend investigation and is supported by an Incident Report raised by the submarine. Immediate actions included appropriate onboard training and Lessons Learnt being issued to other submarine operators and for consideration by FOST.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
15/08	07-Mar-08	For a period of six months (ending in Feb 08) the TXB organisation operated without a Radiation Protection Supervisor for 7W, 8W(N), 8W(S) and 9W Effluent Huts. An RPS is required to be appointed by the TXB organisation in order to secure compliance with Reg 17 of the IRRs and Naval Base Radiation Protection Standing Orders.	Work Control Related Event	B	This Cat B NSER received RCA investigation, the Part 4 was endorsed at the 11/08 meeting of the SERC. Immediate actions included the provision of an RPS from HPG(W) to fulfil the role until the TXB could appoint a SQEP.
16/08	14-Mar-08	Radioactive stores items returned from a surface Ship to the DDF - W024 with out following correct procedures. A thermal imaging camera containing radioactive material and a smoke detector assembly, Stock No. 0656/2516860, were found amongst other stores items in a CHACON returned to the DDF. The required notification to stores personnel using a Dangerous Goods Note was not carried out. This was a second failing by the same unit despite being warned of the offence on the first occasion.	Personnel Related Event	C	This NSER received RCA investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. 16/08 was the sixth in a series of NSERs of a very similar nature in a short space of time. As such they were investigated collectively to determine the root cause. A repeat occurrence has not been reported in recent months.
17/08	01-Apr-08	The contractor failed to complete 3 monthly maintenance due on the air conditioning system at Grenville Block Commcen within the required Periodicity Tolerance Band.	Work Control Related Event	D	This NSER received trend investigation, the Part 4 was endorsed at the 09/08 meeting of the SERC. The contractor were reminded of the implications of not completing maintenance on nuclear implicated assets. NSSM now employ a method to effect greater supervision of contractors. There has been no repeat occurrence from this contractor.
18/08	15-Mar-08	Watchbill arrangements did not provide SQEP Forward Control Point Controllers in accordance with DEVNUSAFE / NBQ 52.	Work Control Related Event	D	This NSER received a trend investigation, the Part 4 was endorsed at the 09/08 meeting of the SERC. Immediate actions including the placement of SQEP persons to the watchbill, supported shortly after by appropriate training and re-issue of a watchbill consisting of SQEP duty men.
19/08	16-Mar-08	A conventional submarine moved berths within the TXB to facilitate the vessels work package. This was undertaken without the NSCC quorum being informed of the change needed to the extant	Work Control Related Event	D	This NSER received a trend investigation, the Part 4 was endorsed at the 08/08 meeting of the SERC. Immediate actions were the issue of an approved berthing plan.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
		berthing plan.			The recommendations identified the need to review NBQ 53.
20/08	29-Apr-08	A number of MESM Rigs that had been used during the RAMP were returned to MESM double bagged by Babcock Marine HP on a monitoring clearance certificate. The MESM supervisor, realising that these rigs had been used in controlled areas, asked the HPG(W) to monitor the rigs that had been returned. During the monitoring process contamination was detected on two of the five double bagged items.	Personnel Related Event	C	This NSER received a RCA investigation, the Part 4 was endorsed at the 11/08 meeting of the SERC. The recommendations called for a review of the controlling procedure and an internal review of completed controlling documentation. The questioning nature of the MESM supervisor was applauded.
21/08	01-May-08	Failure to provide an AC 36 submission within the required timescale for due process through the Site Safety Committee, prior to a change in the safety management arrangements being undertaken.	Work Control Related Event	D	This NSER required an RCA investigation, the findings from which were endorsed at the 10/08 meeting of the SERC. 1 of the 4 recommendations remains outstanding which is to review and amend the appropriate business procedures / guidance notes. Anticipated completion is early 2009.
22/08	01-May-08	Failure to appoint QHM and D/QHM as Duly Authorised Persons when taking up respective duties.	Work Control Related Event & Personnel Related Event	D	This NSER received a trend investigation, the Part 4 was endorsed at the 10/08 meeting of the SERC. Immediate actions included the issue of appropriate letters. The investigation recommendations required amendments to the associated guidance notes and a suitable bring up system to be implemented to review current incumbents.
