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CC FM

Prime Minister

MO 26/7

To note.

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10

MT

PRIME MINISTER

ALARM

I thought you might be interested to see the practical outcome of the monitoring system I have agreed with British Aerospace in connection with the ALARM Project.

Every month a report - latest version attached - is placed on the desks of the Chairman and Managing Director of British Aerospace, Lord Weinstock, and myself. You will see that the report is signed by the responsible Manager in the Prime Contractor and agreed by our own Project Manager: it reports progress against the target timetable to achieve the planned in-service data.

Handwritten signature

Ministry of Defence
6th October 1983



19 OCT 1983



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HL

17 October 1983

ALARM

The Prime Minister has noted your Secretary of State's minute of 6 October and its enclosure which related to the monitoring system which he has agreed with British Aerospace in connection with the ALARM project.

JOHN COLES

Richard Mottram, Esq.,
Ministry of Defence.

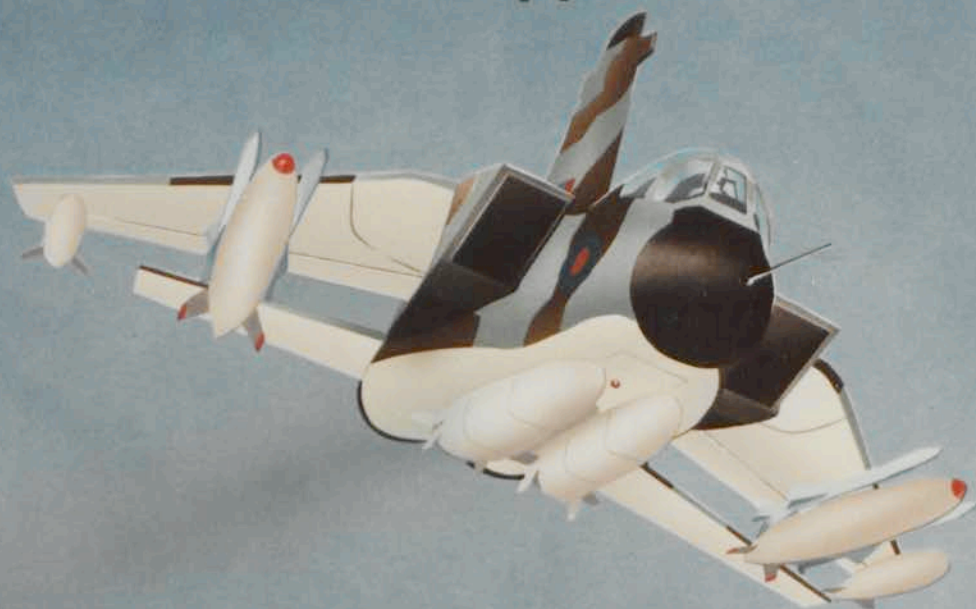
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*BRITISH
AEROSPACE
DYNAMICS
GROUP*

ALARM

defence suppression



Monthly Status Report

1st October 1983

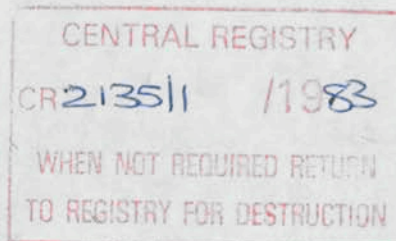
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AL 8309-0017
Copy No. 1

British Aerospace Public Limited Company
Dynamics Group, Hatfield Division
Manor Road, Hatfield, Hertfordshire



ALARM

MONTHLY STATUS REPORT

1st October 1983

Report Number 2

Authorised by

D.R. Howarth

Date 27-9-83

D.R. Howarth M.B.E.
Divisional Manager Defence Suppression

On Behalf Of The Prime Contractor
British Aerospace PLC

Agreed by

D.W. Hazell

Date 27-9-83

D.W. Hazell
AD/AGW4
(MOD Project Manager ALARM)



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The cover illustration shows the installation of
ALARM on the Tornado stub pylons.

