

1355
No. 7902

**EUROPEAN ORGANISATION
FOR THE DEVELOPMENT AND CONSTRUCTION
OF SPACE VEHICLE LAUNCHERS
and
AUSTRALIA**

Agreement governing the conduct in Australia and territories under the authority of Australia of operations by the European Organisation for the Development and Construction of Space Vehicle Launchers (with exchange of letters). Done at Paris, on 13 July 1965

Official texts of the Agreement : English and French.

Official text of the letters: English.

Registered by the European Organisation for the Development and Construction of Space Vehicle Launchers on 24 August 1965.

**ORGANISATION EUROPÉENNE
POUR LA MISE AU POINT ET LA CONSTRUCTION
DE LANCEURS D'ENGINS SPATIAUX
et
AUSTRALIE**

Accord relatif à la conduite en Australie et dans les territoires sous autorité australienne des opérations de l'Organisation européenne pour la mise au point et la construction de lanceurs d'engins spatiaux (avec échange de lettres). Fait à Paris, le 13 juillet 1965

Textes officiels de l'Accord: anglais et français.

Texte officiel des lettres: anglais.

Enregistré par l'Organisation européenne pour la mise au point et la construction de lanceurs d'engins spatiaux le 24 août 1965.

No. 7902. AGREEMENT¹ BETWEEN THE EUROPEAN ORGANISATION FOR THE DEVELOPMENT AND CONSTRUCTION OF SPACE VEHICLE LAUNCHERS AND AUSTRALIA GOVERNING THE CONDUCT IN AUSTRALIA AND TERRITORIES UNDER THE AUTHORITY OF AUSTRALIA OF OPERATIONS BY THE EUROPEAN ORGANISATION FOR THE DEVELOPMENT AND CONSTRUCTION OF SPACE VEHICLE LAUNCHERS. DONE AT PARIS, ON 13 JULY 1965

This Agreement is made on the thirteenth day of July One thousand nine hundred and sixty-five between the EUROPEAN ORGANISATION FOR THE DEVELOPMENT AND CONSTRUCTION OF SPACE VEHICLE LAUNCHERS (hereinafter called "the Organisation") of the one part and the COMMONWEALTH OF AUSTRALIA (hereinafter called "the Commonwealth") of the other part.

WHEREAS the Organisation was established pursuant to a Convention² concluded at London on 29th of March 1962 on behalf of the Commonwealth, the Kingdom of Belgium, the French Republic, the Federal Republic of Germany, the Italian Republic, the Kingdom of the Netherlands and the United Kingdom of Great Britain and Northern Ireland (hereinafter called "the Convention");

AND WHEREAS it is provided in Article 17 of the Convention that subject to the provisions of the Convention all operations in connection with a programme of the Organisation shall be carried out in accordance with conditions agreed to between the Organisation and the Member State within whose jurisdiction the operations take place;

AND WHEREAS it is further provided in Article 16 of the Convention that certain firings in relation to the initial programme of the Organisation shall be conducted at Woomera, Australia;

AND WHEREAS the parties desire to record their agreement regarding the conditions under which operations shall be conducted at Woomera and in other areas under the authority of Australia;

AND WHEREAS by a further agreement between the Organisation and the Commonwealth provision is being made regarding the conditions under which facilities referred to in Article 5 of the Convention are to be used and disposed of;

Now it is hereby agreed between the parties as follows :

¹ Came into force on 13 July 1965, upon signature, in accordance with article 15.

² United Nations, *Treaty Series*, Vol. 507, p. 177.

Article 1

DEFINITIONS

In this Agreement unless the contrary intention appears :

“ Australia ” includes territories under the authority of the Commonwealth ;

“ facilities ” has the meaning assigned to it in the Annex referred to in Article 19 of the Convention ;

“ firing ” has the meaning assigned to it in the Annex referred to in Article 19 of the Convention and in addition includes static firings of one or more stages of the launcher ;

“ initial programme ” means the initial programme of the Organisation as described in Article 16 (1) of the Convention ;

“ space vehicle ” has the meaning assigned to it in the Annex referred to in Article 19 of the Convention ;

“ space vehicle launcher ” has the meaning assigned to it in the Annex referred to in Article 19 of the Convention and, in addition, includes a section or sections of a rocket coming within the meaning of that definition.

Article 2

AUTHORITIES

The Department of Supply (hereinafter called “ the Department ”) shall be the responsible authority of the Commonwealth for the purposes of this Agreement.

The Secretary General of the Organisation shall be the responsible authority of the Organisation for the purposes of this Agreement.

Article 3

ELDO CONVENTION, PROTOCOLS AND REGULATIONS

The obligations placed upon the Commonwealth and the Organisation under this Agreement shall be carried out within the framework of the provisions of the Convention of the Protocols thereunder and of such regulations adopted by the Council of the Organisation pursuant to the Convention as may be applicable to the operations covered by this Agreement insofar as these regulations are not inconsistent with this Agreement.

Article 4

GENERAL CONDITIONS FOR THE CONDUCT OF OPERATIONS

(1) As far as is practicable, operations in Australia in connection with a programme of the Organisation will be planned and conducted in accordance

with the established practices and procedures of the Department. In order to provide for variations from established practices and procedures which might be necessary, specifications relating to the planning and procedures for the conduct of the operations will be introduced by agreement between the Organisation and the Department.

