

# A CHRONOLOGY OF THE MISSILE TECHNOLOGY CONTROL REGIME

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## OVERVIEW

The Missile Technology Control Regime (MTCR) is an informal, non-treaty association of states that have an established policy or interest in limiting the spread of missiles and missile technology. The MTCR's origins date back to the 1970s, when the U.S. government became aware of dangers posed by the missile programs of developing nations. Several events, including South Korea's 1978 ballistic missile test, Iraq's attempt in 1979 to purchase retired rocket stages from Italy, India's July 1980 SLV-3 test, and the former German firm OTRAC's 1981 testing of a rocket in Libya, contributed particularly to U.S. apprehensions.<sup>2</sup>

The concerns of the United States were translated into a Reagan administration initiative that resulted ultimately in an agreement by seven founding members to limit the spread of missiles and missile technology and in the release of guidelines on April 16, 1987. According to the guidelines, the MTCR's original purpose was to "reduce the risks of nuclear proliferation by placing controls on equipment and technology transfers which contribute to the development of unmanned, nuclear-weapon delivery systems." Over time, that goal was expanded to "limit the risks of proliferation of weapons of mass destruction by controlling transfers that could make a contribution to delivery systems for such weapons."<sup>3</sup>

The MTCR currently provides the central institutional arrangement, as well as the base international norm, for dealing with missile proliferation. But while the international community now recognizes the spread of missiles and missile technology as a crucial security issue, the sweeping political changes witnessed over the last three years demand a re-examination of the regime's focus, strengths, weaknesses,

and ability to combat missile proliferation in a new, rapidly-changing international order. China's and North Korea's continuing aid to foreign states' missile programs increases the importance that a well functioning regime is in place to deal with missile proliferation issues. This report is intended to provide the necessary background data with which to undertake this reassessment.

## GUIDELINES AND ANNEX

At its founding, MTCR members released guidelines explaining the regime's general principles and an annex defining certain technologies to be controlled. The original guidelines established that MTCR members would refrain from exporting annex items on a voluntary and independent basis. The guidelines also outlined the basic criteria to assess missile-related export applications, such as nuclear proliferation concerns, the nature of the recipient state's missile and space programs, the item's significance in the development of a nuclear weapons delivery system, end-use assessment of the item, and any relevant multilateral agreements. At the same time, a wide spectrum of activities were permitted, including provisions for educational exchanges, research programs, and servicing agreements. According to the guidelines, the MTCR was not intended to impinge upon the peaceful use of advanced missile technology, national space programs, or international space cooperation efforts "as long as such programs could not contribute to nuclear weapons delivery systems."<sup>4</sup>

The guideline update in January 1993 extended the regime

significantly to cover not only delivery systems for nuclear weapons but also for other weapons of mass destruction. The new guidelines added that there is a "strong presumption" to deny an export if an MTCR member judges that a missile, whether or not listed in the annex, is "intended" for use in weapons of mass destruction delivery systems. In theory, the changes establish substantially tightened control parameters, since chemical and biological warheads can be placed on small rocket systems that fall well below the previous 500 kg. and 300 km. parameters.

The current technical annex contains 20 item groups divided into two categories. Category I consists of complete missile systems and subsystems as well as specially designed production equipment and technology for these systems.<sup>5</sup> In regards to Category I exports, the guidelines state "there will be a strong presumption to deny such transfers (...)." <sup>6</sup> They also require that "Until further notice, the transfer of Category I production facilities will not be authorized."<sup>7</sup> Other Category I transfers will be authorized on "rare occasions" where a government secures binding intergovernmental end-use assurances from the recipient. Category II items consist of less sensitive components and technologies, most of which have dual-use applications.<sup>8</sup> These items may be exported by MTCR members, provided that the importing state furnishes sufficient end-use guarantees for the item.

Two critical control parameters established by the annex are the 300 km. range limit and the 500 kg. payload limit. According to a Canadian government release, the 500 kg payload limit recognizes that emerging nuclear states are likely to develop initially relatively-heavy, and rather crude, nuclear weapons. The 300 km. range correlates to distances in a majority of strategic theaters of conflict where nuclear missile use might be considered. This range was also considered to be a convenient, workable, and achievable parameter around which international export controls could be established.<sup>9</sup>

## ORGANIZATIONAL OPERATIONS

### Meetings:

MTCR members conduct three types of meetings: plenary, technical, and special. MTCR members meet at least once a year for a plenary session to exchange intelligence information regarding missile proliferation developments, to discuss proliferation policy issues, and to explore ways of improving the regime's performance. At technical meetings, representatives examine the regime's specific control parameters to refine and expand the annex. Special meetings have been called for recruitment purposes; two such instances were

meetings for non-MTCR Western European states and for the newly-democratized nations of the Eastern bloc.

Member states volunteer to host MTCR meetings. The hosting nation serves as chairman and determines the meeting's agenda. France acts as the regular Secretariat, fulfilling the regime's normal administrative functions, which include serving as the point of contact. Decisions taken by members--such as approval of membership applications and annex changes--require a consensus vote. Due to intelligence sharing among members, records of meetings and negotiations remain confidential.

### Membership:

Full member states are those nations that either joined the regime at its inception, later submitted applications that were approved for membership, or were directly recruited by the regime to participate in its closed circle. (See page 6 for a list of MTCR member states.) The recruitment process often involves seminars, dialogue in the form of bilateral consultations, and fact-finding missions by MTCR delegations. Recruiting attempts have included, for example, U.S. efforts to obtain some form of participation in the regime by the Soviet Union. Similarly, Japan has approached (sometimes with other MTCR members) China, North Korea, Argentina, Brazil, as well as the former Soviet Union, encouraging them to adopt MTCR guidelines.<sup>10</sup> It should be noted that since the end of the Cold War and the advent of the Persian Gulf crisis, membership size has dramatically increased. Thirteen of the MTCR's current members joined between August 1990 and June 1993.

Decisions regarding a state's application to join the MTCR are made on a confidential, case-by-case basis. MTCR members generally judge applicants on the effectiveness of a state's export controls, its contribution to the regime, and its proliferation record. Backing and assistance from an influential member can also be helpful in gaining membership. All members must approve of an applicant before it is admitted to the regime.

### Adherence:

Since its onset, the MTCR has welcomed adherence to its guidelines by all states. The definition of "adherence," however, varies widely. A state, such as South Africa, can adopt export controls based on MTCR guidelines and proclaim itself to be an adherent. This does not necessarily imply that members will automatically recognize the "adhering" nation as an adherent; each member state has its own policy for determining whether a nation is an official adherent. For example, the United States has in the past only recognized

adherent status after a bilateral accord has been reached. Its efforts with Russia and Israel are both cases in point.<sup>11</sup> Recognition of adherent status by the U.S. government is particularly critical, as its sanction laws are triggered when non-MTCR participants transfer controlled goods to other non-participants.

Some states volunteer their adherence while others are pressured into announcing that they will observe the guidelines. In some cases, nations which formulate their export controls around the MTCR or adhere because of national interests, do in fact later become formal members, as did Sweden, Argentina, and Hungary. On occasion, states such as China, Israel, and South Africa have expressed support or interest in the MTCR only after members began to scrutinize them for missile proliferating behavior or had actually imposed sanctions on these countries.