23/08	02-May-08	During diving operations on a submarine berthed at the TXB, it became apparent that the Permission to Dive documentation as required by NB BP68 had not been correctly completed. The Diving Supervisor had failed to attend HPG(W) to receive the mandatory Health Physics Diving Brief from the Shift Supervisor in accordance with SFM QA163E prior to allowing the diving team into the water.	Work Control Related Event & Personnel Related Event	D	This NSER received a trend investigation, the Part 4 was endorsed at the 08/08 meeting of the SERC. Divers were immediately withdrawn from the water and correct briefs issued. The recommendations have called for a revision to the issue of dosimetry to divers. Diving units and Ship's Staff have received reminders on the correct procedure to permit diving operations.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
24/08	12-Jun-08	The inappropriate movement of radioactive sources off the Naval Base. EMHQ staff permitted an external contractor to remove a vehicle off-site for maintenance complete with a TRAMS unit that contained 3 radioactive sources. Throughout the time off-site the sources were in a locked compartment at all times to which the contractor did not have access and as such there was no potential for radiation exposure to the personnel involved or any member of the public.	Work Control Related Event & Personnel Related Event	C	This NSER received an RCA investigation, the Part 3 was endorsed at the 08/08 meeting of the SERC. Once realised the vehicle was returned to the Naval Base within the hour. The Company investigated this event and provided a report to support this NSER. Recommendations include training for EMHQ Staff and the implementation of a release certificate to release vehicles from Site. The Part 4 is expected to be endorsed early 2009.
25/08	20-Jun-08	Failure to of EMHQ Staff notify DRDL or Naval Base event reporting systems of the occurrence at NSER 24/08.	Personnel Related Event	C	This NSER received a trend investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. The required Staff training has been implemented.
26/08	30-Jun-08	Two Used Fuel Flasks (UFFs) were consigned from the Naval Base to Sellafield Site. On arrival it was observed that the permanently fixed package identification plate on UFF0003 had been modified. The metal plate is a requirement of the Transport Regulations and is welded on to the UFF itself. For this particular container an additional metal plate had been fixed over the existing information detailing incorrect information. This meant that the consignment took place in contravention of the transport regulations.	Personnel Related Event	C	This NSER received a trend investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. The recommendations included amendments to the desk top instructions for UFF consignment and identified the need to ensure a photographic record is maintained of the identification plates before leaving the Devonport Site.
27/08	30-Jun-08	Part of the procedure for the consignment of UFF is to set up a specific NABUST for the movement. EMHQ acts as the alerting authority for the NABUST in the event of an emergency, but on this occasion the instruction was not distributed to them in advance of the consignment. Therefore, even though EMHQ have general instructions and alerting procedures for used fuel accidents, there could have been a delay in establishing and deploying the specific NABUST on this occasion.	Work Control Related Event	C	This NSER received a trend investigation, the recommendations were endorsed at the 06/08 meeting of the SERC and required a desktop instruction to be produced to ensure the NABUST can be raised properly, to support all future moves of this type. The Part 4 is expected to be endorsed early 2009.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
28/08	02-Jul-08	The 7 Wharf Dockside crane damaged an AC Shore supply cable, that had been prepared and laid out for connection to a submarine, when the dockside crane was traversed to a new position during the submarine berthing process.	Personnel Related Event	D	The NSER received a trend investigation, the Part 4 was endorsed at the 09/08 meeting of the SERC. This NSER in conjunction with NSER 32/08 prompted a joint observations audit into lifting operations at the TXB, the findings of which were reported to the SERC but identified no major concerns with regards to the observed lifting operations.
29/08	02-Jul-08	A submarine suffered a loss of the Port MG due to equipment failure whilst the Stbd MG was released in accordance with the logic. This placed the submarine in an abnormal line up with regards to the release of both MGs and her AC shore supply arrangements.	Equipment Related Event	D	This NSER received a trend investigations, the Part 4 was endorsed at the 07/08 meeting of the SERC. It was determined that the actions taken by the submarine and PAG were wholly appropriate with nil recommendations to make.
30/08	03-Jul-08	A container marked with radioactive warning tape was left in an unauthorised place at the HPG(W).	Work Control Related Event & Personnel Related Event	C	This NSER received a RCA investigation, the recommendations of the investigation were endorsed at the 09/08 meeting of the SERC and included the requirements for HPG Foreman to be in attendance at all times at the Waterfront, and for training to be issued to HP and submarine ME Staff. The Part 4 for this NSER is anticipated early 2009.
