

Electronic Journal of International History - Article 3

ISSN 1471-1443

[Introduction](#) | [Contents](#)

The Other Other Missiles of October: The Thor IRBMs and the Cuban Missile Crisis

by Stephen Twigg (University College London) and Len Scott (University of Wales, Aberystwyth)

Abstract

The Cuban missile crisis of 1962 occurred when the USSR deployed nuclear missiles in Cuba, within range of the USA. Yet by 1962 the US had deployed Thor missiles in the UK and Jupiter missiles in Italy and Turkey, within range of the USSR. The story of British-American negotiations to deploy Thor has already been told, as has the story of the Jupiter deployment in Turkey and Italy. This article tells the story of the Thor deployment, in particular in the context of the Cuban crisis. During the crisis the operational condition of both the Soviet missiles in Cuba and the Jupiter missiles were major concerns of the US government. The article demonstrates the very high state of Thor missile readiness, and clarifies several controversies concerning the operational readiness of Bomber Command in October 1962. It then shows that despite their military importance, and potential diplomatic value, the Thors were of nugatory political significance.

1. In October 1962, the discovery of Soviet Medium Range Ballistic Missile (MRBM) and Intermediate Range Ballistic Missile (IRBM) bases in Cuba took the world to the brink of nuclear war. The clandestine deployment of Soviet nuclear missiles capable of striking military and urban-industrial targets in the United States with little or no warning presented the United States with a military and political challenge which, it decided, could not be tolerated. When President Kennedy was told of the bases, he remarked to his advisers, that it was as if the United States had suddenly begun to put nuclear missiles into Turkey. 'Now that'd be goddamn dangerous, I would think', he mused. (1) In fact, as his National Security assistant had to remind him, this was precisely what the United States had done. Indeed, two US IRBM systems had been deployed in three NATO countries by 1962: 60 Thor IRBMs in the United Kingdom, 30 Jupiter IRBMs in Italy, and 15 Jupiters in Turkey. The story of the Jupiter deployment, and their role in the Cuban missile crisis, has now been told. (2) This article recounts the story of the other IRBMs - the Thors. The Jupiters played an important role in the origins and dynamics and of the missile crisis. The Thors did not. Yet in military and political terms, the 60 missiles in the UK were, potentially, at least as significant. And it is worth drawing comparisons between the Thors and Jupiters, and indeed between the Soviet MRBMs and the western IRBMs, to illuminate various military and political aspects of the missile crisis. Two particular aspects are examined in this article: first, the command and control of the nuclear weapons; second, the possible use of the missiles in crisis diplomacy. In exploring these, the article draws upon both recently released archival material and the testimony of RAF officers involved in the command and control of the missiles. (3) The operational readiness of the missiles in Britain contrasts with limited Soviet preparations in the Cuban missile crisis, and where the American authorities behaved as though Soviet operational readiness was an indicator of Soviet intent. Yet although the Thor missiles were at a high state of readiness they played no diplomatic role in the crisis even though Prime Minister Macmillan was clearly inclined to use them to avoid escalation.

Background

2. The development of Soviet InterContinental Ballistic Missiles (ICBMs), publicly signalled by the launch of the Sputnik satellite in October 1957, provided the context and pretext for the deployment of Jupiter IRBMs in Italy and Turkey. British involvement in US IRBM programmes had a longer and more complex history, and although the Thor agreements provided an important precedent for the Jupiter agreements, British arrangements for hosting their missiles were different in crucial respects. (4) Most notably, the Thors were deployed as strategic weapons under joint US-UK control, not, like the Jupiters, under NATO auspices under the control of the Supreme Allied Commander Europe (SACEUR).

3. In the early 1950s, Britain and the United States collaborated on the development of a joint IRBM programme. Subsequently, the Eisenhower administration downgraded joint development in favour of two indigenous 1,500 mile range IRBMs: Thor and Jupiter. In July 1956, informal approaches were made to the British government concerning deployment of IRBMs on existing US bases in the United Kingdom. (5) Further discussions were interrupted by Suez but after the crisis Thor emerged as a useful vehicle for repairing 'the special relationship', despite Air Ministry scepticism about Thor and concern that acquisition of the missile might jeopardise Britain's indigenous IRBM programme, Blue Streak. (6) In March 1957, Thor formed the centrepiece of discussions between Macmillan and Eisenhower at Bermuda. The Eisenhower administration had already agreed to provide Bomber Command with a stock of US nuclear weapons and to co-ordinate the nuclear strike plans of both airforces. At Bermuda, the two leaders reached agreement in principle that IRBMs would be made available by the United States for use by United Kingdom forces, leaving detailed arrangements to be finalised later. Protracted and complex negotiations ensued, in which the command and control arrangements for the missiles and their warheads formed a principal concern.

4. In October 1957 the dynamics of the IRBM negotiations were dramatically altered by the launch of Sputnik, which increased the impetus within the Eisenhower administration for the rapid deployment of IRBMs. The British Ambassador in Washington, Sir Harold Caccia, observed that, 'with luck and judgement, we should be able to turn this in some way to our special advantage.' (7) Within the United States, however, the deployment of IRBMs became the focus of public debate with robust criticism of the missiles. *The New Republic* described Thor as 'a typically unstable liquid-fueled rocket of low reliability, unknown accuracy and high launching time'; Robert Albrook writing in the *Reporter* warned that the IRBMs in Europe were vulnerable to a Soviet first strike 'like the American fleet tied up at Pearl Harbor'. (8)

5. In addition to worries over the performance of the missiles, the Conservative government was increasingly under attack from the Labour opposition about its knowledge of, and control over, US nuclear operations carried out within the UK. In contrast to the Jupiter deployments in Turkey and Italy, the Thor deployments were a matter of public debate, and a target for anti-nuclear protesters of the Campaign for Nuclear Disarmament (CND), formed in 1958. In the face of this political pressure, the British government sought further safeguards. Specifically, the government requested the addition of a separate paragraph within the agreement 'which would at least appear to give the UK some physical control' over the use of any IRBMs which were deployed on US bases after the first four squadrons had been transferred to the British. (9)

6. In late January 1958, a draft technical agreement was negotiated which appeared to incorporate the majority of British demands. The first clause was amended to make it consistent with the existing understanding on US bomber bases in the UK and a command channel was agreed which tied the operational use of the IRBMs in the UK directly to the US Strategic Air Command (SAC)'s command structure rather than SACEUR. (10) The document also elaborated for the first time a procedure for reciprocal physical control based on a dual-key system.

7. Despite this agreement, the US was still intent on locating the UK based IRBMs within a wider alliance framework: a condition made clear to the British Foreign Secretary, Selwyn Lloyd. At a NATO meeting in Ankara, Lloyd was informed that reference to Article 5 of the NATO Treaty was a sine qua non for deployment. (11) The Americans proposed that:

Operational use of the missiles deployed in the United Kingdom under this agreement shall be a matter for joint decision by the two Governments, and both Governments agree that any such joint decision will be made as is deemed appropriate at the time in the light of the undertaking they have assumed, in Article 5 of the North Atlantic Treaty, to consider that an armed attack against one or more of the Parties to the Treaty in Europe or North America shall be considered an attack against them all. (12)

8. On February 16, just two days before the expected signing of the Agreement, Macmillan wrote personally to Eisenhower suggesting minor amendments to the draft. The amendments were to remove two draft provisions: that the agreement would remain in force indefinitely; and that the first squadron would be manned by the USAF if training of RAF personnel had not been completed. In relation to Article 5, Macmillan also suggested that it should be altered to read that: 'The decision to launch these missiles will be a matter for joint decision by the two governments. Any such joint decision will be made in the light of the circumstances at the time and having regard to the undertaking the two governments have assumed in Article 5 of the North Atlantic Treaty'. (13) Both Dulles and McElroy preferred the wording of the American draft. However, as the British amendment preserved the essential point of reference to Article 5, they advised Eisenhower to accept the revisions. On 22 February 1958, after 18 months of negotiations, the Thor missile agreement was formally signed. (14) Operational arrangements for the missiles nevertheless continued to develop, and critical changes were made to the command and control procedures for the missiles, which are discussed below.

