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ANNEX A TO
REPORT OF HMS ANTELOPE BOI
DATED 11 AUGUST 1982

OFFICE OF
COMMANDER-IN-CHIEF, FLEET
NORTHWOOD
MIDDLESEX
HA6 3HP
Northwood 26161 Ext. 7157
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00520/4.X

See Distribution

11 June 82

LOSS OF HMS ANTELOPE - BOARD OF INQUIRY

1. You are to assemble in HMS DRAKE at 0900 on 28 June 1982 as a board of inquiry whereof 'XXXXXXXXXXXXXXXXXXXXX Royal Navy, is to be the President and hold a full and careful investigation into the circumstances leading to and attending the disablement and later sinking of HMS ANTELOPE under the command of XXXXXXXXXXXXXXXXXXXXXXXX Royal Navy, between 22 and 25 May 1982, calling before you such witnesses as are necessary and reasonably available to enable you to form correct conclusions. S44
S38
2. Specifically you should ascertain and identify by questioning those involved and other available witnesses the matters listed in Annex A. Although the matters in Annex A are significant, they are not intended to be exhaustive and all other areas of inquiry deemed pertinent should be scrutinized. S44
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3. The Commanding Officer HMS ANTELOPE's preliminary report is at Annex B.
4. Should any information come to light which the President considers should be communicated urgently to me or to any member of my staff, such information is to be sent by any appropriate manner in anticipation of completion of the inquiry.
5. A list of those on board HMS ANTELOPE on 23 May 1982 is at Annex C.
6. The inquiry is to be conducted in accordance with the directions contained in QRRN Chapter 23, Appendix 38, and FLAGO 1619.
7. The report of the board is to be accompanied by minutes of evidence, or statements taken, and is to contain an expression of opinion on the degrees of adequacy of personnel, material and procedures.
8. The report is to be signed by each member of the board and is to be forwarded in original and unstapled form. The President is to deliver his report personally and brief me on the principal findings.
9. Shorthand writers will be detailed from the offices of the Commander-in-Chief Fleet, Flag Officer Plymouth and Flag Officer Portsmouth.

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Admiral

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SPECIMEN MATTERS FOR INVESTIGATION

Operational

1. The Task Group Commander's assessment of the threat before the attack.
2. The Task Group Commander's intentions and policies in force at the time of the attack.
3. The Task Group communications plan before the attack.
4. The disposition of the Task Group.
5. The degree of readiness of the Task Group, and the ship, before, during, and after the attack.
6. The ship's OPDEF state immediately before the attack.
7. The manning states of operations teams, weapons, propulsion and generation systems, and the locations of personnel.
8. The damage control state and condition immediately before, and at the time of, the attack.
9. The nature and sequence of events before, during and after the attack.
10. The use of countermeasures, including chaff, against the attack.
11. Whether, and how, the ship's weapon systems and sensors were used.

Design/Maintenance

12. The adequacy of the Type 21's weapon and sensor fit and its ability to react to the threat.
13. The adequacy of the damage control and fire fighting organisation, procedures, equipment and training.
14. Any problems arising from the design and layout of Type 21 destroyers and their machinery and equipment, with particular regard to any hazardous materials.
15. The degree of readiness of, and confidence in, all weapons, sensors and communication equipments, including the degree to which standard operator checks and performance servicing logs were used.
16. Any shortcomings in machinery operating procedures.
17. The influence, if any, of the material state of the ship on events.

Explosives Ordnance Disposal

18. Narrative of actions relative to the UXB from time of bomb impact until arrival of EOD Team on board.
19. Narrative of actions by EOD Team from their arrival on board, including the advice to the Command on the implications of the Render-Safe Procedure (RSP) to be attempted.
20. Considerations which influenced RSP selected by EOD Team, and alternative measures considered.

Environmental

21. The environmental conditions and observed effect on air picture compilation.
22. Any evidence of stress affecting the ship's company before the attack.
23. Any evidence of efficiency being reduced because of seasickness, shortage of sleep, or length of time closed up at action and defence stations, or any other cause.

Training

24. The adequacy or otherwise of individual training and preparation of personnel.
25. The adequacy or otherwise of whole-ship training and preparation of personnel.

Administrative/Medical

26. Whether those trained in First Aid were adequate in numbers and in expertise.
27. Whether First Aid parties were closed up.
28. Whether the emergency operating station was rigged.
29. Whether access to the Sick Bay and First Aid stations was affected by damage.
30. Whether any casualties were treated.
31. Whether any clinical diagnoses of causes of death were established.
32. Whether man-made fibres rather than cotton were worn by personnel, and whether these fibres contributed to burns.
33. Any evidence of toxic fumes arising from electrical cable insulation, plastics, cushions, etc.