31/08	09-Jul-08	A non base port submarine de-energised AC Shore Supply in accordance with SOP's rather than in accordance with the Nuclear Procedure issued for the task.	Work Control Related Event & Personnel Related Event	C	This NSER received a trend investigation and is supported by a NRPA Event Report. The Part 4 was endorsed at the 01/09 meeting of the SERC. A reminder has been served to Cat A watchkeepers regarding adherence to nuclear procedures / logics.
32/08	11-Jul-08	Whilst carrying out shore services connection activities, the 7W crane was being piloted when it collided with a DC Shore Supply CCB door. The CCB door is hinged at the top and in the 90 degrees open position it protrudes out into the path of the crane. There was no damage to the crane or the internal workings of the CCB. The door had to be replaced	Equipment Related Event & Personnel Related Event	D	This NSER received a trend investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC with minor design changes required to the CCB door and improvements to the control of work identified for implementation. This NSER in conjunction with 28/08 prompted a joint observations audit into lifting operations at

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
					the TXB.
33/08	30-Jul-08	Fire on a submarine No.2 Port Shore Supply hull insert resulting in an unplanned loss of AC Shore Supply.	Equipment Related Event	D	This NSER received a trend investigation, the recommendations were endorsed at the 07/08 meeting of the SERC and included to need to raise a S2022a to identify the failing to other users. The Part 4 for this NSER is anticipated early 2009.
34/08	30-Jul-08	Babcock Marine Estates failed to attend an urgent PAG meeting convened to determine electrical shore supply arrangements required for a submarine that had suffered a fire to No.2 Port Hull insert.	Personnel Related Event	D	This NSER received a trend investigation, the Part 4 was endorsed at the 09/08 meeting of the SERC. Babcock Marine has now provided suitable assurance that suitable SQEP is available to support future meetings.
35/08	30-Jul-08	Critical radiation survey not completed for a Submarine on the Tidal X-berth when going from PSA to PSA critical in accordance with FP18-01-126(3) and NP 97-009 Issue 42.	Personnel Related Event	C	This NSER received an RCA investigation, the recommendations were endorsed at the 09/08 meeting of the SERC and included the need for HPG Foreman attendance during these operations and re-briefs being issued to Ship's Staff and HP Staff. This NSER is also supported by an NRPA Event Report which looks specifically at the submarine shortfalls. The Part 4 for this NSER is due in Apr 09.
36/08	21-Aug-08	Health Physics Waterfront offices were left unmanned for a period (yet to be defined). This meant that the direct line and HP supervisor phone would not have been unanswered during this period. There was therefore no method for the submarines at the TXB to have access to direct and immediate advice in the event of any unplanned evolutions. There was, in addition, no mechanism for ensuring that the primary response vehicle could be deployed within mandated timescales in the unlikely event of a reactor	Work Control Related Event	C	This NSER received a RCA investigation, the interim recommendations were endorsed at the 10/08 meeting of the SERC but await formal response from Babcock Marine. The SERC have requested a response, and recorded nil received as a failing against COM 1 KPI. Immediate actions include a review of the manning provision by NBRSD and have requested that the minimum manning requirement to satisfy operational NARO arrangements be

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
		accident.			met by the Company. Meetings are currently being held to agree what the correct level of service provision. Due to the problems surrounding this NSER, The SERC Chairman requests regular updates from all parties at the SERC meetings.
37/08	21-Aug-08	A length of clear reinforced polythene hose, marked with 'red' radioactive marking tape (used by Babcock Marine), was found in a general use, non-active skip by a member of the TLP. The presence of the tape suggests a statutory breach of Reg 28 of IRR 99, RSA 93 and of local procedure FP18-01-126(9)	Work Control Related Event & Personnel Related Event	C	This NSER received an RCA investigation, the recommendations from which were endorsed at the 11/08 meeting of the SERC and included changes to the managements of components used on primary equipment, including Active Jet Vacs, and training to users of radioactive tape. This item is also to feature on the next Lessons Learnt Newsletter. The Part 4 is due during Mar 09.