(2) In accordance with Article 15 of the Convention the Organisation is responsible for :

- (i) the formulation and performance of programmes,
- (ii) the supervision of the execution of programmes,
- (iii) formulation of detailed plans and cost estimates for carrying out research, development and construction programmes including any associated firing programmes,
- (iv) the control of the execution of such plans.

(3) The Organisation may, in agreement with the Department, delegate to the Department the whole or parts of the task of preparation and issue of the detailed plans for the conduct of operations carried out on behalf of the Organisation in Australia. Such delegation shall not absolve the Organisation from its responsibility for planning and technical control.

(4) The Organisation shall recognize the authority of the Department for the overall management of the Range used for the Organisation's operations. Subject thereto, the Organisation shall exercise technical control and coordination of all operations carried out on its behalf.

(5) An officer nominated by the Department shall be appointed as Range Authority to be responsible for the range and supporting facilities which are made available to the Organisation by the Commonwealth, and for the prescription and execution of the necessary range safety measures. If so requested, the Range Authority shall inform the Secretary General or his appointed representative of the reasons for the issue of any directive which affects the conduct of the operations carried out on behalf of the Organisation.

Article 5

PARTICULAR FUNCTIONS OF THE ORGANISATION

The Organisation shall provide :

- (a) a general statement of the overall requirements of the Organisation;
- (b) (i) specifications covering the requirements for each firing,
(ii) advice of the information required by the Organisation from the Department in respect of each firing;

- (c) such further technical information as is required by the Department in order to discharge its responsibilities to the Organisation, or its functions on behalf of the Commonwealth;
- (d) space vehicle launchers with appropriate check-out and monitoring equipment as agreed;
- (e) other equipment including its installation, operation and maintenance as agreed between the Organisation and the Department;
- (f) personnel to carry out and accept responsibility for the supervision of the execution of the programme and for technical control and co-ordination of all activities carried out on behalf of the Organisation;
- (g) personnel to carry out and accept responsibility for preparation of the space vehicle launchers and associated equipment and for other activities as agreed between the Organisation and the Department and not vested in the Department by the terms of Article 6;
- (h) training of personnel of the Department as agreed.

Article 6

PARTICULAR FUNCTIONS OF THE DEPARTMENT ON BEHALF OF THE ORGANISATION

Subject to the provisions of Article 12 (1) the Department shall be responsible for :

- (a) (i) the provision and allocation as agreed between the Organisation and the Department of facilities made available to the Organisation by the Commonwealth in accordance with Article 18 of the Convention for the conduct of the operations carried out on behalf of the Organisation,
 - (ii) the construction of additional, and the modification of existing facilities as authorised by the Organisation;
- (b) the transportation of space vehicle launchers and associated equipment between the point of entry into Australia and the point of use;
- (c) provision as authorised by the Organisation of the propellants and services required for space vehicle launchers;
- (d) provision of personnel who will be incorporated in the ELDO Trials Team, as agreed between the Organisation and the Department;
- (e) the supply of the information required by the Organisation in respect of its operations in Australia;
- (f) the preparation of detailed plans, as agreed, in consultation with the Organisation and submission of such plans to the Organisation for approval;

- (g) the maintenance and administration of the facilities made available to the Organisation in accordance with Article 18 of the Convention and the facilities provided by the Department at the expense of the Organisation;
- (h) such other matters as are from time to time agreed upon between the Organisation and the Department.

Article 7

SAFETY

(1) The Organisation, conscious of the responsibility of the Department for the collective safety of personnel and protection of property against the dangers associated with operations on the Woomera Range, shall recognise the authority of the Department to take such measures as the Department considers necessary to ensure safe conduct of the operations carried on under the Convention in Australia.

(2) The Department shall recognise its responsibilities to the Organisation to exercise its authority with due regard both to the needs of collective safety and to the efficient conduct of operations carried on under the Convention.

(3) The Department shall, in consultation with the Organisation :

- (a) decide the location of any facility having regard particularly to the requirement for safe distances where explosive or fire risks are involved;
- (b) assess the criteria governing the in-flight safety of the space vehicle launcher and any satellite test vehicle, having regard to the safety of life and property within or bordering the flight zones, and prescribe the boundary conditions which must be observed during the flight;
- (c) prescribe the safety requirements in relation to the design and use of all systems involving the use of explosives, liquid propellants and other dangerous materials;
- (d) specify the protective measures which are necessary to safeguard against recognized hazards;
- (e) regulate hours of working in potentially hazardous environments;
- (f) determine the periods when potentially hazardous conditions exist and regulate the movement of personnel and the occupation and use of facilities in such circumstances.

(4) The Department reserves the right, without consulting the Organisation if such consultation is not practicable, to :

- (a) reject any proposal involving the launching of a space vehicle launcher in any direction until the ability of the space vehicle launcher to perform as planned has been accepted by the Commonwealth;

- (b) reject any system involving the use of explosives, liquid propellants or other dangerous material which does not meet requirements prescribed;
- (c) have freedom of access to all facilities in order to observe the safety of procedures and practices therein;
- (d) stop any operation, including firing sequences, when the Department judges that a dangerous situation is developing or that continuation of the operation may cause a dangerous situation to develop;
- (e) terminate any flight when the agreed boundary conditions have been exceeded.

(5) As soon as practicable after the occurrence of a case in which action is taken by the Department under sub-paragraph (a), (b), (d) or (e) of the last preceding paragraph, the Department shall furnish to the Secretary General or his appointed representative a written report setting out the circumstances of the case.