#### **Membership Rationale:**

The most-often cited rationale for participation is a state's desire to accede to global nonproliferation norms. There are, however, numerous other economic and political rationales for joining or seeking to join the MTCR. For those nations with few or no highly developed missile-related technology industries, there is a desire to avoid being targeted as a point of transshipment. Ireland and New Zealand have both cited this as a reason for joining the regime.

There is another perception among applicants that MTCR membership will ease access to controlled dual-use technologies. While full membership may promote some forms of technological cooperation, such as within the European Space Agency (ESA), it will not automatically reduce or remove certain export controls, as can be seen with intra-COCOM transfer arrangements. Under current U.S. export law, end-use guarantees of MTCR items are required for all nations, except Canada.<sup>12</sup> However, it should be noted, that other members address technology transfers differently. Their assumption is that membership in the MTCR and other export control regimes implies that a prospective importing nation shares a concern regarding missile proliferation issues. Hence, such a nation is less likely to engage in proliferating behavior and thus access to dual-use technology is eased.

MTCR participation can also be politically motivated, as involvement implies association with a select group of developed states. A nation that endorses arms control and aligns itself with nonproliferation regimes demonstrates its willingness to participate as a member in good faith in the international community. Finally, declaring support for the MTCR also serves as a tactic to decrease political pressure or re-

move sanctions when a nation comes under criticism for its export policies.

Rationales for states not to join or adhere to the regime include: the MTCR is seen as a medium for economically developed nations to defend their space industries; it is an instrument designed to suppress developing nations from developing militarily; some aspects of the agreement are ambiguous and arbitrary; trade among members is not restricted; and, it has no applicability to a nation's industry. India has prominently made known its objections to the MTCR, citing the regime's "discriminatory" nature and narrow approach to the global arms race, its function as an impediment to the economic progress of developing states, and the self-righteous attitudes of regime members.<sup>13</sup>

#### **MTCR MEETINGS**

##### **Plenary Group**

- #1: September 8-9, 1988, Rome, Italy.
- #2: December 5-6, 1989, London, England
- #3: July 18-20, 1990, Ottawa, Canada.
- #4: March 19-20, 1991, Tokyo, Japan.
- #5: November 4-7, 1991, Washington, D.C, United States.
- #6: June 29 - July 2, 1992, Oslo, Norway.
- #7: March 8-11, 1993, Canberra, Australia.
- #8: November 29 - December 3, 1993, Interlaken, Switzerland.
- #9: October 1994, Sweden (Scheduled)

##### **Technical Working Group**

- #1: January 1991, Federal Republic of Germany.
- #2: March 18, 1991, Federal Republic of Germany.
- #3: May 1991, Paris, France.
- #4: April 1992, Rome, Italy.
- #5: September 1993, London, United Kingdom.

##### **Special**

- #1: c. 1988, European meeting for European non-MTCR participants.
- #2: March 30, 1992, Warsaw, Poland for newly independent nations of Eastern Europe.
- #3: June 1993, Vienna, Austria for exchanging information on missile technology export licensing and enforcement systems.

### Implementation:

Due to the leading role of the United States in the MTCR's development and its position in the international system, the United States is not surprisingly a dominant actor relative to other members in regime implementation. At its inception, MTCR restrictions were "virtually identical" to the previously established U.S. export restrictions, and by securing the participation of other states in the regime, the United States in essence institutionalized its policy on missile proliferation on an international level.<sup>14</sup> The United States has actively promoted its nonproliferation policy through the MTCR. It has vigorously pursued bilateral MTCR-related discussions with Argentina, Brazil, China, Germany, Italy, and the former Soviet Union in order to promote its missile nonproliferation policy. In the summer of 1992, the United States also called on all members to establish controls which reflect those declared in the December 1990 Enhanced Proliferation Control Initiative (EPCI).<sup>15</sup> More recently, the Clinton administration introduced a new nonproliferation policy which stated that Washington would encourage all MTCR members to adopt policies as "vigilant" as that of the United States.

The United States stands out among members in promoting MTCR enforcement. It enacted a sanctions law in 1990 that is triggered when non-MTCR participants transfer items covered by the MTCR to other non-MTCR participants. This law has been invoked on six different occasions. Conversely, most other members use a low-key approach in dealing with the MTCR on a public level. Even at its founding, France, Italy, and West Germany did not publicly announce their participation in the regime.<sup>16</sup> As a low-profile group, members take care not to criticize the organization openly or express issues of contention. Likewise, members do not express criticism or sympathy regarding U.S. MTCR sanctioning activity, unless they are directly involved in the transaction. Other members, such as Japan, have avoided using economic sanctions as a policy tool and prefer to pursue diplomatic discussions.

### MTCR STRENGTHS AND WEAKNESSES

In several instances, the MTCR has proven to be an effective instrument in combatting missile proliferation. It has been credited with countering missile proliferation by causing missile program dismantlement, cancellation, conversion, schedule delays, as well as increasing development costs and parts scarcity.<sup>17</sup> Specific successes include the dismantling of Argentina's Condor II project, the cancellation of two Brazilian systems (Avibras's SS series and Orbita's MB

series), and delays in India's missile program. Israel, once a target of the MTCR, is now an adherent. The regime is also credited with delaying China's sales of M-9 and M-11 missiles to Pakistan as well as having encouraged Germany to improve its export control enforcement legislation.<sup>18</sup> While it cannot ultimately prevent a country from developing a missile program, it can slow down the rate of technology diffusion.<sup>19</sup>

The MTCR has also brought major supplier nations closer together in coordinating and standardizing their export control policies and operations.<sup>20</sup> It fosters dialogue among members and serves to warn indigenous missile developers that their programs are not going unnoticed. The MTCR has brought to the forefront the idea of national accountability in export behavior as well as increasing awareness of arms transfer issues. Likewise, the MTCR should be credited as a serious effort to discourage other nations from developing missile programs or engaging in the proliferation of related technologies.

The MTCR does, however, have a number of important shortcomings, most of which have been highlighted in the nonproliferation literature. Briefly, these weaknesses include:<sup>21</sup>

- The MTCR has a limited membership.
- As a supplier regime, the MTCR is seen by some as discriminatory in nature, antagonizing relations between developed and developing nations.
- Disputes arise among members in defining how and when the transfer of missile technologies for peaceful purposes should take place.
- In practice, members implement the guidelines inconsistently.
- Since the MTCR does not have treaty status, it is nonbinding and not enforceable.
- Certain guidelines may be criticized as vague and open to interpretation.
- Membership provides target states with no specific positive incentive to forgo development of a missile program.
- The regime offers no economic or security benefits.
- There is no medium for collective response in the event of a violation.
- The regime cannot address every aspect of missile technology proliferation due to the technology's nature (i.e., smaller systems are regularly traded on world markets).

Fortunately, the MTCR is an evolving instrument and members are attempting to confront some of these weaknesses. Ongoing efforts to increase the effectiveness and relevance

of the regime include expanding the membership, increasing the frequency of MTCR-related discussions, and tightening technical controls. However, many of these approaches may be experiencing diminishing returns. While expanding the membership is desirable, most nations that would be readily accepted by the MTCR are already members.<sup>22</sup> Few other nations, at this point, have an export infrastructure and a nonproliferation record that would in the short term meet relevant membership standards. Proliferation discussions are very important, but without greater action, their impact can be minimal. Moreover, further efforts to tighten the regime would likely require addressing technologies associated with smaller missile systems, that are regularly exported by regime members to non-members. Additional modifications to the regime will likely be necessary if the MTCR is to do more in the future than simply reduce the rate of technological diffusion over the long term.