Deployment: Command and Control in Practice

9. The 1958 agreement led to the stationing of 60 Thor missiles in the United Kingdom. To be deployed under dual control and operated by the RAF, the missiles carried a 1.44 megaton warhead, and had a range of 1,500 miles. Thor was deployed at four main bases: Driffield, Hemswell, Feltwell and North Luffenham. Surrounding each main base were four satellite stations, with missiles deployed at each location in groups of three. All squadrons were fully manned by RAF personnel, with the warheads under the control of American custodial officers. In June 1959, Bomber Command declared an initial operational capability with full-scale deployment completed in April 1960.

10. The operational control of Thor was covered by the basic understanding on joint decision which was contained in the Memorandum of Understanding signed by the two countries on 22 February 1958. (15) In practice, this was achieved by a dual key system which granted each government a physical veto over the launch of the missile. Operational orders were transmitted simultaneously through two channels. For the USAF, they would pass from Headquarters SAC through the 7th Air Division Headquarters and then directly to the squadrons. For the RAF, the orders would pass from the Air Ministry through HQ Bomber Command and then directly to the squadrons. (16)

11. Initial plans for the deployment of Thor were based on the assumption that the nuclear warheads would be stored centrally and only deployed operationally when the international situation deteriorated. Under these conditions, the time required to make Thor operational was estimated to be 57 hours if the warheads were stored at Lakenheath and 24 hours if the warheads were stored at the main bases. (17) This contrasted with a readiness capability of 15 minutes if the warheads were permanently installed on the missile. Details of Thor's operational capability were given to US Senator Symington during a briefing mission to United Kingdom. Less than satisfied with Thor's proposed capability, he threatened to voice his concerns to the US Congress. Opinion within the RAF also favoured the installation of the warhead: a position strongly endorsed by the Air Ministry who argued that 'as far as the RAF is concerned the operational readiness of the weapons system demands that the warhead should be fitted.' (18)

12. Despite these arguments favouring the installation of the warhead, the government remained equivocal. A particular concern was the risk of accidental explosion if the missile was struck by lightning. Although considered 'so remote as to justify disregarding it', the issue caused further delay. (19) Of greater significance was a report from the Joint Intelligence Committee which indicated that the government would only receive '24 hours strategic warning before any heavy Soviet attack on this country.' (20) In response to this assessment, it was concluded that 'if we only get 24 hours warning, Thor, without its warheads already fitted would be largely valueless.' (21) To permanently attach the warhead to the missile, however, raised questions concerning US custody. The implications of the proposal were described to US Secretary of State Herter in the following terms:

It is difficult to understand how a nuclear warhead attached to and made part of a weapons' system (missile or otherwise) under the operational control of another nation can be considered within the exclusive custody or possession of the United States when the only real control is possession of one of the firing keys...With such a strained interpretation of exclusive custody, the co-operating ally also having possession of one of the firing keys likewise can claim exclusive custody. (22)

Despite this realisation, and despite earlier assurances by the Pentagon to Congress that the custody of nuclear weapons would 'be maintained and protected separate from the carrying vehicle', (23) the decision to fit the warheads to the missile was taken in May 1960 and subsequently confirmed in a Bomber Command directive which stipulated that Thor was to 'maintain a capability to react within tactical warning at all times' (24)

13. Control of the Thor squadrons was exercised from Headquarters Bomber Command. To monitor the readiness of the force, an extensive communications system was provided which enabled the launch order to be sent directly from the Bomber Command Operations Room to each missile squadron. To guard against breakdown or enemy action, alternate routes of communication were provided which allowed 'for command to be exercised by a subordinate formation in the event of HQ Bomber Command being destroyed.' (25) The anticipated missile launch procedure was described to Sir Kenneth Cross in the following manner:

The Air Ministry now have under urgent consideration the steps which are required to bring the political machinery into line with the readiness of the weapon. It is considered, however, that when the V-Force are dispatched on 'positive control missions' the Thor force should be brought to T-8 and, should current R&D studies prove it practicable, a proportion of the force should be brought to T-2. There is, in fact, no difference in the problems with the two forces; when the decision is made not to recall the manned bombers, we must simultaneously commit the Thor force. It is one and the same decision. (26)

14. In July 1960, initial plans for the readiness of the Thor missile squadrons were issued and directed that sixty per cent of the force was to be maintained at standby. In practice this was achieved by keeping 40 missiles at 30 minutes readiness, 10 available within six hours and the remainder operational within 24-48 hours. (27) On receipt of an alert, the maximum number of missiles were to be brought to 15 minutes readiness and prepared for immediate initiation of the countdown. The launch sequence of the missile took 15 minutes to complete and, according to one Thor Launch Control Officer (LCO), consisted of

five phases:

- Phase 1: All equipment and targeting data checked. Countdown sequence initiated.
- Phase 2: Shelter retracted and missile erected. Targeting data entered.
- Phase 3: Missile loaded with fuel. Target data and missile valves rechecked.
- Phase 4: Missile functions transferred to internal power source. Missile topped up with liquid oxygen (LOX) if required.
- Phase 5: Authenticated launch codes received. Keys turned and engine started. (28)

15. During the launch procedure, a phased-hold could be introduced leaving the missiles eight minutes from launch in the vertical unfuelled condition or two minutes from launch in the fuelled position. (29) In October 1961, the readiness capability of the force was revised with a minimum of 65 per cent of the force placed at 15 minutes readiness. (30) To integrate Thor with the V-force, the Medium Bomber Alert and Readiness Plan was amended to incorporate the missile squadrons. Arrangements were also made to co-ordinate Thor with the combined strike plan immediately the squadrons became operational.

16 Launching the Thors under dual-key control involved a procedure in which RAF and USAF officers operated separate physical keys. The British key initiated the missile launch sequence and the American key armed the warhead. (31) There has been speculation about whether the American veto on the Thors could have overridden in extremis. (32) There may have been ways around dual control, certainly in the early stages of the deployment. In 1960, for example, a Thor was accidentally armed when an RAF LCO leaned on the USAF keyway. (33) When this was reported, Douglas Corporation and USAF personnel immediately set about rectifying the problem in all the missiles. Although at the time, the incident was played down by both governments, Britain was later informed that 'at one time it had been possible for many American missiles to be simultaneously launched by a particular combination of accidents.' (34) Devising means of circumventing dual-key control, was, according to another LCO, 'a game we all played', though the intended outcome appears to have been constructive rather than sinister. (35) By the time of the Cuban missile crisis the problems associated with accidental launch appear to have been eliminated.

17. US Permissive Action Links (PALs) were never installed on the Thors, and it is perhaps not impossible that British crews could have armed their missiles during a crisis. Conversely, as only one American serviceman was involved in the launch procedure, it is virtually inconceivable that the British veto could have been overridden. (36) While there is no suggestion that any RAF crew contemplated such action, fear of unauthorised use of the Jupiter IRBMs in Turkey greatly exercised senior American officials, including President Kennedy, at the height of the Cuban missile crisis. (37)

18. With the deployment of Thor complete, consideration was given to extending the duration of the original agreement. Scheduled to expire in November 1964, the matter was brought before the Air Council for detailed examination. The situation was made more difficult as the arguments in support of Thor's extension 'were almost exactly the converse of those which had led (with the concurrence of the Air Ministry) to the abandonment of Blue Streak as a military weapon.' (38)

19. The Labour Party's opposition to Thor was a further factor against extending deployment. This was based on the firmly held belief that Thor was a first strike weapon. (39) Given this criticism, any government proposal designed to extend Thor's deployment by adopting a fire-on-warning strategy would cause a political outcry. No firm decision was taken until April 1962, when the Chief of the Air Staff informed the Air Council that the proposal to extend Thor's deployment would almost certainly result in a concerted attempt to reduce the remainder of the deterrent. (40) The final decision to phase out Thor was taken by the Defence Committee in July. The run down was strongly endorsed by the Minister of Defence, Peter Thorneycroft, who justified his position on the grounds that:

Thor is not part of our independent contribution to the deterrent and, with its operational limitations, can never be a satisfactory second strike weapon. It is, relatively speaking, expensive in manpower and money and I have reached the conclusion that, in present circumstances our expenditure on Thor should be brought to an end. (41) The US authorities, and then the public, were informed of the decision in August 1962, shortly before Soviet MRBMs and IRBMs set sail for Cuba. The first Thor squadron to be released from operational responsibility was the Drifffield complex, disbanded in January 1963, and the last Thor missiles were taken off station in August 1963. (42)