38/08	21-Aug-08	A transfer of liquid radioactive waste from HMNB(D) to DRDL (mobile jet vac bowser from 7 Wharf to the Nuclear Utilities Building) was conducted in a manner not compliant with Environment Agency (EA) and HMNB(D) requirements. Initial investigation indicated that five other transfers were conducted over a 12 month period were also potentially non compliant (not fully documented and accounted for as a formal waste transfer between the sites - as required by the EA Approval certificate). Again - initial investigation indicated that the quantity of radioactive material involved in the transfers was relatively small and as such annual waste disposal limits set by the EA were not exceeded.	Work Control Related Event & Personnel Related Event	B	This Cat B NSER received a RCA investigation and was supported by an independent report undertaken by SHP RPA. The report and proposed recommendations were endorsed at the 10/08 meeting of the SERC. The recommendations called for a change to procedural arrangements, record amendments and for suitable training to be implemented. All recommendations have now been implemented and the Part 4 awaits endorsement at the next meeting of the SERC.
39/08	11-Sep-08	A submarine used an unauthorised procedure to carry out a hydrostatic test. Although the procedure was marked up as Co-ord copy, there was no top sheet, release sheet or Co-ord signature sheet, it had not been sat by the PAG and did not feature on the current issue of the	Work Control Related Event & Personnel Related Event	C	This NSER will receive a trend investigation. The Part 2 is due for submission early 2009. The submission was delayed until details of the circumstances surrounding this event were released by the submarine, which deployed immediately post event. An NRPA

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
		submarine's nuclear logic.			Event Report has subsequently been raised by the submarine and will support this NSER.
40/08	11-Sep-08	During the post work review of a nuclear procedure it was noted that a number of steps had been signed by a person who did not fulfil the role identified in the procedure to sign for those steps.	Personnel Related Event	C	This NSER received a trend investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. The recommendations required a review of the nuclear procedure which has now been amended to support the correct signatory SQEPness.
41/08	15-Sep-08	8 radioactive check sources from Babcock Marine were accepted in to the source stores in the Defiance Building. This meant that the local control limits set for this facility were breached. Note however that the Naval Base Site limits that require notification to the EA were not breached. The fact that these sources had already been transferred across came to light some time later when NBRSD asked about the potential transfer of an additional source to Defiance Building. The sources were transferred across to Defiance by the Babcock Marine Nucleonic Calibration Facility (NCF) for temporary storage during the removal of the SRC Re-fuelling Crane.	Work Control Related Event	C	This NSER received a RCA investigation, the recommendations were endorsed at the 10/08 meeting of the SERC with implementation required by Apr 09. The recommendations require an addition to the training task books, and for the holding limits to be published adjacent to the store access point. Local orders are also to be produced by the RPS.
42/08	15-Sep-08	Maintenance of 8 Wharf North and South DSU fell outside of Periodicity Tolerance Band without the relevant concessions being raised and approved.	Personnel Related Event	D	This NSER received a trend investigation, the recommendations were endorsed at the 09/08 meeting of the SERC and included the need for NSSM to meet with FSGM (TXB) to review forthcoming maintenance requirements and the responsibilities of TXB with regards to nuclear asset maintenance.