### THINKING ABOUT THE FUTURE

In discussing the MTCR's future, one first must focus on the regime's future goal or purpose. By reducing the rate of missile technology diffusion, the MTCR buys time against further missile proliferation; absent other supporting pressures, however, the MTCR cannot alone prevent a state from developing a missile program. If member states are satisfied with this "delaying" role, the MTCR's limited growth potential need not be of concern. If, however, the MTCR intends to address areas such as defining and encouraging the so-called "peaceful uses" of missile technology, increasing membership, and discouraging states from developing their own missile programs, then it is time to reexamine the MTCR's limits and ambiguities.

In rethinking the regime, certain issues need to be given consideration. Missile proliferation involves two parties, buyers and sellers. Hence, the regime must aim to promote maximum membership development, encompassing in some form all potential suppliers and recipients. With technological diffusion ever-present, the members need to examine how to promote peaceful uses of that technology internationally. Standardized methods for providing end-use guarantees need to be developed so that suppliers feel confident that their exports will not be diverted. Finally, international norms of commercial cooperation, trust, and disarmament should be fostered.<sup>23</sup>

There are numerous possibilities for either reshaping the MTCR or integrating broader export control and arms control options into the regime. Some proposals include internationalizing the Intermediate-range Nuclear Forces Treaty<sup>24</sup> ;

reducing world arsenals to the zero ballistic missile level<sup>25</sup> ; creating an international clearinghouse for dual-use exports<sup>26</sup> ; creating a World Space Organization to include an international inspection system for the launch of space objects<sup>27</sup> ; establishing of an international launch notification center (to include ballistic missile tests)<sup>28</sup> ; creating a warhead inspection regime<sup>29</sup> ; developing confidence building measures<sup>30</sup> ; and consolidating the MTCR with other regimes--such as the London Suppliers Group--to form a super regime. Much could also be learned from other nonproliferation or confidence-building regimes. The Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention, the UN Arms Trade Register, and the Conference on Security and Cooperation in Europe can provide insights into new possibilities with respect to what is achievable in the realms of safeguarding, inspections, transparency reporting, and crisis prevention.

Regardless of the approach, reconstituting the MTCR to create a sound instrument to address future missile proliferation issues would need to include:

- A legally binding instrument that provides clearly written export guidelines on which states can base national export controls. (It should be fairly narrow in interpretation.)
- A mechanism to provide recourse in the event of regime violations or guideline interpretation disputes.
- A means of facilitating and guaranteeing dual-use technology transfers that provides access to states wishing to utilize missile technology for peaceful purposes.
- A mechanism for addressing the security concerns of suppliers through the utilization of safeguarding agencies and verification techniques.
- An avenue to promote negotiations for missile reductions.
- Increased transparency in the exports of sensitive technologies. (One possibility that would complement the current practice of providing denial notifications and occasional courtesy notification of Category I scheduled transfers, would be providing advance notification of all MTCR-controlled item transfers.)
- A shifting of the organization's rationale from a supplier/export barrier regime to center on creating a broad international effort to discourage missile proliferation and support peaceful uses of technology.

These approaches take into consideration many of the weaknesses of the current regime. A more formal structure will discourage violations by implying greater national commit-

**MTCR MEMBER STATES**

<b>Original members</b>	<b>Adherence<sup>33</sup></b>
1. Federal Republic of Germany	(04/04/87)
2. France	(04/04/87)
3. Italy	(04/04/87)
4. United Kingdom	(04/04/87)
5. United States	(04/04/87)
6. Canada	(04/04/87)
7. Japan	(04/04/87)
<b>Acceding Members (Formal)</b>	
8. Spain	(11/05/89)
9. Netherlands	(05/22/90)
10. Belgium	(07/11/90)
11. Luxembourg	(07/18/90)
12. Australia	(08/01/90)
13. New Zealand	(11/01/90)
14. Denmark	(11/15/90)
15. Norway	(01/01/91)
16. Austria	(02/13/91)
17. Sweden	(09/16/91)
18. Finland	(10/11/91)
19. Portugal	(05/11/92)
20. Switzerland	(05/19/92)
21. Greece	(06/22/92)
22. Ireland	(06/22/92)
23. Iceland	(03/09/93)
24. Argentina	(Fall '93)
25. Hungary	(Fall '93) <sup>34</sup>
<b>Other<sup>35</sup></b>	
Israel: (1/1/92) Became an adherent and subsequently applied for membership. Adherence is recognized by the United States.	
China: (2/1/92) Provided the U.S. government a written commitment to abide by the MTCR. <sup>36</sup>	
Brazil: (2/92) Expressed interest in regime participation.	
Romania: (Spring 92) Applied for membership.	
South Africa: (11/92) Declared itself to be an adherent.	
Russia: (11/1/93) Pledged to the United States that it would adhere.	

ment and obligations. Missile arsenal reduction talks, confidence building measures through export transparency, and the promotion of norms discouraging missile program development while encouraging peaceful uses of missile tech-

nology contribute to promoting overall international system stability.<sup>31</sup> Finally, reformulation will enable the MTCR to confront a greater variety of missile proliferation issues and will provide support for regulating international dual-use technology trade in other areas.

While this strategy does have advantages, there are high hurdles to surmount. Safeguarding of technology with currently available techniques may prove to be a difficult task.<sup>32</sup> Supplier states will argue that they have a right not to sell missile technology if they so choose in order to protect commercial and security interests, while developing nations will argue that they have a right to develop missiles for legitimate defense and economic needs, especially if other nations retain their own missile capabilities. In addition, reshaping the MTCR will undoubtedly require a long renegotiation process; consensus may not be achievable and political support may not be forthcoming. Finally, some members may not want to institutionalize the regime further. For instance, they may view rigid export controls as hampering their high-tech export promotion efforts. On the other hand, institutionalization of what some members view as lenient controls would legitimize "dangerous" transfers to nominally civilian space programs.

Of those items mentioned above, the most critical point is the safeguarding of missile technology. Some exporting nations will not be prone to accepting a safeguard arrangement until they are confident that exported technology will not be subject to diversion. On the other hand, few nations appear willing to renounce their space and missile programs. If current methods for safeguarding missile technology fail to offer sufficient confidence for exporting nations to proceed with transfers, then an increase in confidence levels may need to be developed first.

The other difficulties highlighted above require new political thinking befitting a new security environment. The MTCR must, in itself, become a confidence building measure (CBM). Presently, intra-regime transfers are conducted with an implicit assumption that no contribution to proliferation is occurring through these transactions. While a certain standard of export controls is maintained among members, intra-MTCR transfers occur because there is confidence in the recipient's utilization of the received item. Ideally, confidence levels and commercial relationships need to be raised so that those developing nations eager to participate in technology trade may do so as easily as MTCR members.

Because the MTCR was never created with the intention of becoming missile proliferation's panacea, it cannot be expected to be the only instrument for dealing with the problem of missile proliferation. The organization, after six years

of formal existence, has now matured as a nonproliferation regime. Left as is, the MTCR will remain an instrument that addresses only certain aspects of the missile proliferation problem. The MTCR has the potential to affect significantly not only missile proliferation, but also the shape of world space and dual-use technology markets. However, it remains to be seen whether members will simply endorse a stricter administration of the status quo, or whether they will have the collective will and vision necessary to press for the creation of a stronger and more vibrant organization.