The Cuban Missile Crisis

20. President Kennedy learned of the deployment of Soviet missiles in Cuba on 16 October. Three days later senior British intelligence officials visiting Washington, were told of their discovery. (43) The British government was formally briefed on the Cuban situation on 21 October, when JFK personally informed the British Ambassador, Sir David Ormsby-Gore, both on developments in Cuba and the US reaction. (44)

21. The first published account of Britain's military response to the Cuban missile crisis was produced by Air Vice Marshal Stewart Menaul, then Senior Air Staff Officer at Bomber Command. According to Menaul:

The Defence Ministry in London and Bomber Command staff watched anxiously during this tense period and speculated on how America might react. By 20th October [sic] the situation had deteriorated so seriously and rapidly that the Commander-in-Chief kept in continuous communication with the Air Ministry in London and with Strategic Air Command Headquarters at Omaha, Nebraska. (45)

22. Menaul's account of events, however, is wholly at variance with the recollections of the Commander in Chief (C-in-C) of Bomber Command, Sir Kenneth Cross. According to Cross, discussions with both the Air Ministry and SAC were non-existent. 'And it was not for lack of trying'. (46) Cross contends that throughout the crisis, he was forced to act on his own initiative and although he frequently tried to contact the Air Ministry no response was forthcoming. The situation with SAC was much the same. '...Once the Cuban missile crisis started, there was no one at the end of the phone and there was no one at the end of the phone until the crisis was over. He suspected that this may have been deliberate.' (47) Given that in the absence of PALs, the C-in-C Bomber Command had de facto control over Britain's strategic nuclear arsenal and the delegated authority to attack the Soviet Union under certain conditions, it is instructive to examine how Britain's command system functioned during the crisis. (48)

23. According to Menaul's account, when news of the Cuban missile crisis broke, Bomber Command stations were involved in one of their frequent alert and readiness exercises. This enabled 'certain preliminary measures' to be taken 'as a matter of routine.' (49) On Friday 26 October, these exercises were extended and in the early hours of Saturday morning, Air Marshal Cross 'increased the readiness state of the force.' Both the Thor missile force and V-bombers were at fifteen minutes readiness. The records of the Air Ministry, however, present a different version. They show that Bomber Command HQ ordered Alert Condition 3 at 13.00 hours on Saturday 27 October which remained in force until 5 November. (50) On 29 October orders were given to double the number of bombers on Quick Reaction Alert (QRA). At most stations within Bomber Command this would have required six aircraft in total, although at RAF Waddington the number of bombers at QRA was trebled resulting in nine fully armed Vulcans at 15 minutes readiness. (51) The proportion of Thor missiles at 15 minutes readiness was increased, with 59 of the 60 missiles 'made serviceable and ready simply by use of the telephone.' (52) Preparations to disperse the V-force were also put in hand with the Air Defence Operations Centre (ADOC) at Bentley Priory informed that Alert Condition 2 (dispersal of the V-force) would be 'flash' signalled by Bomber Command HQ 'to ADOC and dispersal stations, using the authenticating codeword FRAMEWORK.' (53) To provide

early warning of Soviet missile attack, the Jodrell Bank telescope was prepared for use by the RAF on the declaration of a 'state of military vigilance'. (54)

24. The manner by which Bomber Command implemented these alert measures, raises salient questions concerning the command and control of British nuclear forces and the division of responsibility between civilian and military authorities. Speculation has also arisen whether Ministers were aware of these events, a concern heightened by Menaul's own account which contends that no more than 'a handful of people outside Bomber Command' were given full details. (55) In his own study on the issue, Sagan quotes Lord Zuckerman who recalls that within the Ministry of Defence no orders were given to Cross to change Bomber Command's alert state. His tentative conclusion is that senior civilian officials (including the Prime Minister), 'were not fully cognizant' of events and that 'Air Marshal Cross's actions are another example of how the military commander's interests in combat readiness can cut against civilian authorities' interests in safety.' (56) This conclusion is contested by Ian Madelin, former director of the Ministry of Defence's Air Historical Branch, who argues that Cross 'had already implemented the measures which could be done routinely and covertly. Anything beyond that would be overt and could be construed as provocative and destabilising... The steps he was taking were quite appropriate and, in retrospect, one would not say we should have done anything more or different.' (57) Given that key records have now been declassified, which account is the more appropriate?

25. MOD records recently released show that the first official instructions received by the military occurred at 11.00 hours on Saturday 27 October when Sir Thomas Pike, the Chief of the Air Staff, was summoned to Admiralty House for discussions with the Prime Minister. (58) Earlier in the week Macmillan had told General Norstad, that 'mobilisation had sometimes caused war' reinforcing SAC's preference for discrete and limited preparations. (59) When Macmillan met Pike they 'discussed what measures might be taken to alert the United Kingdom forces' and expressed his desire that overt preparations be avoided. 'Moreover, he did not wish Bomber Command to be alerted, although he wished the force to be ready to take the appropriate steps should this become necessary.' (60) Immediately after his meeting with the Prime Minister, Pike contacted Cross to inform him 'that he should be on the alert and that his key personnel should be available on station.' (61) This chronology accords with Bomber Command records which indicate that Alert Condition 3 was ordered by HQ Bomber Command at 1300 hours.

26. Details of the Air Chief's meeting with the Prime Minister (including his conversation with Cross) were given to the navy and army chiefs in a hastily convened meeting in the Ministry of Defence at 2-30pm later that day. In that meeting the Chiefs of Staff decided that 'at the moment no action was needed other than that of alerting key personnel.' (62) However, to maintain the credibility of the deterrent, it was essential that 'Bomber Command should be alerted and dispersed in the event of positive indications that the United States propose to operate against the Cuban mainland.' (63) The Chiefs were also informed that the US invasion force would not be ready to operate until 29 October and the British government would be notified before any definitive action was taken but that 'this might take the form of information rather than consultation.' (64) The Chiefs set down their views (including the various alert measures which could be undertaken in a Precautionary Stage) in a brief for the Chief of the Defence Staff 'in the event of a Cabinet meeting being called at short notice.' (65)

27. There is therefore no evidence to support the conjecture that Cross acted ultra vires. Moreover, the declaration of Alert Condition 3 was specifically designed to be authorised by the C-in-C Bomber Command without recourse to political authority. (66) Although there is some evidence to suggest that Cross 'had been badgering MOD, Air Ministry and Whitehall for the previous 5 days to be allowed to bring his command to 05', (67) there is no indication that such measures were implemented against political wishes. Indeed, as Sir Kenneth Cross was later to argue, political considerations were a constant worry as 'despite having everything ready to bring 75% of the aircraft in the Command to readiness, we could not give the order for fear of the effect it might have (if it became known) on the very tense negotiations being carried on by Mr Krushchev and Mr Kennedy.' (68)

28. The concern expressed by the C-in-C over alerting the aircraft did not extend to the missile force. As shown above, in the case of the Thor Strategic Missile Force (SMF) 59 of the 60 missiles had been made 'ready' and placed at the same readiness condition as the aircraft on QRA. Consequently, during the crisis the SMF was placed at 15 minutes readiness. (69) In effect there was no significant change from normal operational conditions in which 65 percent of the force (39 missiles) was already at standby (i.e. about 30 minutes from launch) with the remainder available in 24-48 hours. (70) However, if the QRA force had been placed at 05 minutes readiness, the missiles would have been erected and held at Phase 2 hold eight minutes from launch.