Article 8

SECURITY

(1) The Organisation recognizes the authority of the Commonwealth to prescribe conditions relating to security matters in respect of the operations of the Organisation in Australia.

(2) The Organisation shall conform to such security requirements as may be notified to it from time to time by the Commonwealth and shall co-operate fully with the Commonwealth in giving effect to such requirements.

Article 9

INDEMNITY

(1) The Organisation shall indemnify the Commonwealth against :

- (a) any loss or damage suffered by the Commonwealth, and
- (b) liability of any kind in respect of claims against the Commonwealth, its servants or agents for loss, damage or injury

that occurs in any place, whether within or outside Australia arising howsoever out of any activity carried out by or on behalf of the Organisation in Australia.

(2) The indemnity provided for by paragraph (1) of this Article shall not apply if the loss, damage or injury resulted from any failure of the Department to exercise any of the responsibilities referred to in Articles 6 and 7 of this Agreement.

(3) When the Department has bona fide taken action to carry out the responsibilities assigned to it by virtue of Article 6 or 7 of this Agreement the

act or omission of a servant or agent of the Commonwealth which directly brings about direct or indirect loss, damage or injury will not be considered as a failure by the Department to exercise its responsibilities. Any amount recovered by the Commonwealth in respect of an act or omission of a servant or agent of the Commonwealth which results in loss, damage or injury shall be taken into account in ascertaining the amount payable by the Organisation to the Commonwealth under this Article in respect of the loss, damage or injury.

(4) The provisions of paragraph (1) of this Article apply even if the activity from which the loss, damage or injury arises, may have occurred between 1st November, 1961, and the date of signature of this Agreement.

Article 10

CLAIMS AGAINST THE COMMONWEALTH

(1) A claim against the Commonwealth for loss, damage or injury may be settled by the Commonwealth at any time for any amount not exceeding ten thousand Australian pounds (£ A 10,000); however the Organisation shall be consulted if it appears to the Commonwealth that a question of principle is involved. A settlement in excess of the amount shall not be effected by the Commonwealth except after consultation with and with the concurrence of the Organisation.

(2) The Commonwealth, without prejudice to the exercise of its rights under paragraph (1) of this Article, shall have the conduct of any judicial proceedings instituted and carried on against it in Australia for the purpose of establishing that the Commonwealth is liable for any loss, damage or injury as aforesaid and may, if at any time it is satisfied that it is just and reasonable that it should do so, admit liability for the loss, damage or injury. The Commonwealth will inform the Organisation of any proceedings which are pending.

Article 11

DISPUTES

- (1) Any dispute between the parties to this Agreement :
- (a) as to whether the loss, damage or injury arose out of any activity carried out by or on behalf of the Organisation in Australia;
 - (b) as to whether the loss, damage or injury resulted from any failure of the Department to exercise any of the responsibilities referred to in Articles 6 and 7 of this Agreement;

(c) concerning the amount payable by the Organisation for loss or damage suffered by the Commonwealth,

shall be settled in accordance with the procedures laid down in paragraph (2) of this Article.

(2) (a) If a party to this Agreement intends to submit a dispute to arbitration, it shall notify the other party. The Secretary General shall forthwith inform each Member State of such notification.

(b) No appeal shall lie against the award of the Arbitration Tribunal, which shall be final; it shall be binding on the parties. In case of dispute concerning the import or scope of the award, it shall be incumbent upon the Arbitration Tribunal to interpret it on request by either party.

(c) The Arbitration Tribunal shall consist of three members, one arbitrator nominated by the Commonwealth, one arbitrator nominated by the Organisation and a third arbitrator who shall be the chairman, nominated by the said two arbitrators.

(d) The arbitrators shall be nominated from a panel comprising no more than six arbitrators appointed by the Commonwealth and six arbitrators appointed by the Organisation.

(e) If, within three months from the date of the notification referred to in subparagraph (a) of this paragraph, either party fails to make the nomination referred to in subparagraph (c) of this paragraph, the choice of the arbitrator shall, on request of the other party, be made by the President of the International Court of Justice from the persons comprised in the said panel. This shall also apply, when so requested by either party, if within one month from the date of appointment of the second arbitrator, the first two arbitrators are unable to agree on the nomination of the third arbitrator. However, an Australian citizen may not be chosen to fill the post of the arbitrator whose appointment devolves on the Organisation, nor may a person comprised in the panel and appointed by the Organisation be chosen to fill the post of an arbitrator whose appointment devolves on the Commonwealth. Nor may a person of either of these categories be chosen as chairman of the Tribunal.

If the President of the International Court of Justice is an Australian citizen, the choice of the arbitrator shall be made either by the Vice-President or by the senior Member of the Court not disqualified on this ground.

(f) The Council shall establish the procedure to be followed in the Arbitration Tribunal.

Article 12

FUNDING ARRANGEMENTS

(1) The Organisation shall at the request of the Department make an interest-free advance of funds in amounts mutually determined by the Depart-

ment and the Organisation within the limits of the approvals granted by the Organisation of the budget estimates. Such advance payments shall be made to the High Commissioner for Australia, London, for the credit of the Department.

(2) The Department shall remit to the Organisation any moneys unexpended at the termination of this Agreement or at such other times and to such extent as the Organisation may request, subject to the liability of the Organisation to bear all costs incurred for its purposes on and after the first day of November 1961 in connection with the initial programme (or any part thereof) carried out in Australia.