Rescue and Salvage

34. Brief narrative of immediate rescue assistance by other ships to HMS ANTELOPE and her personnel.
35. Brief narrative of taking in tow, and eventual sinking.
36. Summary of equipment, materials, etc salvaged from the ship before she sank.

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SER NO 269

HMS ANTELOPE Board of Inquiry
HMS DRAKE
Plymouth
Devon

Commander-in-Chief, Fleet
Northwood
Middlesex
HA6 3 HP

11 August 1982

Sir,

1. We have the honour to submit our report into the circumstances leading to and attending the disablement and later sinking of Her Majesty's Ship ANTELOPE under the Command of XXXXXXXXXXXXXXXXXXXX Royal Navy, on 23rd May 1982 in San Carlos Water, Falkland Islands.

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Background

2. HMS ANTELOPE's last BOST was in 1980, a COST in 1981 was reduced to four days before deployment to the West Indies. This coincided with a change of Command and key officers. The programme offered limited opportunity for training and unsatisfactory results in AAW gave cause for concern, particularly since the WSA4 system was below SAT standard throughout 1981. XXXXXXXXXXXX proposed that the ship undertake a BOST in place of COST in 1982; this was rejected on operational grounds. During the first sea week of COST ANTELOPE was detached for Operation CORPORATE: representations by the Staffs of FOF2 and FOST that the ship should not be first choice were not entertained because of the gravity of the situation.

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The Disablement and Sinking of HMS ANTELOPE

- 3. Events leading to the sinking of ANTELOPE occurred in four phases;
 - a. Operations in San Carlos Water.
 - b. Preparations for Explosive Ordnance Disposal.
 - c. Explosive Ordnance Disposal.
 - d. Damage Control and Firefighting after the explosion.

Operations in San Carlos Water

4. Warning Following duties at Ascension Island and passage ANTELOPE arrived in the TEZ 21 May. She received twelve hours notice for tasks which would take her into San Carlos Water and her first action. On 22 May XXXXXXXX XXXX visited the ship and advised that visual control of weapons was essential given the poor radar performance close to land and that the Command arrangements should be modified accordingly. He was struck by the considerable improvements he saw since last in ANTELOPE but also by their relative inexperience. Some changes to improve the visual gunnery control

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LIST OF ANNEXES

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Annex B	Summary of Conclusions and Recommendations
Annex C	Chronology of Events
Annex D	Background
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Annex G	Preparations for OPERATION CORPORATE
Annex H	Passage to the Total Exclusion Zone (TEZ) and Operations in the Amphibious Operations Area (AOA)
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Annex N	Post Explosion
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Annexes:

- A. Specimen Matters for Investigation.
- B. The Commanding Officer HMS ANTELOPE's Report dated 4 June 82.
- C. List of Personnel on board HMS ANTELOPE on 23 May 82.

Distribution:

XXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXX Royal Navy

XXXXXXXXXXXXXXXXXXXXX, Royal Navy

XXXXXXXXXXXXXXXXXXXXX MBE, Royal Navy

XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXX Royal Navy

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Information:

The Medical Officer-in-Charge
RN Hospital Plymouth (Annex A only)

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63. The Salt Water Systems in the forward and amidships section were not pressurised.
64. At least one generator was running and on load until the time the ship was abandoned.
65. No attempt was made to restore the pressure in the Salt Water Service.
66. Portable pumps were not used.
67. The Rover gas turbine was not stowed in a position readily accessible for use on the Flight Deck.
68. A co-ordinated attempt was not made to use firefighting assets in vessels alongside. A firefighting equipped tug was not present in the anchorage.
69. Ship fitted automatic or manually operated firefighting spraying arrangements with the exception of the starboard STWS tubes were not activated.
70. Manual operating positions of main machinery space CO2 drenching and foam inlet tubes were sited in, or adjacent to, the immediate damage area and could not be used.
71. In the absence of immediate countermeasures the development of the fire, fuelled by inflammable liquids readily available in the damaged machinery spaces, was rapid and spread out of control.

Rescue, Salvage and Sinking (Annex P)

72. The rescue of personnel was conducted swiftly and efficiently.
73. The presence of helicopters during firefighting operations caused communication difficulties on the Flight Deck.
74. Nothing was salvaged on the 23rd May beyond the content of the Captain's Safe.
75. HMS ANTELOPE sank in San Carlos Water at about midday on 24 May 1982.

Weapon System (Annex S)

76. Before arrival in AOA
 - a. GSA4 primary AA mode had been proved only rarely and the results were below average.
 - b. A GWS24 firing in primary mode (auto/auto) had not been achieved since the 1980 refit.
 - c. Maintainers and operators did not have confidence in the Radar 992R MTI modification.
 - d. A satisfactory Distant Object check was not achieved after the post DED trials.