29. A more significant aspect of these procedures, however, is that the decision to fully alert the SMF was taken unilaterally by Air Marshal Cross apparently without consulting US authorities. Yet, as Thor was a dual-key weapon, 'he could not do this without 7th Air Division knowing, and he knew they were talking back to SAC.' (71) Exactly what the US authorities made of Thor's alert state is as yet unclear. According to Sagan, 'There is... no indication in the available records that high-level American political or military authorities in Washington were aware that Britain's nuclear forces were being put on a higher state of alert.' (72) For Cross, the performance of the Thors during the crisis reaffirmed the deterrent value of the missile. Outlining the advantages of the system to the VCAS, he contended that 'this well proven weapon enables a high proportion of missiles to be brought to readiness at will.' (73) He further argued that in the 'eye of the American professional, as represented by SAC, it was systems at readiness that really counted.' (74) Cross therefore recommended that the phase-out of the Thors be 'retarded' and 'the reduction planned to start on April 1st 1963 be postponed until at least April 1964.' (75) As noted earlier, the C-in-C's views were not shared by the Minister of Defence and the missiles were withdrawn on schedule.

Diplomacy

30. As the Cuban Missile Crisis reached its climax, 59 British IRBMs, each capable of unleashing a destructive power one hundred times greater than that used over Hiroshima, were at 15 minutes readiness (or less). The USSR possessed less than half that number of ICBMs capable of targeting the USA. The United States, in contrast, had an estimated 5000 nuclear warheads able to strike at the Soviet Union. In Washington, Secretary of State, Dean Rusk told Ambassador Ormsby-Gore on Friday 26 October, that work on the Soviet missile sites was being accelerated, and emphasised that, 'a very serious situation would arise if any of the weapons were moved into a firing position or if it were discovered that they were being fitted with nuclear warheads'. (76) This underlined the fact that throughout the crisis, the American government behaved as if the operational condition of the missiles in Cuba was crucial, and that a high state of Soviet readiness signalled a Soviet intent to fire their weapons. American perception of the Soviet missiles remains perplexing, and all the more so when considered against the activities in Britain, Turkey and Italy.

31. Whatever their military importance, the Thors were potentially significant diplomatically as the crisis reached its climax. By 26 October, the first indications were appearing in Washington that a deal might be possible. Macmillan was briefed over the phone by Kennedy and by Ormsby-Gore. The Prime Minister was clearly concerned that American action in the Caribbean would provoke a Soviet response against Berlin and told Kennedy that, 'at this stage any movement by you may produce a result in Berlin which would be very bad for us all. That's the danger now.' (77) Kennedy then said that, 'if at the end of 48 hours we are getting no place, and the missile sites continue to be constructed then we are going to be faced with some hard decisions,' He nevertheless promised that, 'in any case I'll talk to you on the phone before we do anything of a drastic nature.' (78)

32. As the crisis now reached its climax, the Prime Minister and his close colleagues considered whether British diplomatic action was necessary. Thor figured both as the basis of an independent initiative and as part of co-ordinated action with the United States. The Kennedy administration was giving active consideration to the withdrawal of the Jupiters from Turkey, though the issue had not yet been raised by Khrushchev. On 26 October, Ormsby-Gore was informed by London that it might be less invidious for the Turks if Britain was also prepared to accept United Nations observers on 'proper conditions' at the Thor missile sites: 'If it might help to persuade the Russians and Cubans to accept something on these lines by introducing the idea of reciprocity, we might

be ready to consider some similar arrangements for the Thor missile sites in this country'. (79) The Foreign Office had not yet consulted the Ministry of Defence or obtained Governmental authority for a definite proposal on these lines but intended to do so, if Ormsby-Gore thought it helpful. The Foreign Office, nevertheless believed that, 'it would be disadvantageous if the Cuban problem were resolved in the context of bases overseas alone'. (80) A broader agenda was preferable, possibly involving anti-surprise attack measures, in particular, static observation posts at danger points, including outside the Caribbean. (81) On 22 October, Macmillan had privately made clear to Ormsby-Gore that he 'could not allow a situation in Europe or in the world to develop which looks like escalating into war without trying some action by calling a conference on my own, or something of the kind, to stop it'. (82) The previous day, Kennedy had confided to Ormsby-Gore that he believed the Jupiters were 'more or less worthless' and that a negotiated settlement to the Cuban crisis would encompass a broader agenda than the Caribbean. (83) During the week, the idea of British sponsorship of a conference to broker a settlement had been put to the British government by Captain Ivanov, a London-based officer of Soviet Military Intelligence. (84) By Friday, the Foreign Office was anxious to learn whether Kennedy was still seriously interested in a broader conference and whether Washington had given any thought to what form, sponsorship and place they might prefer (85)

33. On Friday evening, 26 October, Macmillan floated the idea of immobilising the Thors to the President (before Khrushchev had publicly raised the Turkish Jupiters). After Kennedy had spoken of possible guarantees for Cuba's security, Macmillan asked whether if, 'we want to help the Russians to save face would it be worthwhile our undertaking to immobilise our Thor missiles which are here in England during the same period - during the conference?' (86) Kennedy promised to 'put that into the machinery', and be in touch later. He was nevertheless concerned that 'too many dismantlings' would bring the Turkish and Italian IRBMs to the fore, which he wished to avoid. (87)

34. Macmillan then wrote to Kennedy, confirming the main points of their conversation, and outlining the three possibilities they had discussed: that the inviolability of a demilitarised Cuba could become subject to international guarantee; that in the absence of a settlement the Acting Secretary-General of the UN, U Thant, should go to Cuba himself, secure immobilisation of the missiles and prevent further work on the sites to allow discussions to open; and third:

... the proposal that it might be helpful to save the Russians' face if we undertook during the same period to allow the immobilisation of our Thor missiles, of which there are 60, under United Nations supervision. This has, of course, the disadvantage that it brings in the concept of bargaining bases in Europe against those in Cuba. Nevertheless if it would turn the scale I would be willing to propose it to U Thant and it might be less invidious for us to take the lead rather than place the burden on the Turks. You said you would have this idea looked at. (88)

There are no indications that Kennedy displayed any interest in the idea, and there was no discussion of the proposal in ExComm on the Saturday. (89)

Black Saturday

35 Among American officials, 27 October 1962 became known as 'Black Saturday', and may well have been the closest we have come to Armageddon. In Washington, the measured optimism of Friday was quickly dispelled by the broadcast of a second, formal, letter from Khrushchev, in which he publicised the proposal to withdraw the missiles, in return for guarantees of Cuba's security, but also added that 'analogous weapons' in Turkey should be withdrawn. (90)

36 Despite the importance of the Turkish missiles, Macmillan's advisers appear curiously ill-informed about their diplomatic and military status. On 28 October, his private secretary, Philip de Zulueta enquired of McGeorge Bundy:

If the question of missiles in Turkey should be revived in one form or another (as we gather from David Gore may have been in the President's mind) it would be very helpful to the Prime Minister to know what the position in Turkey actually is. Could you let me know what missiles there are actually operational and whether these are manned by the Turks or by the United States? Of course we realise that the war heads will be under the key of the cupboard. Also are these missiles regarded as part of the NATO forces or are they like the Thors in the UK, part of a separate Turko-American arrangement? (91)

This rather suggests that during this critical phase of the crisis, Macmillan and his government conducted crucial deliberations with the Americans in ignorance of the basic diplomatic and military circumstances of the Turkish deployment.

37. Macmillan was rather better informed about Kennedy's private views on the IRBMs in Turkey and whether they might be traded away. Before learning of Kennedy's private thoughts from Ormsby-Gore, Macmillan, had warned Kennedy that Khrushchev might trade his Cuba position against European goals, and that this was to be avoided at all costs. In the NATO Council on 22 October, Dean Acheson made clear no such deal would be struck. (92) Yet, in Washington, active consideration was being given to trading the Jupiters, (93) about which Macmillan and his colleagues were well aware.

38. As the debate in Washington over the political and military options developed, Ormsby-Gore gained further insights into Kennedy's thinking, and reported these back to London. On the Saturday morning, he met the President and was shown a draft reply to Khrushchev's second letter. (94) Kennedy explained that the message from Khrushchev on Friday had made no mention of the Turkish bases. Ormsby-Gore suggested that in spite of the changed circumstances, it might still be useful for U Thant to go to Cuba. On the merits of Khrushchev's new proposal, the President, 'indicated that from many points of view the removal of missiles from Turkey and Cuba to the accompaniment of guarantees of the integrity of the two countries had considerable merit.' (95) However, the form and timing of the offer made things difficult. The President thought it might be helpful if the British Ambassador to Turkey could also give his opinion. Sir Bernard Burrows, HM Ambassador in Ankara, subsequently expressed similar views to his American counterpart. A trade would be 'repugnant' to the Turkish government. (96) The British Embassy believed that within the Turkish foreign ministry there was opposition to a Cuban-Turkey trade, though recognition that Turkish bases could be discussed, only 'after a suitable lapse of time and in a general NATO context.' (97)

Chickening Out ?