Article 13

INTERNATIONAL ARBITRATION

(1) Any dispute between the parties to this Agreement concerning its interpretation or application shall be settled in accordance with the arbitration procedure prescribed in Article 22 of the Convention.

(2) This Article shall not apply to :

- (a) a dispute arising out of Article 8;
- (b) a dispute arising out of Article 9 not provided for by Article 11;
- (c) a dispute arising out of Article 10, other than a dispute concerning the obligation of the Commonwealth to consult with or inform the Organisation in accordance with the provisions of that Article;
- (d) a dispute provided for by Article 11.

Article 14

REVISION

This Agreement may be revised at the request of either party and by agreement between both parties.

Article 15

ENTRY INTO FORCE

This Agreement shall enter into force on the date of signature. It shall not apply to flight-trials of the first stage alone.

IN WITNESS WHEREOF this Agreement has been signed on the day and year first written.

DONE at Paris, in the English and French languages, both texts being equally authoritative, in a single original which shall be deposited in the archives of the Organisation, who shall transmit a certified true copy to each State party to the Convention.

For the Government of the Commonwealth of Australia :
Ronald WALKER

For the European Organisation for the Development
and Construction of Space Vehicle Launchers :
R. DI CARROBIO

EXCHANGE OF LETTERS — ÉCHANGE DE LETTRES

I

[TRADUCTION — TRANSLATION]

AUSTRALIAN EMBASSY
PARIS

AMBASSADE D'AUSTRALIE
PARIS

13th July, 1965

Le 13 juillet 1965

Sir,

Monsieur le Secrétaire Général,

With reference to the agreement governing the conduct in Australia and Territories under the authority of Australia of Operations by the European Organisation for the Development and Construction of Space Vehicle Launchers signed on the 13th day of July 1965, I have the honour to direct your attention to the following observations on the articles enumerated below :

Me référant à l'accord relatif à la conduite, en Australie et dans les territoires sous autorité australienne des opérations de l'Organisation Européenne pour la Mise au Point et la Construction de Lanceurs d'Engins Spatiaux signé le 13 juillet 1965, j'ai l'honneur de porter à votre connaissance les observations suivantes relatives aux articles ci-après indiqués :

On Article 4 (4) it is understood that the management of facilities used for the Organisation's operations will be governed by the principles described in the attached ELDO papers numbered one and four covering trials operations at Woomera and work scheduling for Multistage activities respectively.

Au sujet de l'article 4 (4), il est entendu que l'administration des installations utilisées pour les opérations de l'Organisation sera régie par les principes exposés dans les documents ELDO n° 1 et n° 4 ci-annexés qui traitent respectivement des opérations relatives aux essais de Woomera et de l'établissement du calendrier des travaux concernant le lanceur multi-étage.

On Article 7 (1) and (2) it is understood that the words " collective safety " are defined as safety affecting persons other than the individual carrying out a particular task; it excludes individual industrial safety.

Au sujet de l'article 7 (1) et (2), il est entendu que les mots « sécurité collective » désignent la sécurité en tant qu'elle concerne les personnes autres que l'individu exécutant une tâche particulière; cette expression exclut la sécurité du travail sur le plan individuel.

On Article 7 (3) (d, e, f) it is understood that the definition of " recognized hazards " " potentially hazardous conditions " and " potentially hazardous environments " shall be agreed

Au sujet de l'article 7 (3) (d, e, f), il est entendu que les définitions des termes « dangers reconnus », « conditions pouvant être dangereuses » et « milieux pouvant présenter des dan-

between the Organisation and the Department and shall be published in the safety specification referred to in this Article.

I would be obliged if you would confirm your agreement to the above provisions.

Accept, Sir, the assurances of my highest consideration.

Ronald WALKER
Ambassador

His Excellency
Ambassador R. di Carrobio
Secretary General
European Launcher Development
Organisation
Paris

gers » seront arrêtées d'un commun accord par l'Organisation et le Département et publiées dans le règlement de sécurité visé à cet effet.

Je vous serais obligé de bien vouloir me confirmer votre accord sur les dispositions ci-dessus.

Veillez agréer, Monsieur le Secrétaire Général, les assurances de ma très haute considération.

Ronald WALKER
Ambassadeur

Son Excellence
Monsieur R. di Carrobio
Secrétaire Général
Organisation européenne pour la Mise
au Point et la Construction de
Lanceurs d'Engins Spatiaux
Paris

II

GA/1/1 c.

13th July 1965

Sir,

I beg to acknowledge receipt of your letter of today's date, reproduced hereinafter :

[See letter I]

I confirm my agreement to the terms of this letter.

Accept, Sir, the assurances of my highest consideration.

The Secretary General :
R. DI CARROBIO

Sir Ronald Walker, C.B.E.
Ambassador Extraordinary and Plenipotentiary of Australia
Australian Embassy
Paris

GA/1/1 c.

Le 13 juillet 1965

Monsieur l'Ambassadeur,

J'ai l'honneur d'accuser la réception de votre lettre de ce jour, reproduite ci-après :

[Voir lettre I]

Je vous confirme mon accord sur les termes de cette lettre.

Veillez agréer, Monsieur l'Ambassadeur, les assurances de ma très haute considération.