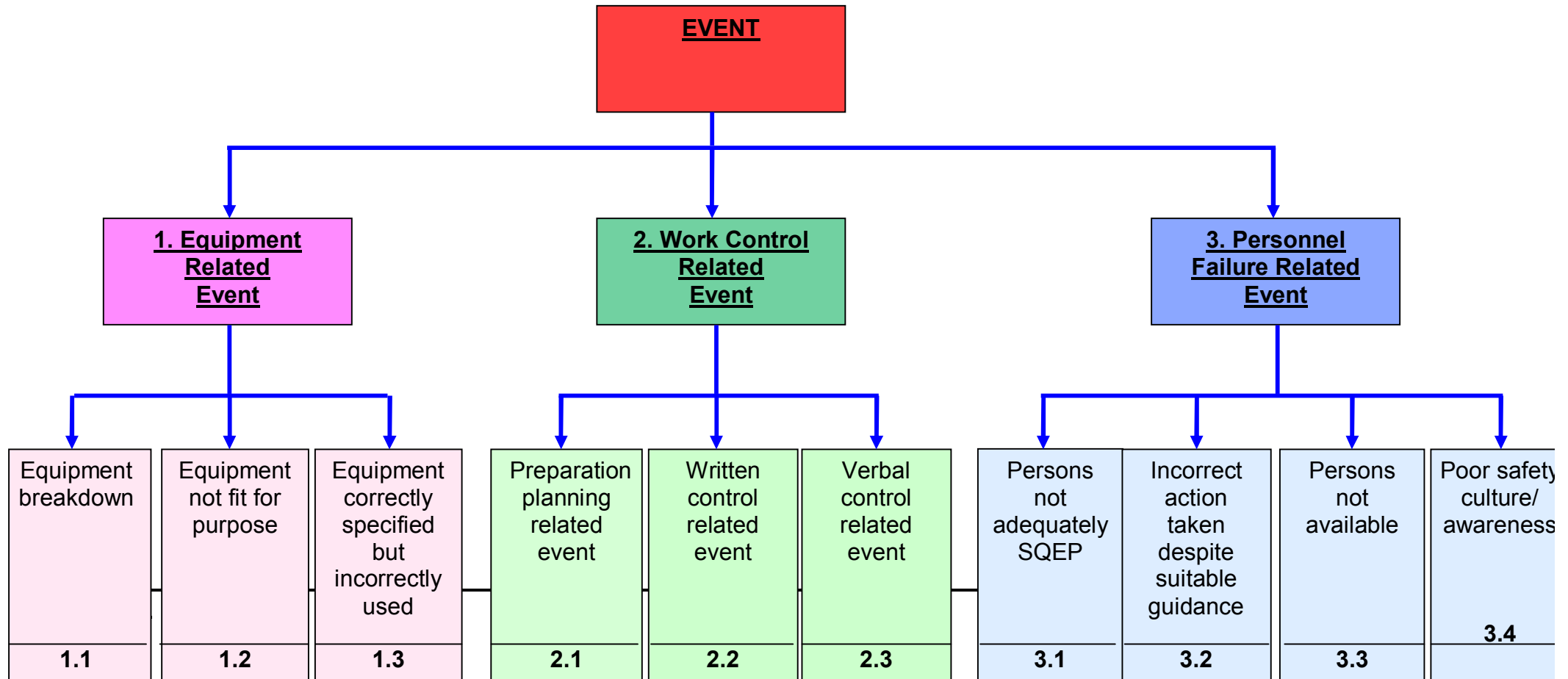
NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
43/08	22-Sep-08	Failure to carry out Functional Testing of Portable Instruments in accordance with FP18-17-171 and Controlled Area Barrier Checks in accordance with FP18-01-126(3).	Work Control Related Event & Personnel Related Event	C	This NSER received RCA investigation, the recommendations were endorsed at the 10/08 meeting of the SERC and identified the need for improved presence and greater supervision from HP Foremen at the waterfront. Also a requirement has been identified to conduct daily audits to ensure the functional tests have been completed. The Part 4 is required by May 09.
44/08	21-Sep-08	A submarine suffered a non planned full scram, whilst alongside conducting plant proving.	Personnel Related Event	C	This NSER received a trend investigation and is being supported by a NRPA Event Report. The NSER recommendations were endorsed at the 09/08 meeting of the SERC. The submarine conducted the correct EOP action. All subsequent actions involving the submarine and Naval Base were deemed correct. The Part 4 is required by Apr 09.
45/08	26-Sep-08	Several EPDs became wetted whilst in dry bags during independent diving operations at the TXB.	Equipment Related Event & Work Control Related Event & Personnel Related Event	D	This NSER received an RCA investigation, the recommendations from which were endorsed at the 09/08 meeting of the SERC. The recommendations are such that arrangements are to be put in place to ensure waterproof "Aqua packs" are available for use at the waterfront. The Part 4 is due by Apr 09.
46/08	03-Oct-08	On 03 Oct 08, whilst undertaking a routine radiation and contamination survey of the MESM Pressure Test Shop an absolute filter and attached hosing was found on a work bench and found to be contaminated, emitting approximately 10uSv/hr.	Personnel Related Event	C	This NSER received an RCA investigation, the recommendations from which were endorsed at the 11/08 meeting of the SERC and identified the need to audit current holdings and remind Staff of the correct process. The Part 4 is required by Apr 09.