<sup>1</sup> The author would like to express her appreciation to Timothy V. McCarthy for his contribution to this report.

<sup>2</sup> Jürgen Scheffran and Aaron Karp, "The National Implementation of the Missile Technology Control Regime -- The US and German Experiences," in Hans Günter Brauch et al., eds., Controlling the Development and Spread of Military Technology, (Amsterdam: Vu University Press), 1992, p. 240.

<sup>3</sup> Italics added. For the development of guideline expansion see attached chronology entry 1/29/91; 6/29-7/2/92, and 1/7/93.

<sup>4</sup> U.S. Government, "Missile Technology Control Regime," Fact Sheet To Accompany Public Announcement," 4/16/87.

<sup>5</sup> Complete systems include rockets, ballistic missiles, space-launch vehicles, sounding rockets, cruise missiles, target drones, and reconnaissance drones. Complete subsystems encompass rocket stages, reentry vehicles, rocket engines, and guidance systems.

<sup>6</sup> U.S. Government, op. cit.

<sup>7</sup> Ibid.

<sup>8</sup> Original Category II technologies include propulsion components, propellants, production equipment and technology for propellants, structural composite technology, pyrolytic deposition and densification equipment, structural materials, navigation instrumentation, flight control systems, avionics equipment, launch support equipment, analog and digital computers, analog-to-digital converters, test facilities, and specially designed software. Items later added to Category II are: devices and software for reduced observables, devices for rocket protection against nuclear effects, and complete rocket systems and subsystems not covered in Item 1 capable of a maximum range equal or superior to 300 km.

<sup>9</sup> Government of Canada, Missile Technology Control Regime, Background Paper, April 16, 1987.

<sup>10</sup> Government of Japan, Press Release, 11/29/92.

<sup>11</sup> In the case of Israel, see attached chronology entry 9/91; in the case of Russia, see 7/15/93.

<sup>12</sup> The Clinton administration issued a new policy to grant MTCR members increased access to missile technologies. See attached chronology entry 9/27/93.

<sup>13</sup> Timothy V. McCarthy, "India: Emerging Missile Power," in William C. Potter and Harlan W. Jencks, eds., The International Missile Bazaar: The New Suppliers' Network, (Boulder: Westview Press, 1993), pp. 220-221.

<sup>14</sup> Aaron Karp, The United States and the Soviet Union and the Control of Ballistic Missile Proliferation to the Middle East, (Boulder: Westview Press, 1989), pp. 13-15.

<sup>15</sup> EPCI applies controls on exports when the exporter "knows" or is informed by the government that the export is destined for use in a missile, chemical or biological weapons, or is destined for projects engaged in such activities.

<sup>16</sup> Karp, op. cit., p. 15.

<sup>17</sup> For example see attached chronology entry 3/88.

<sup>18</sup> John H. Henshaw, The Origins of COCOM: Lessons for Contemporary Proliferation Control Regimes, (Washington, D.C.: The Henry L. Stimson Center, 1993), p. 24.

<sup>19</sup> During the first 29 months of the MTCR's existence, the United States denied 29 licenses (three by the Commerce Department and 26 by the State Department). Other MTCR members reported 13 license denials. ("U.S. Efforts to control the Transfer of Nuclear Capable Missile Technology," General Accounting Office Report, NSIAD-90-176, 6/90, pp. 113-126. For further discussion of the MTCR's impact upon missile technology development, see Pérecles Gasparini Alves, Access to Outer Space Technologies: Implications for International Security, (Geneva: United Nations for Disarmament Research, Research Paper No. 15, 1992).

<sup>20</sup> See attached chronology entry 6/93.

<sup>21</sup> See Kathleen C. Bailey, "Missile Proliferation: Demand-Side Policies are Needed," in Jean-François Rioux, ed., Limiting the Proliferation of Weapons: The Role of Supply-Side Strategies, (Ottawa: Carleton University Press, 1992), pp. 127-136; Peter Jones, "Ballistic Missile Proliferation: Events in 1991," in Verification Report 1992, J.B. Poole and R. Guthrie, ed. (London: Verification Technology Information Centre, 1992), pp. 113-121; Karp, op. cit.; Joseph Pilat, "Controlling Missiles: Post-Cold War Prospects for the MTCR," paper presented at The New Role of International Organizations in Nonproliferation Workshop, Monterey Institute of International Studies, Monterey, California, August 27-29, 1993.

<sup>22</sup> Argentina, recently invited to join, is a non-West European, developing state. It represents a new category of nations which is logically next in line to join the MTCR. One should note, however, that membership did not come easily. The extent of time between Argentina's declaration of interest in joining the MTCR in 1991 and its invitation to officially join in March 1993 is significantly longer than the application turnover of its Western European counterparts.

<sup>23</sup> For further discussion on international norms see Aaron Karp, "Ballistic Missiles and the MTCR," in Jean-François Rioux, ed., Limiting the Proliferation of Weapons: The Role of Supply-Side Strategies, (Ottawa: Carleton University Press, 1992), pp. 113-126.

<sup>24</sup> See Bailey, op. cit.

<sup>25</sup> See Lora Lumpe, "Zero Ballistic Missiles and the Third World," Center for International Security at Maryland, Project on Rethinking Arms Control, Paper No. 3, March 1993.

<sup>26</sup> See United Nations, General Assembly, The Role of Science and Technology in the Context of International Security, Disarmament and Other Related Fields, A/CN.10/145, April 25, 1991.

<sup>27</sup> Prevention of an Arms Race in Outer Space: Bulgaria, Byelorussian Soviet Socialist Republic, Czechoslovakia, German Democratic Republic, Hungary, Mongolia, Poland, Ukrainian Soviet Socialist Republic and Union of Soviet socialist Republics: Draft Resolution, A/C.1/42/L.14, October 23, 1987.

<sup>28</sup> United Nations, General Assembly, United Nations, General Assembly, International Cooperation in Space Activities for Enhancing Security in the Post-Cold-War Era, A/48/221, July 1, 1993.

<sup>29</sup> John Pike, "Space Power Interests: American Perspectives," paper presented at the Ballistic Missile and Space Workshop, Monterey Institute of International Studies, Monterey, California, June 6, 1993.

<sup>30</sup> France proposed to collect and analyze national legislation, regulations and export, control procedures of MTCR members to address concerns associated with dual-use technology transfers. (Pérecles Gasparini Alves, Access to Outer Space Technologies: Implications for International Security, Research Paper No. 15, UNIDIR/92/77, 1992, pp. 127-128.)

<sup>31</sup> For a discussion on confidence building measures see United Nations, General Assembly, Study on Ways and Means of Promoting Transparency in International Transfers of Conventional Arms: Report of the Secretary-General, A/46/301, September 9, 1991.