Le Secrétaire Général :
R. DI CARROBIO

Son Excellence
Monsieur Ronald Walker, C.B.E.
Ambassadeur Extraordinaire et Plénipotentiaire de l'Australie
Ambassade d'Australie
Paris

MULTISTAGE TRIALS MISSION

ELDO PAPER No. 1

As revised by the Mission Meeting of 23 November 1964

TRIALS OPERATIONS AT WOOMERA

Responsibilities of the ELDO staff and their relations with each other and with WRE staff

1. Introduction

It has been decided that the multistage vehicle trials for Phase II and Phase III of the ELDO initial programme should be directed in Australia by the Secretariat.

To carry out this task, the following Secretariat staff have now been proposed :

- (1) An Officer in Technical charge (OITC), a member of the Paris Staff visiting Woomera for a single trial.
- (2) An overall Team Leader (OTL), based permanently in Australia for the direction of the Trials Programme F4-F9.
- (3) Three Assistant Overall Team Leaders, to carry out specific parts of the OTL's task, again based permanently in Australia.

This note considers their respective responsibilities and relationships.

2. Relationship between the ELDO organisation and WRE

1. It is pertinent first of all to consider this matter. Australia has reserved the right that WRE shall be responsible for the overall management and operation of the Woomera range. At the same time ELDO reserves the right to be responsible for the technical direction and control of the preparation and firing of the ELDO vehicle. These separate responsibilities are not incompatible, but impose the need for very close cooperation.

2. In order to see clearly the relationship between the ELDO trials staff and WRE it is necessary to consider the separate parts of the responsibilities of WRE. It can be conveniently divided as follows :

- (1) Provision of range and range facilities for the ELDO Trials Programme as agreed.
- (2) Operation during ELDO trials of agreed facilities and range instrumentation.
- (3) Management of the range.
- (4) Ensuring that there are adequate safety measures.

(1) and (2) are direct responsibilities of Australia to ELDO which have been delegated to WRE. For (2) WRE will provide an Australian National team for operations in Area 6 which will be integrated with the activities of other National teams by the OTL. Although operation of range instrumentation is also part of the Australian direct contri-

bution to the ELDO trials programme and as such must meet the requirements of the OITC, the OTL has no responsibility in this area. It will remain the responsibility of PO/R (see 2.4).

(3) and (4) are responsibilities of WRE to the Australian Government. Other ELDO members recognise that ELDO trials activities must be compatible with these responsibilities.

Responsibility (1) is comparable with that of a manufacturer of part of the vehicle. Other member nations do not normally do this work in Australia and since it is not immediately related to Trials Operations it is not considered further in this paper.

Responsibility (2) is comparable with that of the same manufacturer's participation in the trial viz : preparation of a stage for firing.

Responsibility (3) is comparable with that of a stage manufacturer's management of his factory i.e. he must fit in other customers in addition to ELDO work.

Responsibility (4) is a special one to Australia because the vehicle is flown from there.

3. It is clear that WRE must regard itself as independent of ELDO for discharge of responsibilities (3) and (4) and when doing so WRE is viewed by the ELDO Trials Organisation as "Range Authority".

4. Australia therefore has two major roles during trials, one to provide a National Trials Team, and two as the Range Authority. WRE undertake both roles. However, the line of this control is different for the different activities and it is necessary to look at these in more detail, particularly to see the position of Range Instrumentation.

- (1) The Australian National Trials Team functions like any other national team under the Team Leader.
- (2) Safety and Range Management (meaning respectively protection of Australian property and persons against vehicle hazards, and integration of different trials into the range's programme) are strictly under PO/R control without obligation to the OITC.
- (3) There remains the problem of Range Instrumentation, the operators, of which, whilst remaining under the control of PO/R, are not part of Range Authority as defined in para. 2.2. and para. 2.3. When operating for an ELDO trial their contribution is like a part of the ELDO Trials Team. Because of their location and because they are intimately connected with Flight Safety they cannot come under the control of the OTL, or with the OITC directly, and must remain with PO/R. However, in respect of instrumentation which is supplying trials information, the PO/R must behave towards the OITC exactly as the OTL does in respect of the vehicle.

5. Since most of the ELDO activities in Area 6 associated with trials preparation are self-contained, the amount of restraint or interference to these activities by the Range Authority will be small.

6. The ELDO trials team is mainly occupied in the technical activities of preparing and checking the vehicle and associated ground equipment culminating in the firing of the vehicle. As a result, the members of the ELDO Team at appropriate levels have the role of initiating the various steps in the preparation and the checking of the vehicle, and in carrying out the work. Note that in some cases the Area 6 Range Staff as members of the ELDO Team, will act in this way. By "initiating" the technical steps in preparation etc. it is here meant that the ELDO Team decides the appropriate time at which a certain step in the preparation shall be started. If WRE (Range Authority) feels that such a step has possible repercussions on activities elsewhere she will insist that clearance by the appropriate member of the Range Staff be first obtained. The team work to a pre-planned programme which takes account of the needs of the ELDO trial and of the Range Authority. It is in this sense that WRE Range Authority has overall management of the range—not in the sense that she will dictate minute to minute actions of the ELDO trials team or that she will decide technical courses of action in the preparation of the vehicle.

3. *The officer in technical charge*

1. *The responsibilities of the OITC* are to ensure that all arrangements for a trial are consistent with the technical objectives of the trial, and to ensure that the trial is carried out in such a manner that the objectives laid down by ELDO are achieved.