47/08	13-Oct-08	An item of contaminated pipework was required to be transferred from North Lock Exit Monitoring Point to the Defiance Building Active Store. This transfer was carried out without the appropriate documentation and incorrect level of packaging i.e. only single bagged rather than double bagged.	Personnel Related Event	D	This NSER received a trend investigation, the recommendations from which were endorsed at the 10/08 meeting of the SERC and required a re-briefing to all Staff associated with the process. The Part 4 is required by May 09.

NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
48/08	14-Oct-08	Failure to notify PAG members that a submarine in PSA was experiencing ongoing difficulties with an MG defect. When briefed PAG members felt they should have been told sooner and that the submarine should have returned to PSB whilst seeking the cause of the defect.	Personnel Related Event	D	This NSER received a trend investigation, the recommendations of which were endorsed at the 11/08 meeting of the SERC. The recommendations called for reminders to be issued to Cat A submariners and the PAG Chairman. The Part 4 is required by May 09.
49/08	07-Nov-08	Whilst conducting a primary plant discharge, the hose between the submarine and the PET on the jetty split discharging liquid from the submarine to the environment. One member of Ship's Company came into contact with the spray from the hose.	Equipment Related Event & Work Control Related Event & Personnel Related Event	B	This Cat B NSER required immediate notification of signalled incident, Ministerial reporting and was investigated as an RCA. The investigation team was lead by BNSO and comprised members from both Sites. The Final Report was issued Jan 09. All of the recommendations are being taken forward by a Working Group led by DCBS(N). The recommendations were endorsed at the 01/09 meeting of the SERC. The Part 4 is due now that the working group has taken responsibility of recommendation implementation.
50/08	02-Aug-08	Nuclear Procedure non compliance whilst conducting rod drops, NP25-060(T).	Work Control Related Event & Personnel Related Event	D	This NSER received a trend investigation and is supported by an NRPA Event Report. The recommendations were endorsed at the 11/08 meeting of the SERC and calls for amendments to the parent NP. The Part 4 is due May 09.
51/08	09-Nov-08	Prior to a submarine sailing the standby procedure was commenced to disconnect PCD. However, the wrong nuclear procedure was taken to the submarine by the Shift Supervisor on Issue from the Control Engineer and was completed up to step F1.4. The procedure was halted once it was realised that it was the procedure was incorrect.	Personnel Related Event	C	This NSER received a trend investigation, the Part 4 was endorsed at the 01/09 meeting of the SERC. The recommendations required a review and subsequent retraction of NP's issued for use under standby conditions.