<sup>32</sup> Brian G. Chow provides an in-depth study of the difficulty in safeguarding missile technology. One of several arguments is that if a nation were to break out of a missile control treaty, the time needed to develop a long-range missile could be a matter of only months. (Brian G. Chow, Emerging National Space Launch Programs, R-4179-USDP, (Santa Monica, California: Rand, 1993). Likewise, Argentina and Brazil proposed the establishment of a set of regulations over the international trade of sensitive technology. The plan was immediately criticized for the difficulty in achieving agreement on adequate mechanisms for verification. For a discussion see Péricles Gasparini Alves, Access to Outer Space Technologies: Implications for International Security, Research Paper No. 15, UNIDIR/92/77, 1992, pp. 125-128. Also see United Nations, General Assembly, The Role of Science and Technology in the Context of International Security, Disarmament and Other Related Fields: International Transfer of Sensitive Technologies, Working Paper Submitted by Argentina and Brazil, A/CN.10/145, April 25, 1991.

<sup>33</sup> "Adherence" date is the date in which a state fully implements MTCR guidelines; the MTCR Secretariat -- which provided these dates to the author -- considers this to be the date of official membership.

<sup>34</sup> Argentina and Hungary were welcomed at the 11/29-12/3/93 plenary meeting as full members. Their official dates of adherence are not yet available.

<sup>35</sup> Nations which have either made a declaration of adherence or expressed strong interest in the Regime.

<sup>36</sup> China is not viewed by all MTCR members to be an adherent, since it has refused to embrace the 1/7/93 Guideline changes. However, the Western European Union recognizes China's commitment while noting reports of its questionable export behavior. (Canadian official, interview by author, 5/93; Technological and Aerospace Committee, Assembly of Western European Union, Anti-Missile Defence for Europe - Guidelines Drawn from the Symposium, No. 1363, 5/17/93, p. 5, 8.)



## CHRONOLOGY

### 1972

**1972** The United States becomes aware of the potential threat posed by missiles and missile technology proliferation as well as by increased international competition in the space launch industry. The government issues policy directive NSDM-187, which bans the export of SLV technology and establishes the process of reviewing export requests on an individual basis. The United States, however, offers other nations its launch services at cost. The policy directive is

### 1981

**1981** The United States establishes an inter-agency task force to study the spread of missiles and related technologies in order to make recommendations on reducing nuclear-capable missile proliferation.<sup>2</sup>

### 1982

**11/82** The U.S. government establishes a new policy on missile proliferation when President Reagan signs National Security Council Decision Directive 70, which calls for investigating methods to control such proliferation. The directive provides a framework for negotiations with the British government regarding missile proliferation issues.<sup>3</sup>

**Late 82- early 83** The United States initiates bilateral negotiations with the U.K. regarding missile proliferation. France, the Federal Republic of Germany, Italy, Canada, and Japan join in closed negotiations shortly thereafter. According to the Canadian government, participation in the discussions is based on whether a nation is considered to be a major supplier of missile-related

equipment and technology. The select group is considered to be in the best position to determine how to standardize national export controls. The Soviet Union is not invited to participate.<sup>4</sup>

### 1983

**6/83** The first multilateral meeting between all seven original members takes place.<sup>5</sup>

### 1985

**3/85** Canada, France, the Federal Republic of Germany, Japan, Italy, the United Kingdom, and the United States reach a consensus on controlling the proliferation of missiles and their technologies. Members agree to implement MTCR export restrictions before they officially go into effect. The consensus includes controls on strictly military technologies as well as on dual-use goods. Public announcement of the MTCR agreement is delayed when France demands U.S. concessions on the 1985 Treaty of Rarotonga.<sup>6</sup>

### 1986

**12/86** According to the Canadian government, members reach "full convergent views" regarding the content of the MTCR guidelines.<sup>7</sup>

### 1987

**4/16/87** With an exchange of diplomatic notes, Canada, France, the Federal Republic of Germany, Italy, Japan, the United Kingdom, and the United States formally establish the Missile Technology Control Regime (MTCR) and publicly release the guidelines and annex

for sensitive missile-relevant transfers. France, Italy, and the Federal Republic of Germany do not issue a formal statement regarding their participation in the regime.<sup>8</sup>

**Fall 1987** American and British officials say that the defense division of the Rome-based National Industrial Applications Company (SNIA-BPD) is supplying missile technology for Argentina's Condor II project in violation of the MTCR. U.S. authorities pressure Italy to stop the sale of the missile technology to Argentina by blocking the sale of U.S. technology to SNIA. Germany's participation in the Condor II project is also criticized by both the U.S. and U.K. governments.<sup>9</sup>

### 1988

**c. 1988** A European-lead MTCR meeting is held for European non-MTCR participants.<sup>10</sup>

**3/88** The Brazilian Air Force announces that it is unable to construct the VLS launch vehicle before 1992 due to MTCR restrictions on transfers of rocket/missile components.<sup>11</sup>

**4/88** After Italy addresses U.S. concerns regarding SNIA's technology sales to Argentina, the United States resumes exporting technology to SNIA BPD.<sup>12</sup>

**9/8-9/88** The first MTCR policy group meeting takes place in Rome. Members discuss emerging missile programs including Argentina's Condor II, Brazil's Sonda IV, and Israel's Jericho II. Members agree to hold regular meetings to sustain and fortify the regime.<sup>13</sup>

**9/26/88** At a U.S.-Soviet meeting in Washington, the United States begins discussion with the Soviet Union regarding the MTCR agreement in an effort to promote Soviet cooperation with the regime.<sup>14</sup>

**12/1-2/88** In Moscow, the United States again holds discussions with the Soviet Union on missile nonproliferation and the MTCR.<sup>15</sup>

## 1989

**2/9/89** U.S. Representative Howard L. Berman introduces HR. 963 (the Missile Technology Control Act of 1989) requiring the President to levy at least one of three types of sanctions on U.S. or foreign businesses for violating the MTCR. Although the legislation is passed overwhelmingly in the House in July 1989, it does not survive as an amendment at the House-Senate conference committee review of the 1990 Defense Authorization Bill.<sup>16</sup>

**4/89** Spain announces that it will adhere to MTCR guidelines.<sup>17</sup>

**5/2/89** In Congressional testimony, U.S. Ambassador Holmes testifies that: "In nearly all of our high level contacts with the PRC in 1988 and so far in 1989, we have stressed the dangers of missile proliferation and sought Chinese restraint in their export programs. We believe the Chinese understand our concerns and hope they will show restraint in transfers of missiles and technology covered by the MTCR ... we are continuing to talk to them."<sup>18</sup>

**5/89** Secretary of State James Baker meets with Soviet Foreign Minister Eduard Shevardnadze in Moscow and attempts to persuade the Soviet Union to join the MTCR.<sup>19</sup>

**5/89** *Novosti* quotes Soviet Deputy Foreign Minister Victor Karpov as being in favor of lowering current MTCR payload and range levels to 200 kg. and 150 km. Soviet officials express dissatisfaction with restrictions currently in force, describing them as "inadequate and imperfect." They also express dissatisfaction with the lack of restrictions on technology transfers between MTCR members.<sup>20</sup>

**6/22/89** U.S. Senator Jeff Bingaman proposes S. 1227, which calls for sanctions against U.S. and foreign violators of the regime, stricter interpretation of MTCR provisions and increased membership.<sup>21</sup>

**7/89** Citing a possible violation of the MTCR, the U.S. State Department issues a strong protest to the French government over the proposed transfer of Ariospace's Viking rocket motor technology and the dispatch of a team of rocket experts to Brazil. The French initially appear to withdraw from the deal, but when China makes several overtures to Brazil, France begins to re-evaluate the sale.<sup>22</sup>