39. Meanwhile, Kennedy appraised Macmillan on Khrushchev's two separate proposals, and on US Ambassador to the UN, Adlai Stevenson's meeting with U Thant. (98) The President had publicly restated his position that work on the Cuban bases must stop, before other proposals could be considered. He emphasised to Macmillan that the US should not negotiate on the individual security interests of NATO allies: 'Any initiatives in this respect, it seems to me, should come from Europe'. (99) He then asked for Macmillan's views, emphasising again, 'we must secure the actual dismantling of the missiles currently in Cuba as the first order of business.' (100)

40. In London, there was growing anticipation of American military action. As noted, after Macmillan spoke to the Chief of the Air Staff, on Saturday morning, Sir Thomas Pike reported to the other Chiefs of Staff that, 'the President had stated that unless he received [adequate assurances] within 48 hours he would take action to destroy the rocket sites either by bombing, by invasion, or by both'. (101) This was inaccurate, as Kennedy had not committed himself to military action. Nonetheless, Macmillan, himself, later recounted that, 'it seemed therefore, that on Saturday the climax had now been reached, and that the Americans could have no alternative but to launch an attack, at least to destroy the SAM sites... If the next thirty-six hours were agonising in Washington, they were almost equally so in London'. (102)

41. Kennedy's remarks to Macmillan on the Friday evening were taken by the Permanent Secretary at the Foreign Office, Sir Harold Caccia, to indicate US willingness to act unilaterally. Caccia's brief for the Foreign Secretary, prepared on Saturday morning, and shown to the Prime Minister, made clear the assumptions and calculations of the Foreign Office. Notwithstanding the prospect of nuclear war on 27 October, the Permanent Secretary was clearly focused on the demands of the 'special relationship'. Caccia explained that the President had indicated that military action could be imminent, though he had given the assurance that 'he would not act under 48 hours and that he would not take any drastic action, which presumably means bombardment or invasion, without telling the Prime Minister in advance'. (103) Caccia was clear that this 'does not mean that we shall be consulted', and 'as the Prime Minister is aware... only deals with the formalities and not the realities of the situation'. (104) This interpretation was at variance with assurances given by Secretary Rusk to consult Britain, France and West Germany before any decision was taken. (105)

42. Caccia concluded that, given the President would have already taken such a decision when he contacted Macmillan:

at that time it would be likely to be too late for any other initiative. If the Prime Minister were to ask for more time in order for instance to summon a meeting of Heads of States, the result could hardly change things at that stage. It would only have the consequence that the President would conclude that when it came to the crunch Britain had wanted to chicken out. If this is right we would not have been able to alter events and we would have done lasting damage to our relations with the United States. (106)

43. The Permanent Secretary's conclusion was that, while an 'independent British initiative should not cross the wires of what is now being attempted', it would have to come within the next 24 hours. (107) Caccia did not support a conference, which 'might only muddle things at a critical stage'. (108) Instead, he suggested that the UK Ambassador to the UN, Sir Patrick Dean, should raise the immobilisation of the Thors with U Thant.

44. In addition, Caccia advised that the Soviet Chargé d'Affaires, V.A. Loginov, be told by the Foreign Secretary, 'not as a threat but as a fact that the chance of negotiation hangs on the immobilisation of the missile sites in Cuba'. (109) Loginov was duly summoned, and in addition to increasing diplomatic pressure on the Soviets, the Foreign Secretary laid the ground for the Thor initiative. Lord Home emphasised the 'extreme gravity' of the situation and explained that, 'the key to the immediate future was the removal of offensive nuclear weapons' or to render them inoperative. (110) Moreover such a scheme must be made in conjunction with the United Nations. If such action was forthcoming, 'wider talks should be possible'. (111)

45. Sir Patrick Dean was then briefed for his meeting with U Thant. (112) The government did not want to cut across the three sided conversations, but if the talks were not getting anywhere, a critical point might be reached within the next 24 - 48 hours. One idea would be for U Thant, 'preferably with but if necessary without any special authorisation from the United Nations', to take a team of inspectors to Cuba to verify that work on the missiles had stopped and no further offensive weapons were arriving. (113) Dean was also told to raise two ideas which were acceptable to Washington, namely, 'that the inviolability of Cuba might become a subject of international guarantee provided that it was demilitarised', and second, that Latin America should become a nuclear free zone. (114) Both had 'obvious merits against any idea for reciprocity in the European area', but,

if it would make all the difference and help both Khrushchev and Castro to agree you could say that for the short term and in order to enable negotiations to take place, we would be likely to respond affirmatively to any appeal from U Thant to allow during this period the immobilization of our Thor missile sites in the United Kingdom. (115)

46. Macmillan had floated the idea of offering the Thors as a quid pro quo, and now formally outlined this to the President, as a draft British proposal to Khrushchev. Macmillan declared that he was fully in accord with Kennedy's desire to avoid negotiating on the security of a NATO ally, and that any initiative on this had to come from Europe:

Accordingly since I think it is very important for British public opinion, as well as such Commonwealth opinion as we could influence to have a good public position, I am proposing to send a message to Khrushchev... If Khrushchev agrees you will have got a standstill which gets the missiles immobilised. If he refuses and more drastic action has to be taken at least we will have punctured his rather specious affectation of moderation. (116)

47. While denying comparisons between missiles in Europe and those in Cuba, Macmillan's aim was to gain 'at least a breathing space during which negotiations on all these matters might be undertaken'. (117) If, under UN authority, the Soviets stopped work on the sites, did not import more ballistic missiles, and made the existing weapons inoperable, and if the United States lifted the quarantine and took no physical action against Cuba during the standstill, then the British government would make an offer to Khrushchev that was both 'symbolic and real':

If a standstill on the above lines was agreed the British Government would be ready to agree that the Thor missiles, which form a considerable force in my country, should be immobilised under similar arrangements during the period of the standstill. This proposal is put forward in good faith in the hope, Mr Chairman, that you will accept it as a fair arrangement so that even if final settlements cannot now be reached nevertheless by the introduction of an immediate standstill, we can set about the task of discussion and negotiation. (118)

48. Macmillan was thus proposing to Kennedy an initiative from Europe, couched in terms of a good position for world opinion. This did not extend to removing the missiles from Cuba and Britain. The initiative on the Thors addressed the specific question of immobilisation. British experts believed that this could be secured by taking the missiles off the ramps and placing them apart under cover. 'Inspection of the ramps alone would then suffice to ensure that the missiles could not be used; at the same time, 'there would be no military disadvantage to the Russians or Cubans in this procedure since the period (normally four to eight hours) required to bring missiles to a state of readiness to fire would not be appreciably lengthened if the preparations began with the missiles off the ramps'. (119)

49. Macmillan did not propose withdrawal of the Thors, presumably because immobilising missiles was the vital question under consideration, and also as the decision to withdraw the Thors had already been announced. Kennedy, however, was not interested, at least at this stage, and in this form. The mood in Washington was conveyed by Ormsby-Gore who reported that while the President was 'most anxious that the US should not take the initiative over European bases as this would look as though the US would be prepared to trade the security of European nations for the US security in the western hemisphere', he was 'not happy' about Macmillan's initiative. (120) Sir Patrick Dean saw the UN Acting Secretary-General at 1pm Washington time. (121) U Thant was more optimistic than he had been on Friday. Dean spoke as instructed, but omitted reference to the Thors. (122) The idea that U Thant should himself offer to go to Cuba if there was deadlock in the negotiations was apparently new to the Acting Secretary-General.