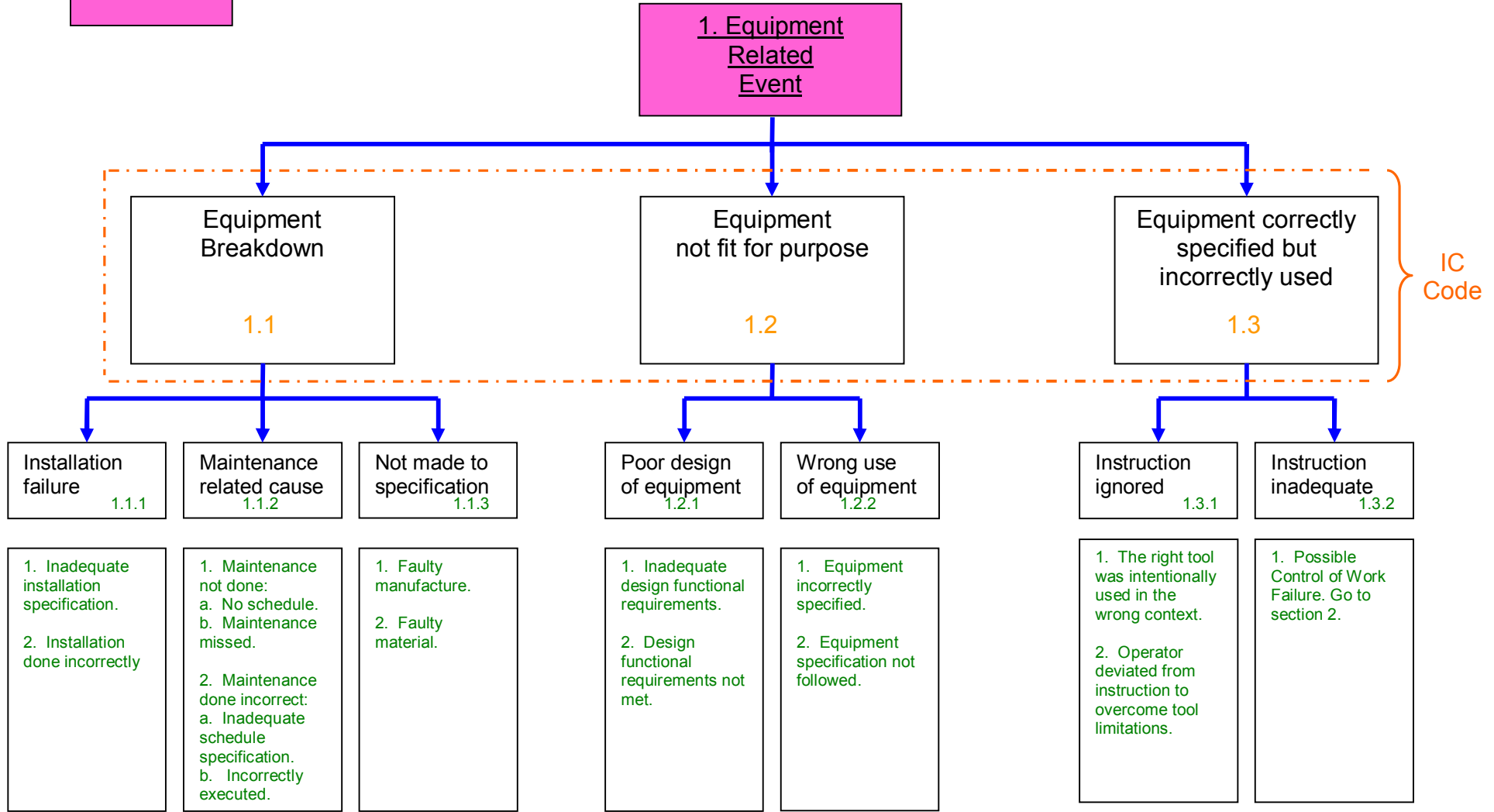
NSER number	Reported Date	Details	Cause	Event Consequence Code A-D	Remarks ¹⁰
52/08	11-Nov-08	Maintenance of 7 Wharf North DSU was conducted outside of the Periodicity Tolerance Band without the relevant concession being raised and approved.	Personnel Related Event	D	This NSER received a trend investigation, the recommendations of which were endorsed at the 11/08 meeting of the SERC. The investigation served a reminder to the TXBFO highlighting the responsibility to either release equipment for maintenance or to raise a concession. The Part 4 is due May 09.
53/08	04-Dec-08	Significant fluctuations in AC Shore Supply voltage and frequency lead to submarines berthed at the TXB facility isolating shore supply. There followed a protracted period before satisfactory AC Shore Supplies were restored.	Equipment Related Event & Work Control Related Event & Personnel Related Event	C	This NSER required a RCA investigation, which is being undertaken jointly by MOD and The Company. The investigation report is expected early 2009 to support the NSER Part 3. Once endorsed, the Part 4 is expected 6 months later. Aside from the technical issues, the SERC is primarily concerned with the break down in communications reported by submarines that experienced the loss of supplies.
54/08	10-Dec-08	Following the disconnection of the PCD hose prior to cold move, SSHP were not available to correctly package, label and hand custody of the generated RA waste to attending HPG staff in accordance with NP 98-073 and FP18-01-126 (9). HPG staff moved incorrectly packaged and unlabelled waste to Defiance AMF, retaining safe control of it, but failing to package or store it correctly or inform the RPS; again, in accordance with FP18-01-126(9).	Personnel Related Event	C	This NSER required a RCA investigation which is currently underway. It is expected that the recommendations will be submitted for endorsement early 2009. The Part 4 will be required 6 months later. It is anticipated that a review to the associated documentation will be required as will re-briefing to staff involved.
55/08	22-Dec-08	A portable oxygen monitoring unit was monitored out of the Reactor Compartment of a submarine and then transferred across to the project offices in Defiance Building in preparation for its return to the hire company it belongs to. There was no paperwork issued (Monitoring Certificate) to confirm the radiological status of the instrument prior to it being sent off-site.	Personnel Related Event	D	This NSER requires trend investigation. The recommendations are due to be presented to the SERC early 2009. Event close out is anticipated mid to late 2009.