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DISTRIBUTION:

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EXTERNAL

MOD(PE)	Mr D.W. Hazell	1-15
M.S.D.S. Stanmore	Dr I.G. Mc Bain	16-17

INTERNAL

Sir Austin W. Pearce	18
Admiral Sir Raymond Lygo	19-20
Mr H. Metcalfe	21
Mr T.G. Kent	22
Mr K. Dixon	23
Mr B.J. Rosser	24
Mr D.R. Howarth	25-35

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SUMMARY

1. The Build up of the Project teams within BAe and the sub-contractors has continued in line with programme requirements. Work on finalising the sub-system specification to arrive at the agreed contractual requirements with sub-contractors also continues.
2. The early development programme remains on schedule.
3. Formal confirmation has been received from MOD(PE) that the Tornado Data Bus interface to ALARM will be to the MIL STD 1553(b) standard, Event Number 3 This enables work on the Missile System to continue on programme.
4. The detailed design trade-off studies with PERME are progressing to establish design parameters for the motor case which will permit low risk in the development and manufacture cycle, Event Number 6.
5. A recently received RAE research report concludes from trials results that cruciform parachutes can provide weapon systems with acceptable low speed descents at low altitude. This confirmation of the ALARM design is expected to be further demonstrated by the IRVIN Parachute Trials scheduled in October. (Event Number 5.)
6. BAeDG have made a prototype wing with quick fix mechanism to substantiate the request from MOD(PE) for detachable/quick fix wings and fins.
7. MBB have commenced trials to check the warhead fragment penetration and shatter performance.

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ALARM - OBJECTIVE PROGRAMME

EVENT NO	EVENT	RESPONSIBILITY	PLANNED DATE	ACHIEVED DATE	COMMENTS
1.	Selection of ALARM	HMG		28th July	COMPLETE
2.	Contract agreed	MOD/PE & BAeDG	Aug. 1983	15th Aug.	COMPLETE
3.	Directive on Tornado Data Bus required	MOD/PE	Sept. 1983	2nd Sept.	COMPLETE
4.	Commence testing of prototype Seeker Sub-units	BAeDG & MSDS	Oct. 1983		Forecast end of October 1983
5.	Commence parachute trials from balloon at Cardington	BAeDG & Irvin (GB)	Oct. 1983		Parachute manufacture in hand
6.	Confirmation of Flight Standard Rocket Motor Case Design	BAeDG & PERME	Nov. 1983		Critical Area
7.	All missile Ground Equipment Technical Specs issued	BAeDG	Jan. 1984		BAeDG commencing work leading to Service agreement
8.	Detailed development and production program available with critical path	BAeDG	Jan. 1984		BAeDG actively engaged on the activities required to achieve this event
9.	Tornado/ALARM weapon system interface Specification issued	BAeDG & BAe/W	Jan. 1984		Initial BAeDG draft proposal exists

NOTE The planned dates indicated are subject to programme adjustments within the overall project timescale.

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ALARM - OBJECTIVE PROGRAMME

EVENT NO	EVENT	RESPONSIBILITY	PLANNED DATE	ACHIEVED DATE	COMMENTS
10.	First Rocket Motor charge proof firing	BAeDG & PERME	Mar. 1984		
11.	Demonstrator seeker commences air carry trials on helicopter	BAeDG & MSDS	June 1984		
12.	First height sensor engineered to size available for test	BAeDG & Thorn - EMI	June 1984		
13.	First seeker engineered to size available for test	BAeDG & MSDS	Aug. 1984		
14.	First mission control unit engineered for size available for test	BAeDG	Oct. 1984		
15.	First firing of Flight Standard Rocket Motor	BAeDG & PERME	Dec. 1984		
16.	Clearance trials started on Tornado	BAe/W	Jan. 1985		
17.	First missile available for compatibility testing	BAeDG	Jan. 1985		
18.	MCU software debugged & available for proving sub-system with seeker	BAeDG	Feb. 1985		
19.	Seeker software debugged & available for proving sub-system interfacing with MCU	BAeDG & MSDS	Mar. 1985		

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ALARM - OBJECTIVE PROGRAMME

EVENT NO	EVENT	RESPONSIBILITY	PLANNED DATE	ACHIEVED DATE	COMMENTS
20.	Tornado trials aircraft available for missile development trials	MOD/PE & BAe/W	Mar. 1985		
21.	First engineered warhead available	BAeDG & MBB	Apr. 1985		
22.	Release of boost only Rocket Motor for flight trials	BAeDG & PERME	Apr. 1985		
23.	Completion of parachute trials from Tornado	BAeDG & Irvin (GB)	May 1985		
24.	Radar targets available for trials	MOD/PE	June 1985		
25.	Engineered seeker commences air carry trials on helicopter	BAeDG & MSDS	July 1985		
26.	Missile development firings started in UK	BAeDG	Sept. 1985		
27.	Completion of warhead firing trials	BAeDG & MBB	Dec. 1985		
28.	Acceptance of evaluation standard seeker	BAeDG & MSDS	Feb. 1986		
29.	Acceptance of evaluation standard height sensor	BAeDG & Thorn - EMI	Feb. 1986		
30.	Acceptance of evaluation standard parachute system	BAeDG & Irvin (GB)	Mar. 1986		
31.	Commencement of Ordnance Board Trials	MOD/PE & OB	Apr. 1986		