50. Meanwhile, Macmillan agreed 'that the use of any initiative by me is all a matter of timing.' (123) His colleagues were, according to his Press Secretary, Harold Evans, also having second thoughts about what Evans termed, the 'appeasement flavour which some would see in the Thors proposition.' (124) By the time Macmillan's colleagues (Home, Butler and Heath) reassembled at 9am on Sunday, an overnight phone conversation between Bundy and de Zulueta had conveyed the American reaction. (125) Bundy made clear that Kennedy thought the proposal was 'not yet right'; Bundy's view was that the Thors were a 'card' which 'might be played in some way different from the one which the Prime Minister suggests', in the circumstances of a 'more tense situation in which conceivably our current efforts are so near breakdown and the prospect of major escalation so high that we would all revise our estimates of what we wanted to do'. (126) Despite this, according, to Evans, 'the P.M. retained a hankering to take the initiative on a summit meeting, but Caccia came up hard

and strong against anything which might be construed as the British being the first to crack.' (127)

51. Macmillan cabled Kennedy that:

The trial of wills is now approaching a climax. Khrushchev's first message, unhappily not published to the world, seemed to go a long way to meet you. His second message, widely broadcast and, adding the Turkey proposal, was a recovery on his part. It has made a considerable impact. (128)

Amongst Kennedy's advisers, the idea emerged of replying only to the private letter, ignoring the public demand for a trade involving Turkey. (129) This became known as the Trollope ploy, based on the apparent willingness of heroines in Trollope's novels to interpret innocuous compliments as proposals of marriage. It was this approach that was to provide the public basis on which Kennedy successfully resolved the crisis. On Sunday, 28 October, Moscow Radio broadcast that orders had been given to dismantle those weapons in Cuba which the Americans regarded as offensive, for return to the USSR.

52. The view that Khrushchev had decided on what Ormsby-Gore described as 'virtually a complete climb-down' spread quickly. (130) Kennedy and his officials were anxious not to appear triumphant, though the President was praised from all quarters for his calmness and resolution. The view of most historians and students of crisis management has echoed this view of Kennedy's statesmanship. New evidence from American and Soviet sources, however, has cast a rather different light on the events of the weekend of 27-8 October. It is now clear that contrary to the received wisdom, Kennedy contrived a secret arrangement with Khrushchev involving assurances to withdraw the Jupiters. (131)

53. The new evidence has significant implications for understanding Kennedy's handling of the crisis, and for lessons about the outcome. It refutes the idea that Kennedy simply stood firm while Khrushchev retreated. The revelations should not however diminish Kennedy's reputation. They demonstrate his dexterity in squaring the circle of diplomatic accommodation and alliance cohesion. On the other hand, it is now clear that Khrushchev was retreating without the 'sweetener' of the Turkish missiles. (132) Khrushchev's reputation is also perhaps enhanced, though why he did not make greater use of the deal to his critics (or later to posterity) is less clear.

54. Kennedy's determination to reach a compromise invites speculation about why he did not express greater interest in Macmillan's Thor proposal. According to McGeorge Bundy: 'my guess would be that JFK would have wanted not to have any British action until he did want it, and not to pass any final judgement on any specific action until then.' (133) Robert McNamara believes that Kennedy's response was simply a polite way of refusing. (134) Kennedy may well have been suspicious of Macmillan's personal and political motives in seeking a role in the settlement. Nevertheless, had the Trollope ploy and the secret deal failed, Macmillan's initiative could then have been considered.

Conclusion

55. The most dangerous crisis of the Cold War arose when the USSR deployed M/IRBMs within range of the USA. One factor in that deployment was Soviet irritation at the US IRBMs in Turkey. We do not yet know how the Soviets viewed the threat from the Thors. From the Soviet perspective, the missile threat was in the context of thousands of American nuclear weapons targeted on the USSR, many from European bases. Yet, the Thors did not emerge as an irritant in British-Soviet or East-West relations. Nor, during the Cuban missile crisis, did the Soviets attempt, publicly or privately, to link the Thors to the Soviet MRBMs in Cuba. The Thor deployment amply demonstrates that Cold War and nuclear confrontations cannot be understood in military terms alone.

56. Yet the operational aspects of missile deployment were important during the missile crisis. President Kennedy was anxious about the command and control of the Jupiters in Turkey and Italy, and the US leadership was exercised, both publicly and privately, over the operational arrangements for the Soviet MRBMs in Cuba. The Americans behaved as though they believed Soviet operational readiness was an indicator of Soviet willingness to use the missiles. Yet the threat posed to Washington from Cuba was no different from the threat posed to Moscow from England. The Thors were at a high state of readiness and could have been fired in less than 15 minutes. The comparison with Soviet missiles is intriguing and underlines how American perception of Soviet military capabilities frequently neglected how things were on the other side of the hill.

57. It is perhaps an irony that the operational readiness of the British Strategic Missile Force was in inverse proportion to its political significance. The proximity of the Jupiters to Soviet territory clearly influenced Soviet (and American) perceptions.

58. It is now clear that when Khrushchev publicly demanded the withdrawal of American nuclear forces from Turkey in return for Soviet withdrawal from Cuba, Kennedy secretly undertook to withdraw the missiles from Turkey (and Italy). Linkage between the Thors and the missiles in Cuba was considered by the British government. For Macmillan it was a basis for possible independent action to break the diplomatic deadlock. For the Foreign Office, anxious not to undermine American diplomacy or appear to be 'chickening out', the Thors could be calibrated with American diplomacy. In the event Kennedy demurred at Macmillan's offer to immobilise the British IRBMs. And although we do not yet know sufficient about Soviet military calculations, it seems reasonable to conclude that during the missile crisis, the Thors were very much a dog that did not bark in the night.

[Introduction](#) | [Contents](#) | [back to the top](#)

Notes for Article 3

Pages 2 to 11 are drawn from Stephen Twigge and Len Scott, *Planning Armageddon: Britain, the United States and the Command of Nuclear Forces, 1945-1964* (Harwood Academic Press, 2000), chapter 4; pages 11 to 27 are drawn from L.V. Scott, *Macmillan, Kennedy and the Cuban Missile Crisis* (Macmillan 1999) chapters 8-9.

1. Ernest R. May and Philip D. Zelikow (Eds.), *The Kennedy Tapes: Inside the White House During the Cuban Missile Crisis* (Harvard University Press, 1997), p. 100. [Back](#)

2. See Philip Nash, *The Other Missiles of October: Eisenhower, Kennedy, and the Jupiters 1957-1963* (Chapel Hill, North Carolina: University of North Carolina Press, 1997); see also Nur Bilge Criss, 'Strategic Nuclear Missiles in Turkey: The Jupiter Affair, 1959-1963', *Journal of Strategic Studies*, Vol.20, No.3, (September, 1997); Barton J. Bernstein, 'Reconsidering the Missile Crisis: Dealing with the Problems of the American Jupiters in Turkey', in James A. Nathan (Ed.), *The Cuban Missile Crisis Revisited* (New York: St Martin's Press, 1992), pp. 55-129; and Leopoldo Nuti, 'L'Italie et les missiles Jupiter', in Maurice Vaisse (Ed.), *L'Europe et la Crise de Cuba* (Paris: Armand Colin, 1993). [Back](#)

3. The article is drawn from two studies: L.V.Scott, *Macmillan, Kennedy and the Cuban Missile Crisis: Political, Military and Intelligence Aspects* (Macmillan, 1999) chapters 8-9, and Stephen Twigge and Len Scott, *Planning Armageddon: Britain, the United States and the Command of Nuclear Forces, 1945-1964* (Harwood Academic Press, 2000), chapter 4. Funding for these projects was supported by the Nuclear History Program and the Welsh Higher Education Funding Council. For other relevant discussions of Britain's role in the missile crisis, see P. G. Boyle, 'The British Government's View of the Cuban Missile Crisis', *Contemporary Record*, Vol.10, No.3 (Autumn, 1996) and G. D. Rawnsley, 'How Special is Special? The Anglo-American Alliance During the Cuban Missile Crisis', *Contemporary Record*, Vol.9, No.3 (Winter, 1995). [Back](#)