**7/89** U.S. Senators John McCain and Albert Gore propose S.1421 (wider in scope than S. 1227, mentioned above), which establishes MTCR sanctions and strengthens the U.S. export licensing system. The bill is opposed by both the Commerce Department and the State Department. The Bush administration complains that the sanctions are too broad and that they impinge on the President's right to review missile sales on a case-by-case basis. In discussing the proposal, Senator Richard Lugar comments, "The United States routinely discusses with its partners the activities of some of their companies which may be involved in missile proliferation. In general, the MTCR partners are very

open in these discussions. But the question must be posed: Would such partners be as willing to share sensitive information on missile-related activities of their own companies if such a sharing could lead to U.S. sanctions?"<sup>23</sup>

**7/30/89** Italian authorities file charges against nine former SNIA-BPD employees for illegally exporting missile technology to Argentina's Condor II project.<sup>24</sup>

**10/31/89** McCain and Gore circulate a revised version of S. 1421, addressing MTCR-related sanctions, to be submitted on 11/2/89 as S. 1830. The new version deletes two requirements contained in the original bill: (1) a prohibition against imports from an MTCR violator; and (2) a requirement that all missile-related export license applications not covered by the U.S. Munitions List be reviewed by the Secretary of State in consultation with the Secretary of Defense. McCain calls the MTCR agreement "nearly toothless." Henry Sokolski, acting deputy for nonproliferation policy at the Pentagon echoes Senators Lugar's earlier concerns in criticizing the bill, saying: "Partners who might wish to consult with us on missile-related activities of their own companies would be unlikely to do so if the result would be to invite U.S. sanctions against those companies."<sup>25</sup>

**10/89** U.S. Vice President Dan Quayle comments that the chief problem in the MTCR is the lack of more adherents. He calls upon all European Community members to join the regime.<sup>26</sup>

**10/89** Commenting on the controversy over France's plans to transfer Viking rocket motor technology to Brazil, a French Embassy spokesman states that the MTCR agreement explicitly permits transfer of missile technology under

certain circumstances, and that France would provide the technology to Brazil only in the presence of adequate safeguards to insure that the technology is used in a peaceful manner. U.S. officials note that the technology could be used to produce ballistic missiles and that Brazil has a history of developing military rockets from its civilian space program. A spokesperson from the Brazilian Embassy comments that Brazil would not employ the technology for military ends, but rather for the "peaceful space industry in Brazil, which we think we have a right to do."<sup>27</sup>

U.S. Senator Jeff Bingaman comments on French President Mitterand's decision to approve the sale, saying "If the proposed French technology transfer goes through, the MTCR will be effectively a dead letter." British officials, also concerned over the sale, assert that France has deliberately interpreted the MTCR in a loose fashion.

According to reports, the deal may force a reevaluation of the regime by MTCR members. The regime is already undergoing scrutiny in Europe as MTCR members believe that the U.S. Congress is attempting to reduce European foreign military sales. Reportedly, the U.S. Congress is pressuring the Administration to impose sanctions on European companies that violate the regime.<sup>28</sup>

**10/89** France proposes to sell India cryogenic engine technology, saying that such a sale is not against MTCR regulations. The United States protests the offer as a violation of the MTCR agreement and threatens France with economic sanctions.<sup>29</sup>

**11/19/89** U.S. Senator Heinz introduces S. 1924, which addresses the U.S. export control system's handling of MTCR items and establishes sanctions against violators. In discussing the bill, Heinz also points out the MTCR's weaknesses:

lack of enforcement authority, limited membership, lack of consistency in implementation, and disagreement on which nations should become members and under what circumstances. Heinz calls for bilateral initiatives on the part of the United States to obtain commitments from China, the Soviet Union, India, Pakistan, Egypt, Israel, Argentina, and Brazil to MTCR adherence.<sup>30</sup>

**12/5-6/89** The second MTCR plenary meeting takes place in London. Participants include Canada, France, the Federal Republic of Germany, Italy, Japan, Spain, the United Kingdom, and the United States. Spain becomes the eighth nation and first non-original member to participate in the MTCR. Participants discuss membership expansion and reaffirm their decision to hold regular meetings. British, Canadian, and American officials pressure France to cancel the Viking sale to Brazil.<sup>31</sup>

**12/19/89** In Paris, the United States discusses missile nonproliferation and the MTCR with the Soviet Union.<sup>32</sup>

## 1990

**2/10/90** A joint communique, issued by Soviet Foreign Minister Shevardnadze and U.S. Secretary of State Baker states that the United States and the Soviet Union "both adhere to the export guidelines of the existing regime relating to missiles, which applies to missiles capable of delivering at least 500 kilograms of payload to a range of at least 300 kilometers." The Soviet Union reportedly will maintain its policy of exporting Scud-Bs to Afghanistan until the conflict in that country is resolved.<sup>33</sup>

**4/25/90** The governments of Belgium, Luxembourg, and the Netherlands issue a joint statement announcing their intention to join the MTCR. Their par-

ticipation brings the regime's total membership to 11. The Benelux nations express the hope that those EC nations which are not members will join in the near future.<sup>34</sup>

**4/90** During ministerial meetings in Washington, the Soviet Union reportedly asked the United States to explore an issue with other MTCR members which relates to Soviet MTCR membership: whether or not the Soviet Union will be accorded the information sharing rights associated with MTCR provisions.<sup>35</sup>

**5/90** The United States blocks re-export of Brazilian missile components previously shipped to the United States for thermal treatment. The U.S. government holds the shipment to review the export license in terms of MTCR compliance, thus implying concern over the parts' end-use in Brazil's missile program.<sup>36</sup>

**5/31- 6/3/90** At the U.S.-Soviet summit meeting in Washington, the Soviet Union signs the Joint Statement on Non-Proliferation in which it supports MTCR "objectives" and agrees to observe its provisions. U.S. Secretary of State James Baker later testifies on 6/13/90 that "We are discussing with the Soviets and our MTCR partners ways by which the Soviet Union could associate itself even more closely with the regime."<sup>37</sup>

**7/90** Australia joins the MTCR. Australian Foreign Minister Gareth Evans and Defense Minister Robert Ray issue a statement noting that Australia's participation in the MTCR is to "help control the proliferation not only of nuclear-armed missiles but also a wide range of missiles regardless of the type of warhead carried(...). Australian participation will be consistent with our strong

support for export controls on sensitive military items, particularly those related to chemical or nuclear weapons. It also reflects Australia's concern about the proliferation of nuclear, chemical and conventional weapons." Australia's implementation of the guidelines begins August 1, 1990.<sup>38</sup>

**7/17-20/90** The third MTCR policy meeting takes place in Ottawa, Canada. The eight MTCR members attend, along with new members: Australia, Belgium, Luxembourg, and the Netherlands. In announcing the meeting, Secretary of State for Canadian External Affairs Joe Clark states that "Canada attaches great importance to the Missile Technology Control Regime as an essential component of our efforts to work for peace and security. It is important we do all that we can to ensure that destabilizing weapons systems do not spring up in new locations at a time when great progress is being made in improving East-West relations."<sup>39</sup> France becomes the Secretariat for MTCR affairs.