NOTE The planned dates indicated are subject to programme adjustments within the overall project timescale.

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ALARM - OBJECTIVE PROGRAMME

EVENT NO	EVENT	RESPONSIBILITY	PLANNED DATE	ACHIEVED DATE	COMMENTS
32.	Missile development trials started in USA	BAeDG	Apr. 1986		
33.	Ground support equipment delivered for MOD/PE evaluation trials	BAeDG	May 1986		
34.	Acceptance of evaluation standard rocket motor	BAeDG & PERME	May 1986		
35.	Evaluation standard mission control unit qualified	BAeDG	June 1986		
36.	Completion of missile development trials	BAeDG	Aug. 1986		
37.	Acceptance of evaluation missiles for trials	MOD/PE	Aug. 1986		
38.	Start evaluation missile reliability growth testing	BAeDG	Aug. 1986		
39.	First evaluation missile available for trials	BAeDG	Sept. 1986		
40.	Acceptance of in service Rocket Motor Design	BAeDG & PERME	Sept. 1986		
41.	Evaluation standard warhead accepted	BAeDG & MBB	Oct. 1986		
42.	Start of evaluation trials in USA	MOD/PE	Oct. 1986		
43.	Completion of Ordnance Board trials	MOD/PE & OB	Feb. 1987		

NOTE The planned dates indicated are subject to programme adjustments within the overall project timescale.

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ALARM - OBJECTIVE PROGRAMME

EVENT NO	EVENT	RESPONSIBILITY	PLANNED DATE	ACHIEVED DATE	COMMENTS
44.	MOD/PE proposes service acceptance of Tornado/ALARM weapon system	MOD/PE	Feb. 1987		
45.	Acceptance of production missiles for delivery to services	MOD/PE	Mar. 1987		
46.	Completion of reliability growth testing	BAeDG	Mar. 1987		
47.	Completion of evaluation trials in USA	MOD/PE	Mar. 1987		
48.	First production delivery made to Service	BAeDG	Apr. 1987		
49.	MOD/PE proposes Service acceptance of ALARM missile system	MOD/PE	Apr. 1987		
50.	Delivery of all equipment to support the In-service Date (ISD)	BAeDG, BAe/W, MOD/PE	Aug. 1987		

NOTE The planned dates indicated are subject to programme adjustments within the overall project timescale.

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ALARM - OBJECTIVE PROGRAMME

ACTIVITY (RESPONSIBILITY)	1983												1984												1985												1986												1987																																																							
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC																																												
	PROJECT MANAGEMENT (BAeDG & MOD/PE)						1	2	3		6	7	8																																			37						44	45	46				50																																												
SEEKER DEVELOPMENT (MSDS)							4								11	12	13											19																					28																																																							
HEIGHT SENSOR DEVELOPMENT (THORN-EMIE)															12																																		28																																																							
MISSION CONTROL UNIT (MCU) DEVELOPMENT (BAeDG)																						14							18																				35																																																							
ROCKET MOTOR DEVELOPMENT (PERME)														10															15																				34													40																																										
WARHEAD DEVELOPMENT (MBB)																													21																				27														41																																									
PARACHUTE SYSTEM DEVELOPMENT (IRVIN UK)							5																																										30																																																							
MISSILE SYSTEM DEVELOPMENT (BAeDG)																																																	31														43																																									
A/C INTEGRATION & TRIALS (BAe/WARTON)							3																																																																																																	
MISSILE DEVELOPMENT TRIALS (BAeDG)																																											20						24													26													32													36																
MISSILE EVALUATION TRIALS (MOD/PE)																																																	33													38	39	42																																								
PRODUCTION (BAeDG)																																																																																									45	48														

▲ ACHIEVED EVENT
△ PLANNED EVENT

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