4. For accounts of the *Thor* negotiations, see Ian Clark, *Nuclear Diplomacy and the Special Relationship: Britain's Deterrent and America, 1957-1962* (OUP, 1994), chapter two and John Baylis, *Ambiguity and Deterrence: British Nuclear Strategy 1945-1964* (OUP, 1995), pp. 251-7; see also Ian Clark and David Angell, Britain, the United States and the Control of Nuclear Weapons: The Diplomacy of the Thor Deployment 1956-58, *Diplomacy and Statecraft*, Vol. 2, No. 3, November 1991; Jan Melissen, The Thor Saga: Anglo-American Nuclear Relations, US IRBM Development and Deployment in Britain, 1955-1959, *Journal of Strategic Studies*, Vol. 15, No. 2, June 1992. [Back](#)
5. United States National Archives and Record Administration (hereafter NA): RG 59, Memorandum of Conversation, 711.56341/7.2056. [Back](#)
6. Baylis, *Ambiguity and Deterrence*, pp. 251-7. [Back](#)
7. Public Record Office, Kew (hereafter PRO): DEFE 13/414, Washington to Foreign Office, 6 October 1957. [Back](#)
8. Robert Divine, *The Sputnik Challenge* (OUP, 1993), p. 115. [Back](#)
9. NA: RG 59, Barbour to Dulles, 711.56431/12-557, National Archives. [Back](#)
10. NA: RG 59, Dulles to Embassy, 711.56341/2-958, National Archives. [Back](#)
11. NA: RG 59, Herter to Embassy, 711.56341/2-1358, National Archives. [Back](#)
12. NA: RG 59, Murphy to Dulles, 711.56341/2-1658, National Archives. [Back](#)
13. *Ibid.* [Back](#)
14. Cmnd. 366, *Supply of Ballistic Missiles by the United States to the United Kingdom* (HMSO, 1958). [Back](#)
15. *Exchange of Notes...Concerning the Supply to the United Kingdom of Intermediate Range Ballistic Missiles*, Treaty Series no. 14, Cmnd. 406 (HMSO, 1958). [Back](#)
16. PRO: AIR 20/10300, Technical Agreement between USAF and RAF on the Establishment of IRBM (SM-75 Thor) Bases in the United Kingdom, 26 June 1958. [Back](#)
17. PRO: DEFE 13/394, MM. 7/59, Meeting of Minister of Defence with the Secretary of State for Air, 24 November 1959. [Back](#)
18. PRO: DEFE 13/394, Humphreys to Sabatini, 31 March 1960. [Back](#)
19. PRO: DEFE 13/394, Record of meeting between Sir Richard Powell and Mr Gates, Deputy Secretary of Defense for International Security Affairs, 31 August 1959. [Back](#)
20. PRO: AIR 8/2239, Secretary of State to Minister of Defence, January 1960. [Back](#)
21. *Ibid.* [Back](#)
22. Dwight D. Eisenhower Library: Anderson to Herter, 16 May 1960, White House Office, Office of Assistant for National Security Affairs, NSC Series, box 14. [Back](#)
23. History of the Custody and Deployment of Nuclear Weapons: July 1945 through September 1977, Office of the Assistant to the Secretary of Defense, quoted in Peter Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca, NY: Cornell University Press, 1992), p. 176. [Back](#)
24. PRO: AIR 20/10620, Thor Strategic Missile Force, Readiness Policy, 25 July 1960. [Back](#)
25. PRO: DEFE 13/121, Progress Report on the Thor Project, 2 June 1958. [Back](#)
26. PRO: AIR 8/2238, Hudleston (VCAS) to Cross, 11 August 1959. T-8 and T-2 referred to minutes to launch. [Back](#)
27. PRO: AIR 8/2307, AC(61)44, 2 August 1961. [Back](#)
28. Correspondence, Flt. Lt. George Stalker. By August 1961 the actual countdown time was 13 to 14 minutes. Air 8/2307, The Future of Thor, Note by VCAS, AC(61)44, 2 August 1961. According to Flt Lt Stalker missiles in the Driffild complex were modified to enable fuelling during erection, thus reducing launch time from 15 to 9 minutes. [Back](#)
29. To maintain Thor at two minutes readiness raised a number of technical problems. First, the missile was designed to be kept in the fuelled state for only two hours, after which time various components became frozen through contact with the liquid oxygen. When this point occurred, the fuel was unloaded and the missile subjected to a six hour recovery period. Consequently, to avoid the whole force becoming inoperable after two hours, only one quarter (i.e. 15 missiles) could be held at two minutes readiness at any one time. Second, the continuous loss of liquid oxygen due to boil-off was expected to increase demand for LOX by 70 times. Third, the current safety regulations prohibited the loading of fuel into a fully armed missile, The Future of Thor, *ibid.* [Back](#)
30. Humphrey Wynn, *RAF Strategic Nuclear Deterrent Forces: their origins, roles and deployment 1946-1969* (HMSO, 1994), p. 348. [Back](#)
31. For discussion of the *Thor* deployment, see *ibid.*, pp. 340-62. [Back](#)
32. Simon Duke, *US Defence Bases in the United Kingdom: A Matter for Joint Decision?* (Macmillan, 1987), p. 233n. [Back](#)
33. Correspondence, Sqd. Ldr. Colin Burch. [Back](#)
34. PRO: AIR 19/999, Minister of Defences visit to the United States, 19 September 1962. [Back](#)
35. Correspondence, Flt. Lt. George Stalker. [Back](#)
36. Normally the American key was kept locked in a safe, though during the Cuban missile crisis, for example, USAF authentication officers wore them around their necks as was the practice with their RAF counterparts. Correspondence, Stalker, *op cit.* [Back](#)
37. Scott Sagan, *The Limits of Safety: Organisations, Accidents and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993), p. 109. [Back](#)

38. PRO: AIR 8/2307, Air Council, conc. of mtg. 15 (61), 7 September 1961. The characteristics of *Thor* that the RAF now applauded were those which when noted in *Blue Streak* had led to the judgment that the latter was a first strike weapon. [Back](#)
39. See Foreign Policy and Defence: Declaration by the Labour Party and the Trade Union Congress, July 1960, National Museum of Labour History. [Back](#)
40. PRO: AIR 8/2307, Secret Annex B to conc. of mtg. 6(62) (Special), 9 April 1962. [Back](#)
41. PRO: CAB 131/27, D (62) 40, 24 July 1962. [Back](#)
42. Wynn, *RAF Nuclear Deterrent Forces*, p. 361. [Back](#)
43. Scott, *Macmillan, Kennedy*, chapter three. [Back](#)
44. PRO: PREM 11/3689, Ormsby-Gore to Macmillan, Tel. 2636, 22 October 1962, PMs Pers. Tel. T.495/62; Ormsby-Gore to Macmillan, Tel. 2650, PMs Pers. Tel. T.505/62, 23 October 1962. [Back](#)
45. Stewart Menaul, *Countdown: Britains Strategic Nuclear Forces* (Robert Hale, 1980), p. 114. [Back](#)
46. Cross's recollections were given to Grp Cpt Madelin in September 1993, Group Captain Ian Madelin, Some Additional Comments on Command and Control During the Cuban Missile Crisis, in Roger Miller (ed.), *Seeing off the Bear: Anglo-American Air Power Cooperation during the Cold War* (Washington: United States Air Force, 1995), pp. 223-5. [Back](#)
47. *Ibid.* [Back](#)
48. For details of the C-in-Cs delegated powers, see Twigge and Scott, *Planning Armageddon*, pp. 85-9, 321-2. [Back](#)
49. Menaul, *Countdown*, p. 115. [Back](#)
50. PRO: AIR 25/1703, Operational Record Book, Headquarters No. 1 Group, October 1962. [Back](#)
51. Correspondence, Air Vice-Marshal Arthur Griffiths. [Back](#)
52. PRO: AIR 24/2689, Commander-in-Chiefs Conference of Group, Station and Squadron Commanders, 14-15 November 1962. [Back](#)
53. PRO: AIR 24/2696, Appendix 71 to Form 540, Administrative Order No. 8/62, 24 October 1962. [Back](#)
54. Sir Bernard Lovell, *Astronomer by Chance* (Macmillan, 1990), p. 322. [Back](#)
55. Menaul, *Countdown*, p. 116. [Back](#)
56. Sagan, *Limits of Safety*, p. 110. [Back](#)
57. Madelin, Additional Comments, p. 225. [Back](#)
58. PRO: DEFE 32/7, Record of a Conversation between the Chief of the Air Staff, First Sea Lord and the Chief of the Imperial General Staff held in the Ministry of Defence at 1430, Saturday, 27 October 1962. [Back](#)
59. Harold Macmillan, *At the End of the Day: 1961-1963* (Macmillan, 1973), p. 190. [Back](#)
60. Record of conversation between the CAS, FSL and CIGS. [Back](#)
61. *Ibid.* [Back](#)
62. *Ibid.* [Back](#)
63. *Ibid.* [Back](#)
64. *Ibid.* [Back](#)
65. *Ibid.* [Back](#)
66. For details of the various alert conditions, see Twigge and Scott, *Planning Armageddon*, pp. 54-5. [Back](#)
67. Correspondence, Air Vice-Marshal Michael Robinson. [Back](#)
68. PRO: AIR 20/11371, Air Marshal Sir Kenneth Cross to VCAS, Sir Wallace Kyle, 31 October 1962. [Back](#)
69. There is also contested evidence that some *Thors* were erected and may have been fuelled. See Stephen Twigge and Len Scott, *Fail Deadly? Britain and the Command and Control of Nuclear Forces 1945-64* (Aberystwyth, 1997), pp. 201-2. [Back](#)
70. The Future of Thor. [Back](#)
71. Madelin, Additional Comments, p. 224. [Back](#)
72. Sagan, *Limits*, p. 113; see also Raymond L. Garthoff, *Reflections on the Cuban Missile Crisis* (Washington: Brookings, 1989), p. 208n. The only British forces whose alert state the President was notified of were 3 SACEUR assigned Valiants and 4 Canberras, John F. Kennedy Library: Joint Chiefs of Staff to Secretary of State, National Security Files, Cuba Cables, 10/25/62 Box 41. Kennedy was notified of the alert state of the Jupiters though not the Thors. [Back](#)
73. Cross to Kyle. [Back](#)
74. *Ibid.* [Back](#)
75. *Ibid.* [Back](#)
76. PRO: PREM 11/3690, Ormsby-Gore to Home, Tel. 2691, 26 October 1962. [Back](#)