Members debate the Soviet Union's application for full membership to the regime and survey technical and administrative hurdles associated with managing MTCR guidelines. They consider changes in reporting methods, the comprehensiveness of the MTCR guidelines and annex, and better ways to coordinate the exchange of relevant information. As a result, partners establish an MTCR Technical Working Group to further address these issues, and decide to strengthen and update the annex. Members conclude that to date the MTCR is effective in fulfilling the purposes for which it had been designed and issue an appeal for all other nations to adhere.<sup>40</sup>

**8/90** The U.S. State Department approves the release of thermally-treated missile casings to Brazil.<sup>41</sup>

**8/90** France takes up its duties as the MTCR Secretariat.<sup>42</sup>

**9/19/90** Representative Berman's amendment to HR 4739, requiring the President to levy U.S. sanctions for MTCR violations, is passed by the House of Representatives. In defending the amendment, Berman notes that "[E]very day we see an example of how usually Western companies evade the principles embodied in the MTCR-- so far without punishment....The company most responsible for helping the Iraqi missile program does millions of dollars of business with the United States."<sup>43</sup>

**9/90** Israel Aircraft Industries is negotiating with the U.S. government to determine if the proposed Missile Technology Control Act of 1990 (MTCA) will hinder activities associated with the Shavit space launch program.<sup>44</sup>

**10/90** The MTCA, which requires the President to penalize individuals, companies or governments that violate the MTCR, is passed by House and Senate conferees.<sup>45</sup>

**11/5/90** Congress amends the Export Administration Act of 1979 when it passes the MTCA as part of the National Defense Authorization Bill for Fiscal Year 1991 (HR 4739). Under the MTCA (Title XVII of Public Law 101-510), the President must impose not less than one of the following sanctions for a period of two-five years: denial of U.S. export licenses, prohibition of contracting with the U.S. government, and/or a prohibition on procuring products or services from the U.S. government. The President, if he informs Congress, may waive sanctions if: (1) the product or service is necessary for national security; (2) the recipient of the sanctions is the sole source supplier of a product/

service; (3) the product/service is supplied to the U.S. government, or is supplied under a defense co-production agreement or a NATO Program of Cooperation.<sup>46</sup>

**11/15/90** Denmark announces that it has joined the MTCR. Copenhagen states that the decision to join results from the increasing numbers of countries acquiring missile technology and the consequences of such activities, many of which have been brought into focus by the Persian Gulf crisis. While it does not have a highly developed missile industry, Denmark does not wish to be a point of technology transshipment. Licenses for Category I items will be addressed by the Ministry of Justice, while Category II items will be handled by the Chamber of Commerce and Industry in cooperation with the Ministry of Justice.<sup>47</sup>

**12/90** Austria's parliament (Nationalrat) makes the decision to join the MTCR.<sup>48</sup>

**Late 90** The British Government officially informs British Aerospace (BAe) that its participation in a joint venture with Arab British Dynamics (ABD) is contrary to the government's commitment to the MTCR. The Cairo-based ABD was reported to be involved in developing and producing Scud-B missiles for the Egyptian military. BAe eventually removes its personnel working in Egypt and withdraws from the venture in 8/92.<sup>49</sup>

## 1991

**1/29/91** New Zealand's Minister for Disarmament and Arms Control Hon. D.A.M. Graham announces that his government "has arranged to take part in the MTCR," and that "New Zealand's participation in the MTCR complements

our efforts to halt nuclear proliferation and to eliminate chemical weapons." He continues, "There is nothing to suggest that New Zealand is involved in supplying missile technology. But we do not want to tempt arms traders to use New Zealand as a point of transfer by having less stringent controls than other countries."<sup>50</sup> According to Graham, his government hopes all nations involved in missile-related transfers (in particular key exporters like the Soviet Union and China) that are not participants in the MTCR, will observe the MTCR's export restraints. Graham also comments that the New Zealand government made its decision to adhere to the regime before the outbreak of the Persian Gulf crisis. Implementation of the new missile technology export controls becomes effective on 11/1/91.<sup>51</sup>

**1/91** The first MTCR technical meeting takes place in Germany.<sup>52</sup>

**1/91** Norway adheres to the MTCR. Oslo views the step as "an important supplement to existing rules governing its exports of strategic equipment, services and technology. Its adherence is also an indication of Norway's support for international efforts aimed at reducing the proliferation of nuclear weapons."<sup>53</sup>

**2/91** Austria gives formal notification of its participation in the MTCR.<sup>54</sup>

**2/91** India's A.P.J. Kalam, Director of Defense Research & Development Laboratory and head of the Integrated Guided Missile Development Program, notes that one of the program's aims is to combat the MTCR.<sup>55</sup>

**2/91** Mahmoud Karen, Egypt's representative to the U.N. Conference on Disarmament in Geneva, calls for multinational efforts to strengthen the MTCR.<sup>56</sup>

**3/7/91** The Finnish Council of State incorporates MTCR export controls into its Decree on the Export and Transit of Defense Material. The controls will become effective on 4/1/91.<sup>57</sup>

**3/11/91** The Bush administration releases a list of technology and equipment sold to Iraq by U.S. firms between 1985 and 1990. Export of some of these items should have been restricted, since the U.S. government decided to implement MTCR export controls in 1986, before the agreement was formerly announced. The release, however, claims that "no license applications for any MTCR items have been approved for export to Iraq."<sup>58</sup>

**3/10-12/91** After U.S. Assistant Secretary of State Richard Solomon meets with Chinese officials, he comments, "There are many countries, and China is one, that have a defense industry that's [sic] pretty expensive. Obviously, sales abroad help to subsidize the domestic arms industry...[but] the Chinese have indicated that they will honor those [MTCR] parameters." The purpose of Solomon's visit was to protest China's missile sales to Pakistan.<sup>59</sup>

**3/18/91** A second MTCR technical meeting takes place. Japanese representatives note that some clauses of the agreement are open to different interpretations by participant nations. Members discuss issues concerning annex and guideline clarity. Members agree to some guideline clarifications.<sup>60</sup>

**3/19-20/91** The fourth MTCR meeting takes place in Tokyo. The seven original members attend, along with Australia, Belgium, the Netherlands, and Spain. Austria, Denmark, New Zealand, and Norway participate for the first time. Luxembourg does not send a delegation. Canada recommends that the

meeting focus on expanding the "Equipment and Technology Annex" since "the Annex might usefully be amended to account for the differing parameters (distance and payload) necessary for the delivery of chemical and biological weapons."<sup>61</sup>

Per the Canadian suggestion, members agree to expand the annex. Discussions revolve around widening MTCR "objectives" to include chemical and biological weapon delivery systems. Members agree to revise the "Equipment and Technology Annex" before the close of 1991 as the current text (from the mid-1980s) fails to address many important technological developments. While some proposed modifications are adopted at the meeting, time constraints dictate that not all of the issues requiring clarification are addressed.

In view of the Gulf War, members cite the importance of stricter verification. Japanese Deputy Foreign Minister Koji Watanabe notes that, "the very fact that Scud missiles were launched against friendly and peaceful countries until a fortnight ago...brings us once again the urgency of the proliferation issue of mass destruction weapons."<sup>62</sup> On Japan's initiative, members make an appeal for all nations to adhere to the agreement. Japan also agrees officially to discuss membership with China.