2. To discharge the above responsibilities the OITC has authority over all technical matters affecting the requirements of the trial. His rulings in these matters are to be accepted but he is expected not to issue instructions affecting the management of either vehicle or range teams. He states his requirements to the OTL and PO/R who are responsible for the execution of the work necessary to comply.

For a more detailed presentation of the OITC's responsibilities see WRETOP Para. 2.12 and read OITC for OISC.

3. *Relations with the ELDO Representative:* The terms of reference of the ELDO representative are given in ELDO/PG(64)T/2; he is the senior resident ELDO officer in Australia. The OITC comes out for a particular trial and would normally be a different person for each trial. It could occur that the OITC chosen for an important trial is of a higher seniority than the ELDO Representative; despite this the OITC shall be subject to the ELDO Representative's authority except for one important exception. This exception is that, with regard to technical matters concerning the trial in hand, he shall be directly under the authority of the Director of the Initial Programme in Paris.

4. The situation where a senior officer is under the general authority of a slightly less senior resident officer for all matters except those concerning an important special activity, is not an unusual one in military and civil circles. It is not considered that difficulties will arise; each has a separate area of interest. In the present case, the OITC will be very fully occupied with ensuring the success of the trial in hand and with the operations at Woomera working towards that end: he will be freed from representing

ELDO on all matters not immediately associated with the trials operations. The ELDO Representative is relieved of the task of the close supervision of the trial operations and lacks the detailed knowledge of the particular trial which the OITC will bring with him from Europe.

5. It is expected that the OITC will arrive in Australia early in the erection phase when the vehicle is being assembled on the launching emplacement and the so-called "slow-time" preparation is in progress. Prior to his arrival the work at Woomera will be under the charge of the Overall Team Leader who will be under the direct authority of the ELDO Representative. On arrival the OITC will consult with the ELDO Representative of the current situation at the Range. In particular he will keep him informed of the matters which are the continuing concern of the ELDO Representative; this is so that the ELDO Representative can take any action he deems necessary in these areas.

6. *Relations with the Overall Team Leader:* The OITC is concerned essentially with the success of the ELDO trial as a whole success in terms of the successful achievement of the Trials Objectives. The OTL has a somewhat more specialised interest, being concerned with the proper preparation and check-out of the vehicle. One of the main points of contact between these two men is the ensurance by the OITC that the vehicle build meets the Trials Objectives and that they are not prejudiced by any modifications which may become necessary.

7. The OITC, having been chosen from the Secretariat staff in Paris, will have a much broader view of the whole operation than the OTL. The OTL will have to be a competent practical engineer, fully conversant with all parts of the vehicle and associated ground equipment, and mainly occupied with the direction of the work of preparing the vehicle. Although the OITC has authority over the OTL in trials operations, he will need to accept the OTL's advice on vehicle engineering matters; the OTL being in effect his primary vehicle engineering expert.

8. *Relations with WRE staff:* During the Preparation Phase while the vehicle stages are in the Preparation Building, and during the Erection Phase while the vehicle is being assembled and "slow-time" preparation is proceeding on the launcher emplacement, the OITC's main point of contact on routine matters will be with the Superintendent Trials Division (S/TRD) or his Group Leader's, Principal Officer Ranges (PO/R) and Principal Officer, Missile Projects Group (PO/MP). These matters are :

- (a) Agreement on when the firing will take place
- (b) Agreement on the programme of work leading up to the firing subject to the principles of para. 2
- (c) Requests for the provision of Range Services
- (d) Amendments to, and clarification of, the WRE Trials Instruction and Standard Procedures.

9. At the same time the OITC has direct access for conference and liaison with specialist group leaders responsible for instrumentation on the Range and the various range services.

10. In general, the OITC's point of contact with Range Authority throughout the trial is with PO/R. The operational activities continue without detailed intervention by either, as the OTL will be coordinating the activities of the National Teams and the WRE "Trials Conduct Organisation" will be looking after Range Authority aspects.

In brief, the "Trials Conduct Organisation" is provided to carry out a pre-determined programme in which the boundary conditions are defined in the respective Trials Instructions, and for which technical procedures and operating practices are closely specified. Normally the only variable is "even time" set by "GO" or "NO-GO" conditions of vehicles and range service-abilities or the meteorological situation. To a very large degree trials are carried through by this organisation under the direction of the Trials Control Officer (TCO) once he has received the appropriate "GO" clearance from the OITC and RA representatives. Of course, if there is a "NO-GO" condition for any cause he does not allow a trial to proceed until "GO" conditions are re-established.

It has long been recognised that some discretionary powers relating to trials conditions and procedures are necessary in the field. These have been vested in the "Officer in Technical Charge" (OITC).

The complementary roles of the OITC and PO/R are directly evident in marginal conditions where discretion is required, i.e. when the "GO" or "NO-GO" situation is not clear. If there is some small deficiency in the vehicle system, the OITC may elect to proceed *provided* PO/R is satisfied that safety is not prejudiced; likewise, if due to weather or instrumentation unserviceabilities, there will be some reduction in redundancy of range cover, the OITC may decide to proceed provided that he is satisfied that the trials objectives are not significantly prejudiced and after consulting with PO/R.

11. During the latter part of the Count-down phase, when the preparation is being carried out to a clock sequence, the OITC's main point of contact is with the Trials Control Officer (TCO). This is, of course, the most critical period of the trial and the OITC has the main preoccupation of ensuring that no event is occurring which will interfere with the Trials Objective being met.