77. PRO: PREM 11/3690, Record of a Conversation between the Prime Minister and President Kennedy at 11.15pm on Friday, 26 October, 1962; May and Zelikow, *The Kennedy Tapes*, p. 483; Macmillan, *End of the Day*, p. 211. [Back](#)
78. Ibid. [Back](#)
79. PRO: PREM 11/3690, FO to Washington, Tel. 7554, 26 October 1962. [Back](#)
80. Ibid. [Back](#)
81. Ibid. [Back](#)
82. PRO: PREM 11/3689, Macmillan to Ormsby-Gore, Tel. 7395, PM's Pers. Tel. T.493/62, 22 October 1962; for discussion, see Scott, *Macmillan, Kennedy*, chapter three. [Back](#)
83. Ormsby-Gore, Tel. 2650; for discussion, see Scott, *Macmillan, Kennedy*, chapter three. [Back](#)
84. Scott, *Macmillan, Kennedy*, chapter six. [Back](#)
85. FO to Washington, Tel. 7554. [Back](#)
86. Record of a Conversation on 26 October, 1962; May and Zelikow, *The Kennedy Tapes*, p. 482; Macmillan, *End of the Day*, p. 210. [Back](#)
87. Ibid. [Back](#)
88. PRO: PREM 11/4052, Macmillan to Kennedy, Teleprinted to Washington, T.513/62, 27 October 1962; May and Zelikow, *The Kennedy Tapes*, pp. 484-5. [Back](#)
89. May and Zelikow, *The Kennedy Tapes*, pp. 492-629. [Back](#)
90. Khrushchev to Kennedy, 27 October 1962, *Foreign Relations of the United States, 1961-1963, Vol. XI, Cuban Missile Crisis and Aftermath* (Washington: United States Government Printing Office, 1996) pp. 257-60; May and Zelikow, *The Kennedy Tapes*, pp. 505-8. [Back](#)
91. PRO: PREM 11/3691, de Zulueta to Bundy, Teleprinter Message, 28 October 1962. [Back](#)
92. PRO: PREM 11/3689, P. Mason, Tel. 163, 23 October 1962. [Back](#)
93. Nash, *The Other Missiles*, pp. 131-49 [Back](#)
94. PRO: PREM 11/3691, Ormsby-Gore to Home, Tel. 2701, 27 October 1962 [Back](#)
95. Ibid. [Back](#)
96. PRO: FO 371/162382, Burrows, Tel. 1284, 28 October 1962. [Back](#)
97. Ibid. [Back](#)
98. PRO: PREM 11/3691, Kennedy to Macmillan, Teleprinter message, PM's Pers. Tel., T.516A/62, 27 October 1962. [Back](#)
99. Ibid. [Back](#)
100. Ibid. [Back](#)
101. Record of conversation between the CAS, FSL, and CIGS. [Back](#)
102. Macmillan, *End of the Day*, p.213. [Back](#)
103. PRO: FO 371/162384, Caccia to Home, 27 October 1962. [Back](#)
104. Ibid. [Back](#)
105. PRO: PREM 11/3690, Ormsby-Gore, Tel. 2697, 26 October 1962. [Back](#)
106. Caccia to Home, 27 October 1962. [Back](#)
107. Ibid. [Back](#)
108. Ibid. [Back](#)
109. Ibid. [Back](#)
110. PRO: PREM 11/3691, FO to Washington, Tel. 7574, 27 October 1962. [Back](#)
111. Ibid. [Back](#)
112. PRO: FO 371/162387, Home to Dean, Tel. 4020, 27 October 1962. [Back](#)
113. Ibid. [Back](#)
114. Ibid. [Back](#)
115. Ibid. [Back](#)
116. PRO: PREM 11/3691, PM's Pers. Tels. T.517/62 and T.518/62, to Sir Patrick Dean and Ormsby-Gore [27 October 1962]. [Back](#)
117. Ibid. [Back](#)
118. Ibid. [Back](#)

119. PRO: PREM 11/3691, Teleprinter message, de Zulueta to Bundy, [27 October 1962]. [Back](#)
120. PRO: PREM 11/3691, Ormsby-Gore, Tel. No 2707, 27 October 1962. [Back](#)
121. PRO: FO 371/162383, Dean to FO, Tel. 1800, 27 October 1962. [Back](#)
122. Ibid. [Back](#)
123. PRO: PREM 11/3691, de Zulueta to Bundy, Teleprinter Message, PM's Pers. Tel. T.520/62, 28 October 1962. [Back](#)
124. Harold Evans, *Downing Street Diary: The Macmillan Years 1957-1963* (Hodder and Stoughton, 1981), p. 225. [Back](#)
125. Ibid., pp. 225-6; Thorneycroft joined the group on Sunday morning. [Back](#)
126. PRO: PREM 11/3691, Telephone Conversation between Mr Bundy and Mr de Zulueta at 4am on Sunday October 28, 1962. [Back](#)
127. Evans, *Downing Street Diary*, p. 226 [Back](#)
128. de Zulueta to Bundy, PM's Pers. Tel. T.520/62. [Back](#)
129. May and Zelikow, *The Kennedy Tapes*, pp. 520-629. [Back](#)
130. PREM 11/3691, Ormsby-Gore to Home, Tel. 2710, 28 October 1962. [Back](#)
131. See James G. Blight and David A. Welch, *On the Brink: Americans and Soviets Reexamine the Cuban Missile Crisis*, (New York: Noonday Press, 1990); Aleksandr Fursenko and Timothy Naftali, *'One Hell of a Gamble': Khrushchev, Castro Kennedy and the Cuban Missile Crisis 1958-1964*, (John Murray, 1997); May and Zelikow, *The Kennedy Tapes*, pp. 439, et seq; Nash, *The Other Missiles*, pp. 141-71. There is no evidence that the British learned of the secret assurances. [Back](#)
132. Fursenko and Naftali, *'One Hell of a Gamble'*, pp. 284-5. [Back](#)
133. Correspondence, McGeorge Bundy. [Back](#)
134. Correspondence, Robert McNamara [Back](#)

[Introduction](#) | [Contents](#) | [back to the top](#)

The Institute of Historical Research (IHR), Senate House, Malet Street, London WC1E 7HU
The IHR is a member of the School of Advanced Study which is part of the University of London