- e. Extra 4.5" HE ammunition was stowed on the main magazine deck on locally manufactured wooden chocks. Only practice ammunition was stowed in the Gunbay.
- f. Suitable targets to assess the AA performance of weapon systems were not provided.
- g. Problems in setting up TVA2 video levels were not resolved.
- h. The GPMG could not be fitted in the Lynx satisfactorily.
- j. A Seacat was fired satisfactorily in manual but an emergency mode firing had not been attempted.
- k. Two 4.5 firings were carried out in emergency control.
- l. Radar performance checks were not conducted on passage because of EMCON restrictions.
- m. The movement of Sea Skua missiles from the magazine was difficult in a moderate sea state.
- n. Inadequacies with WSA4 operational programme Issue 06 were only resolved after entering the TEZ.

77. Operations in the AOA

- a. The ship entered the AOA with no significant weapon defects.
- b. The ship's land-locked position in action prevented the use of radar and weapons in primary modes.
- c. The 4.5" gun was fired in rifle mode. The gun safety switch opened on a number of occasions due to misalignment between gun and LAS.
- d. In action there was a 4.5" gun stoppage due to a phantom round.
- e. Loss of communications between the 4.5 Power Room and the Operations Room delayed gun stoppage diagnosis.
- f. One Seacat was not launched because the low angle firing limitations were not fully understood.
- g. One Seacat was not fired because safety orders were ambiguous.
- h. 20 mm gun stoppages occurred due to toppled rounds.
- j. Action damage repairs were carried out promptly.
- k. Emergency modes for 4.5" gun and Seacat remained available after action damage.
- l. WART was split into three to spread expertise in case of action damage.
- m. 4.5" gun and Seacat in emergency modes and secondary armament were inadequate defence against low level aircraft attacks.

Post Attack (Annex K)

15. That the effects of R22 from damaged refrigeration plant be promulgated.
16. That the causes of total power failure when TRUs were changed over be investigated.

Damage Control Preparations for EOD (Annex L)

17. That Fleet training requirements take account of Damage and Firefighting Countermeasures appropriate for EOD.

Explosive Ordnance Disposal (Annex M)

18. That when bomb disposal teams are called to assist ships dealing with unexploded ordnance, an extremely close liaison is maintained and ship hazards are discussed thoroughly with the team.
19. That procedures for the disposal of unexploded ordnance in HM Ships be authorised and promulgated. These should contain instructions as to which authorities should be consulted.
20. That guidance be promulgated on the damage likely to be caused in HM Ships when ordnance explodes on board.
21. That render safe procedures for United Kingdom ordnance be published.
22. That the use of a de-armor on tail pistols be investigated.

Post Explosion (Annex N)

23. That the overriding requirement to maintain an effective NBCD control organisation, particularly when primary positions become untenable, be emphasised during training.
24. That the provision of special firefighting-equipped vessels in amphibious anchorages be considered in future operations.
25. That alternative positions for the operation of main machinery space CO2 drenching systems be investigated.
26. That the provision of alternative positions for introducing foam into main machinery spaces be investigated.

Rescue, Salvage and Sinking (Annex P)

27. That instructions be promulgated concerning the preservation of important ships documents when a ship is liable to loss or sinking.

Damage Control (Annex R)

28. That training should include information on the likely effect of ordnance and magazine detonations.
29. That all personnel complete mandatory firefighting courses before joining ships.
30. That Firefighting Schools and Sea Training Staff continue to emphasise the importance of firefighting dress.
31. That alternative stowages for Rover gas turbine fire pumps be investigated.
32. That a second Rover gas turbine fire pump be provided in T21 frigates.
33. That sea stand-pipes should be provided on the upper deck in T21 frigates.
34. That positions on the upper deck for introducing foam and activating CO2 in the main machinery spaces be considered for T21 frigates.
35. That ships gyros are not co-located.
36. That easily combustible materials used in the construction of ships be reduced as far as possible.

Weapon Systems (Annex S)

37.
 - a. That GSA4 and GWS24 primary modes are proved satisfactorily before a ship proceeds to OST or is deployed.
 - b. That the unsatisfactory performance of TVA2 be investigated.
 - c. That a formal SAT standard be introduced for the Radar 992R MTI modification.
 - d. That radar operators be given practical training in the use of MTI.
 - e. That instructions be issued about the stowage of war outfits of 4.5" ammunition.
 - f. That the provision of a pilotless target suitable for assessing GSA4 AA performance be examined.
 - g. That Fleet Training Standards be established for the operation of the 4.5" gun and Seacat in emergency modes.
 - h. That the emergency control arrangements for 4.5" gun against low level aircraft be improved.
 - j. That the drill for a Seacat PED control low angle firing be exercised regularly.
 - k. That improvements be made to the range, firepower and destructive capability of secondary armament in Type 21 frigates.