12. Neither the OITC nor the PO/R has complete authority over the other. Any organisation chart which shows one as being superior to the other is apt to mislead. Both the OITC or the PO/R can independently stop a trial proceeding for reasons in their particular spheres of responsibility—the OITC if he feels that the Trials Objectives will not be met, the PO/R if he feels that WRE requirements regarding safety or coordination with other activities on the range are not being met.

13. *Tasks of the OITC:* To summarise the above, the tasks of the OITC are :

- (1) On arrival, to acquaint the ELDO Representative of the current situation on the objectives of the trial in hand.

- (2) Keep the ELDO Representative informed of the situation at the Range; in particular those matters which are the continuing concern of the ELDO Representative.
- (3) Ensure that the preparation of the vehicle, the vehicle build and any vehicle modifications do not prejudice the attainment of the Trials Objectives.
- (4) Monitor the state of the Range instrumentation and facilities, and other factors such as meteorological conditions, which affect the attainment of the Trials Objectives.
- (5) Decide to proceed with the trial, or stop it, or to hold for a limited period if the situation so indicates.
- (6) Keep the appropriate member of the Ranges staff informed of the vehicle situation and of reasons for which the trial must be stopped or held for a limited period.
- (7) In agreement with the appropriate member of the Ranges staff, decide the programming or reprogramming of the trial.
- (8) Keep the Director of the Initial Programme informed of the progress of the trial.
- (9) After the firing or flight, make an assessment report to the Director of the Initial Programme.

4. *The Overall Team Leader (OTL)*

1. *The responsibilities of the OTL* are for the technical preparation of the vehicle and associated ground equipment to bring it to a fit and ready state to perform the planned firing or flight.

2. In discharging these responsibilities he works to procedures set out in the trials documentation. But he must also be prepared to decide the necessary technical course of action to be followed when eventualities arise which have not been foreseen in the trials planning. For the work involved in preparing and checking the vehicle and associated ground equipment he has authority over the National trials teams each of which is led by its respective Team Leader; his task includes the coordination of the work of these national teams to complete the preparation for the trial in the most efficient and satisfactory manner.

3. As explained above, although the OTL is under the authority of the OITC on matters of trials operations, he and the Team Leaders are to be regarded as the experts on questions of vehicle engineering. This does not leave out the possibility of there being other experts concerned with particular parts of the vehicle systems, but on questions concerning the assembly of the vehicle as a whole, the OTL should be regarded as the local vehicle engineering authority.

4. *Relations with his Assistants:* The task of the OTL is a particularly onerous one requiring the coordination of a complex operation. Because this cannot successfully be carried out by one man on his own, and because of his need on occasions to be at two places at the same time, it has been agreed that he should have three assistants. He delegates to these assistants certain parts of his authority to act on his behalf in defined areas as the particular phase of the preparation, or as the occasion which arises, may require.

5. As in any situation where a superior officer delegates authority to an assistant to act on his behalf, the OTL retains the overall responsibility for their actions. He

will brief his assistants on the tasks he assigns to them so that they do them in a manner which is in accord with his, the OTL's, wishes.

6. How the work is shared between the OTL and his assistants will depend very largely on the particular phase of the trial. It will be remembered that the OTL and his assistants are resident on a long-term basis; during the quieter between-trials periods there will be need to attend meetings at Salisbury to discuss trials planning and documentation for the forthcoming trial, and to make visits to Europe to gather knowledge on the vehicle systems to be tested. During these periods Assistants would be given greater freedom to act on their own initiative. During the Count-down Phase however, it is envisaged that a much tighter liaison would exist between the OTL and his Assistants who would have tasks in Area 6, such as that of Sequence Officer, which are more strictly regulated in the trials documentation.

7. *Relations with Range Staff:* The OTL is almost exclusively concerned with the activity in Area 6. During the between-trials phase and the early parts of the Preparation Phase it is envisaged that most of his business with WRE would be with the Officer-in-Charge-Area 6 (OIC Area 6); at some stage when the trial starts to get on an operational footing his dealings with the Area-Operations-Officer-Area 6 (A006) on the operations aspects of the trial would start to predominate. The need for a close and harmonious liaison between the OTL and A006 and OIC6 cannot be over-emphasised as the success of the operations will depend on this to a large extent.

8. As discussed in the sections above on the relations between the ELDO organisation and WRE as Range Authority, the OTL will be mainly concerned with initiating and directing the technical work of preparation and check-out, while the OIC6 will be mainly concerned with correlating this work with other range operations and with supervising the safety aspects of the work.

9. The WRE regards the safety supervision of activities in Area 6 as an important function of the OIC6. His main way of exercising this supervision is to ensure that the agreed procedures are being followed. To aid him in this task he has the A006 and the Launcher Officer Area 6 (L06) who directly supervises the safety aspects of hazardous operations.

10. *Relations with the Team Leaders of National Teams:* It has been agreed that the OTL shall have authority over the national teams for the technical work of preparing the vehicle and associated ground equipment for the firing, coordinating the activities of these teams. He is expected to accept the advice of the national team leader (or of specialist advisors attached to the national teams) on technical matters concerned solely with that stage of the vehicle or associated ground equipment for which the member team is responsible.

