

E13 F



MINISTRY OF DEFENCE  
MAIN BUILDING WHITEHALL LONDON SW1A 2HA  
Telephone 01-218 2839 (Direct Dialling)  
01-218 9000 (Switchboard)

PERMANENT UNDER SECRETARY OF STATE

SW/82/745  
9/31/F

Hidden:  
PS/S of S  
PS/Minister(AF)  
PSO/CDS  
DUS(P)  
AUS(D Staff)  
CPR  
DCPR  
Hd DS4  
Hd DS11

H H Mills Esq  
Paymaster-General's Office  
Privy Council Office  
Whitehall  
LONDON SW1

21 May 1982

*J. H. Mills,*

FALKLANDS PUBLIC PRESENTATION

Attachments  
1 & 2.  
...  
Att 1  
- 2 pages

In my letter to you yesterday circulating a note about film transmission from the South Atlantic, I mentioned that we were producing an unclassified version for circulation to the Press. A copy of this is attached - it is now free for distribution. We will be making it available to the Editors who will be attending the fifth in the series of meetings here at 11.45 today.

Att 2  
- 1 page

2. You might also be interested to see a list of the briefings given by MOD over the last ten days. This pattern will continue.
3. On the international side we have further briefings planned at NATO Headquarters in Brussels on 25 May and for Defence Attaches in London (NATO/EEC, Australia and New Zealand on 27 May and rest of world - except Warsaw Pact - on 25 May).
4. Copies go to the usual circulation.

*Yours sincerely  
Sue Webb*

S WEBB  
Private Secretary

TELEVISION FROM THE SOUTH ATLANTIC

Introduction

1. The purpose of this note is to explain the difficulties we face in transmitting TV pictures from the South Atlantic and to outline the attempts which are being made to overcome this problem.

Transmission Techniques

2. In this instance, the most critical feature of a communications system is its "bandwidth". Bandwidth is the amount of the frequency spectrum taken up by a radio, telegraph or TV transmission. Military communications are made up, in the main, of radio (voice) and telegraph (signal) transmissions of narrow bandwidth. Military communications equipment is designed with this in mind and it provides only a relatively narrow transmission channel. Transmission of pictures, however, requires at least 1000 times the bandwidth of telegraph transmissions and frequently (for example, in the case of transmission of colour pictures) more. The passage of these broader transmissions in whole over the narrow military channel is impossible. The technical solution lies either in:

- a. "slicing" the picture so that it can pass, in stages, over the narrow bandwidth military communications channels; or
- b. providing a wider communications channel to accommodate the picture as a whole.

A number of options involving each of these solutions has been investigated, and the results are described below. This has involved extensive cooperation between BBC/ITV engineers and MOD communication experts as well as our research and development establishments.

Military Communications Equipment

3. The present long-range communications to and from the Task Force are provided by narrow bandwidth military equipment. The Task Force is operating at the edge of the area of coverage

provided by the UK military satellite. Initial trials in the UK have shown that film can be transmitted using the satellite. But operations at the edge of the satellite's coverage results in degradation of its performance; and whilst this remains acceptable from a military point of view for voice and signal transmissions, it would be sufficiently great in the case of pictures and film as to make them unacceptable for use.

#### Commercial Communications Equipment

4. Voice transmission from reporters in the South Atlantic and, more recently, the transmission of still pictures have until now been achieved using a commercial satellite - MARISAT - and terminal equipment on board Royal Fleet Auxiliaries (RFA) and merchant ships. SS CANBERRA is similarly fitted, and carries two additional MUIRHEAD terminals for use on other ships in the Task Force. Such equipment will transmit still pictures at the rate of one every eight minutes; but an internationally ratified convention restricts its use to operations from a sea-going ship.

5. Another option is to use "slow-scan" terminal equipment which breaks down the picture into narrow slices which can be transmitted at the rate of about one picture every two minutes. Such equipment is already on board the QE2; and sets could be deployed for other ships in the Task Force. It is thought likely, however, that the reconstituted picture will not be of good enough quality for use. A possible alternative to both of these for the future would be to use commercial 'wide-band' terminal equipment (ie equipment capable of taking the whole of a picture without the "slicing" described above) transmitted via another commercial satellite - INTELSAT.

6. The INTELSAT satellite would also be capable of transmitting film from a ground station either on South Georgia or, eventually, on the Falkland Islands. Such a ground station might use BBC or ITV equipment and men transported to the South Atlantic by Task Force vessels or aircraft. The remaining technical support, especially that of power supply, would, however, need further study.

7. In all of the above, it must be assumed that the Argentines are capable of "dialling-into" the commercial satellite involved, and would use any operationally useful information gained thereby to their military advantage.

LIST OF PRESS BRIEFINGS BY MOD SINCE 11 MAY

<u>Date</u>	<u>Nature of Briefing</u>	<u>Subject</u>
11 May	Unattributable Press Briefing to Defence Correspondents. Special meeting with BBC, ITN and PA Editors in S of S's office.	Release of information from Task Force
12 May	PUS's 4th meeting with Editors.	Media coverage
13 May	Unattributable Press Briefing to Defence Correspondents (Chaired by AUS (D Staff)).	Air to Air Refuelling
14 May	Unattributable Press Briefing to Defence Correspondents (Chaired by PUS).	Special Meeting (DNOR present)
14 May	Unattributable Press Briefing to North American Correspondents (Chaired by AUS (D Staff)).	Harrier Briefing
18 May	Unattributable Press Briefing to Provincial Press - chaired by CPR. Unattributable Press Briefing to Defence Correspondents - chaired by AUS (D Staff). Secretary of State attended for part of time.	Harrier Briefing
20 May	Unattributable briefing to Defence Press Correspondents - attended for part of time by PUS. Repeated for Regional correspondents - chaired by AUS(D Staff).	Air Defence Briefing
21 May	PUS 5th Meeting with Editors. Unattributable briefing to Defence Correspondents - chaired by PUS.	