EVENT CAUSE CLASSIFICATION CODE TREES

Nuclear Site Event Reporting Immediate Cause (IC) Code Determination Diagram

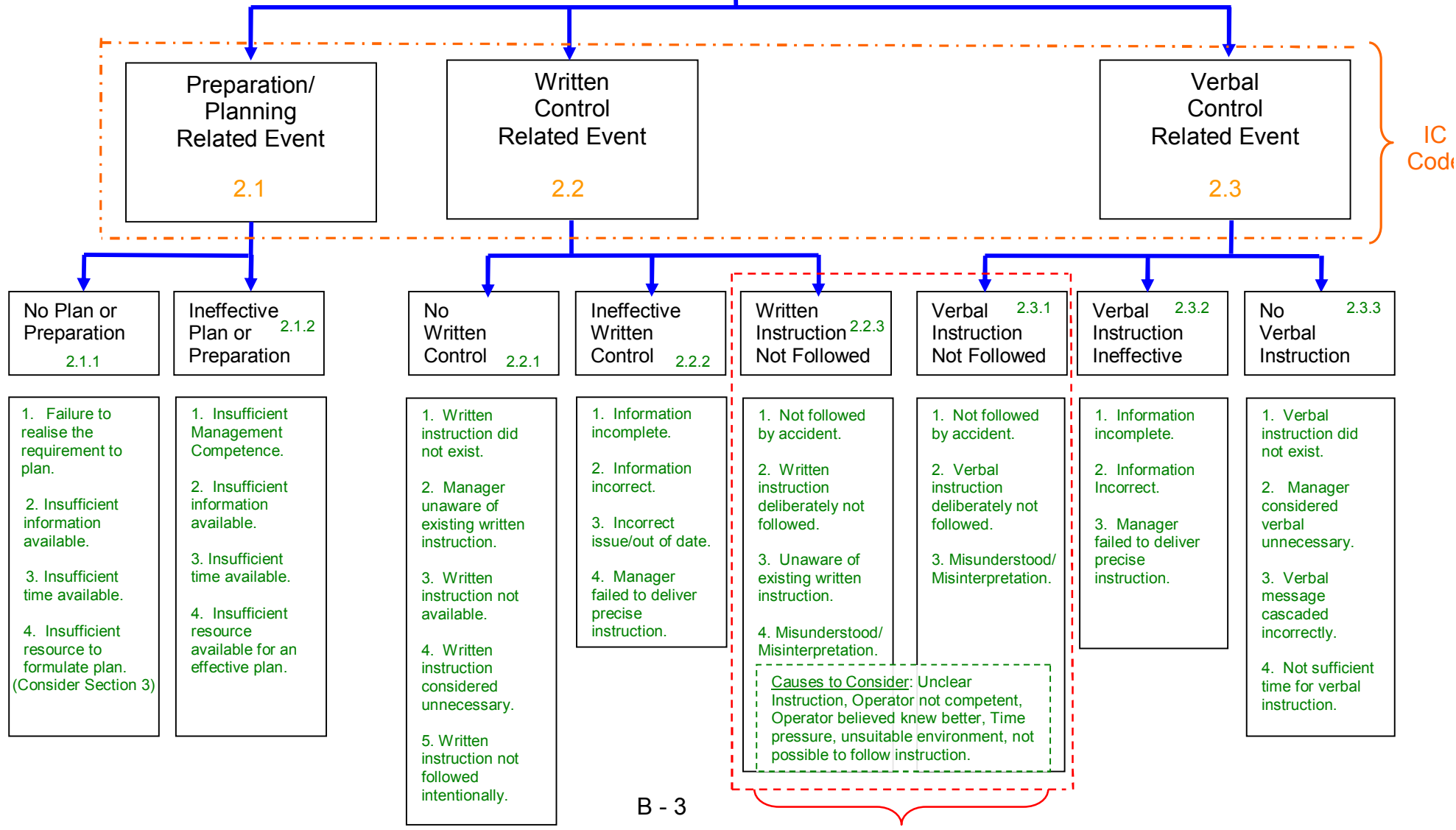


Section 1



Section 2

2. Work Control Related Event



Section 3

3. Personnel Failure Related Event