11. *Relations between the OTL and the ELDO Representative:* During the first meeting of the Working Party it was agreed and subsequently written in ELDO/PG (64) T.2 that "All ELDO trials personnel will be subject to the authority of the ELDO Representative at all times". This authority will be exercised through the OTL to the national team leaders and through them to their teams.

It is visualised that the OTL will keep the same relation to the ELDO Representative whether the OITC is present or not, mainly because it will be impractical for him to switch

allegiance to the OITC on administrative and policy matters for the duration of the OITC's brief visit. When the OITC is present the OTL will simply have an extra task added to his normal duties; that is the task of preparing the vehicle to satisfy the requirements of the trial as defined by the OITC.

12. *Tasks of the OTL and his Assistants:* These fall into five main categories, which are given below. Some remarks are made on some of the tasks falling in each category :

- (1) *Supervision of the technical aspects of the work:* The important work here is the preparation and check-out of the vehicle and associated ground equipment. Assistants assume duties such as Sequence Officer in the trial teams. During the between-trials phase this category includes installing new, or modifying old, ground systems equipment, on behalf of European national teams at that time absent. There will also be acceptance work as representative of the ELDO Secretariat for ground facilities installed or modified in Australia (the procedure for this has yet to be agreed).
- (2) *Planning Operations:* This includes making changes to the trial procedures on the basis of experience or the changing nature of the vehicles being launched. It also includes making visits to Europe to discuss the requirements for future trials; and participation in meetings and discussions at Salisbury.
- (3) *Training:* The main task here is the conduct of a training programme for the national teams on various aspects of trials operations. The OTL is expected also to pay attention to the training of his Assistants; one of whom should be prepared for taking over the duties of the OTL.
- (4) *Documentation:* This includes the operation of a system for correctly recording the current state of the vehicle and associated ground equipment. It also includes the task of collating and checking log-books and similar records made by the trials team during the trial. During all phases of the trial this category also includes the conduct or participation in a group for modifying trials documents.
- (5) *Liaison:* Between trials they will keep contact with ELDO Secretariat and member states in Europe on technical requirements for future trials and with WRE on availability of facilities for future trials.

5. *Coordination panel*

It is possible that a Coordination Panel similar to the SLV Coordination Panel for Phase I will be needed. If it is found to be necessary, the panel, under the Chairmanship of the ELDO Representative, will provide extra coordination for the many activities mentioned above, which cannot be achieved through the normal liaison channels.

MULTISTAGE TRIALS MISSION

ELDO PAPER No. 4

As revised by the Mission Meeting of 25 November 1964

WORK SCHEDULING FOR MULTISTAGE ACTIVITIES

1. Introduction

1. At any time during Phase 2 and Phase 3 of the Initial Programme modification and installation of ground equipment and preparation for the next trial may be in progress in Area 6. There is a need, therefore, to schedule these activities to avoid undue interference, taking into account their effects on activities outside Area 6 and the requirements of safety.

The following paper defines the responsibilities in various areas and the procedures to be adopted to reach a mutually acceptable programme.

2. Similar problems may arise with the DRGS and other ELDO equipments remote to Area 6. A scheduling procedure applicable to the installation will be devised should it be found to be necessary.

2. Responsibilities

1. The overall coordination of the activities in Area 6 will be the responsibility of ELDO Secretariat (Australia).

In drawing up the overall programme, account will be taken of the Launcher Area Plan in the trials documentation for the next trial, and of the between-trials Work Plan which will include installation, modification and maintenance activity by Design Authorities or their agents, commissioning tests required by the Commissioning Panel and the programme of the Modification Coordination Panel.

2. The assessment of the influence of these activities on operations outside Area 6 and on Safety, will be the responsibility of the Range Authority.

*3. Method of Scheduling**1. Internal to Area 6*

A weekly schedule of work in Area 6 will be jointly prepared and jointly issued by Range Authority and ELDO Secretariat. (Aust)

At Woomera the activities scheduled for the following day will be jointly reviewed by PO/R and the OTL who will then jointly issue the daily programme.

The review of the programme on a minute to minute basis is the responsibility of the Area Operations Officer Area 6 (A006) who, acting on behalf of the OTL and PO/R, will take into account the programme of activities and unscheduled work requirements originating on site together with overall safety in Area 6.

All activities in Area 6 which are not covered by a Trials Instruction, Standard Procedure, Trials Test Procedure or Commissioning Test Schedule will be controlled by the OTL to procedures agreed between ELDO and Range Authority.

2. When Facilities external to Area 6 are involved

Every Wednesday, all Range Users are required to present their requirements for Range time in the following week to their Project Officer in Missile Projects Group. This not only includes requirements for Range time to conduct a trial but also any requirements for Range instrumentation. For ELDO this applies to any activity requiring involvement of systems outside Area 6.

The various requirements are then coordinated by Principal Officer/Missile Projects Group, in consultation with the Project Officers into a Schedule of Trials. This schedule is issued to PO/R under the authority of Superintendent/Trials Division.

Principal officer/Ranges issues a Daily Programme which takes into account the readiness to proceed of all Range Users, together with the Range State and the weather forecast for the following day. The implementation of this programme on a minute to minute basis is the responsibility of the Trials Control Officer (TCO) (in accordance with approved procedures) but, before entering the final stages of the sequence when the trial will be irrevocably committed, he will obtain formal clearance from the OITC that the vehicle and allied systems are ready, and that the range is fulfilling the trial conditions as laid down in the Trials Instruction.