In addition, Canada recommends that members assess which nations might be encouraged to adhere to the export guidelines. The membership of Turkey and other European states is discussed.<sup>63</sup>

**3/27/91** In response to the calls for his country's adherence, Chinese Foreign Minister Qian Qichen states, "Those countries that did not attend the meeting should not be called upon to assume corresponding obligations to an agreement reached among some other countries."<sup>64</sup>

**3/91** Sweden bases its missile technology export controls on MTCR guidelines.<sup>65</sup>

**4/23/91** Leonid Sharin, Acting Chair of the Supreme Soviet Committee for Defense and National Security, notes Soviet interest in MTCR participation, provided that COCOM export restrictions to the Soviet Union are dropped.<sup>66</sup>

**5/5/91** Argentine Defense Minister Erman Gonzalez reports that Argentina is studying the possibility of joining the MTCR.<sup>67</sup>

**Early 5/91** The United States meets with China regarding proliferation issues and encourages China to follow MTCR guidelines. In response to U.S. pressure not to sell M-9 and M-11 missiles, Chinese Foreign Minister Qian Qichen states that China did not participate in the creation of the MTCR and "should not be called upon to assume corresponding obligations."<sup>68</sup>

**5/27/91** President Bush announces that he will impose sanctions on China for selling M-11 missile parts and technology to Pakistan. Sanctions required by the Arms Export Control Act and the Export Administration Act are placed on the China Great Wall Industry Corporation and the China Precision Machinery Import Export Corporation. They include a ban on cooperation with China in space launch activities and the denial of a sale of 20 high-speed computers with missile applications valued at \$30 million. Some Chinese officials respond that M-11 transfers are not covered by the MTCR guidelines because the M-11's range is not more than 186 miles (300 km.). However, the firm that markets the M-11, the Precision Machinery Import-Export Corporation, had earlier issued a sales brochure describing the M-11 missile as being able

to carry an 800 kg. warhead to a range of 180 miles. Sanctions are implemented on June 16, 1991.<sup>69</sup>

**5/28/91** Argentine Defense Minister Antonio Erman Gonzales announces that Argentina will follow MTCR guidelines and will cancel the Condor II project. He states that "this is the healthiest attitude that Argentina could adopt in order to show that we are not engaged in an arms race."<sup>70</sup> Following the announcement, Argentina asks current MTCR members for advice on regulatory issues which need to be implemented so that Buenos Aires will be in accordance with MTCR guidelines. In unofficial discussions with Argentina, MTCR members show a willingness to provide assistance.<sup>71</sup>

**5/91** A third MTCR technical meeting is held in Paris. Participants review and update the MTCR annex in preparation for a November policy group meeting.<sup>72</sup>

**5/30/91** The Office of the President of the French Republic releases its "Plan for Arms Control and Disarmament," in which France recognizes the role of the MTCR in arms control, but points out that the current regime is only a step towards a more general agreement. France calls for a broader agreement with geographic enlargement, increased control, universal applicability to all members, establishment of rules for international cooperation for civilian use of space, and prevention of technology leakage from civilian to military projects. France proposes the development of confidence-building measures, including the establishment of a "code of good conduct" and a mechanism for the notification of space launches.<sup>73</sup>

**6/91** Chinese officials inform U.S. Undersecretary of State Reginald

Bartholomew that Beijing is considering joining the MTCR.<sup>74</sup>

**7/1/91** Sweden introduces legislation (sfs 1991:341 and 1991:343) prohibiting the export of civilian products that can be used in weapons of mass destruction, including products and equipment employed in missiles equipped with nuclear warheads. Stockholm cites the growing risk of proliferation of technologies that can be used for NBC weapons as its rationale for joining.<sup>75</sup>

**7/8/91** Sanctions announced by U.S. President Bush on two Chinese entities (China Great Wall Industry Corporation and the China Precision Machinery Import-Export Corporation) and one Pakistani entity (Space and Upper Atmosphere Research Commission) become official. These entities will be denied license applications to export items covered by the MTCR Annex for two years.<sup>76</sup>

**9/5/91** Sweden joins the MTCR. According to a Ministry of Foreign Affairs document, as a result of participating in the MTCR, Sweden will gain access to information needed for implementing export control legislation that it had already adopted. Presumably, by taking these steps, Sweden will also avoid discrimination against its industries and research institutions that seek to import goods from MTCR member states. Minister for Foreign Trade Anita Gradin comments on Sweden's non-proliferation policy initiatives, stating: "It is important for Sweden to participate in the international endeavor to prevent the proliferation of weapons of mass destruction. This is a major aspect of our policy of disarmament and is also justified by the threat to regional stability which can result from the proliferation of technologies for weapons of mass destruction, as has been shown in the

Middle East and the Gulf area."<sup>77</sup>

**9/91** Israeli Defense Ministry Director General David Ivri meets with Pentagon officials in Washington to discuss the MTCR agreement. Israel reportedly agrees to accept the conditions of the regime. According to Israeli sources, the United States threatens to sanction Israel if it fails to comply with the MTCR.<sup>78</sup>

**9/27/91** The United States invokes sanctions against South Africa's Armaments Corporation (Arm Scor) for engaging in missile proliferation activities. The two-year sanctions will prevent Arm Scor from receiving U.S. exports of items covered by the Arms Export Control Act and the Export Administration Act, disqualify them from acquiring U.S. government contracts, and proscribe U.S. firms from importing Arm Scor merchandise. The U.S. sanctions were allegedly triggered by Israeli aid to South Africa in developing ballistic missiles and supplying key components.<sup>79</sup>

**9/91** Finland announces its intention to join the MTCR, bringing the number of formal members to 18. According to a Finnish government official, the decision to join the MTCR is based on the fact that, historically, Finland has cooperated and coordinated its export controls with the United States and its allies. According to the same official, joining the MTCR is a part of Finland's economic policy, to help meet Helsinki's need to secure Western technology for industrial development. Finally, the fact that Finland will become a full member of the European Space Agency makes MTCR membership useful, as some exchanges of information are easier when all members operate under the same export control system.<sup>80</sup>

**10/3/91** Bowing to U.S. pressure, Israel announces its intention to abide by MTCR restrictions by the end of 1991. In exchange, the United States waives sanctions against Israel for aiding South Africa's ballistic missile development efforts. According to published reports, Israel was hoping to evade the adoption of MTCR guidelines until the end of 1992, when its missile-related agreements with both South Africa and China would have been fully executed. According to *Ha'Aretz*, the Director-General of the Israeli Defense Ministry M. David Ivri stated that a refusal by Israel to adhere to the MTCR would risk precipitating American sanctions against Israel.<sup>81</sup>

**10/11/91** In response to U.S. sanctions against Arm Scor, South African Foreign Affairs Minister Pik Botha meets with U.S. Assistant Secretary of State for African Affairs Herman Cohen and labels the sanctions as being "unfair." However, Botha does voice South Africa's interest in the MTCR saying, "If we cannot be full members surely they can create another form of membership. We want to belong to the club and be part of an organization which can together control and perhaps exchange technology and knowledge with one another."<sup>82</sup>

**10/14/91** According to officials from the Israeli government's Rafael Armament Development Authority, the expected adoption of MTCR guidelines by Israel will not hinder the sale of the Arrow ATBM or other warhead technology abroad.<sup>83</sup>

**10/91** A multilateral group of MTCR representatives meets with Russian officials in Moscow to discuss missile proliferation.<sup>84</sup>

**10/91** The Bush Administration expresses its intention to lift some restrictions placed on Israeli defense exports in light of Israel's willingness to sign the MTCR.<sup>85</sup>

**11/4-7/91** The MTCR's fifth plenary meeting takes place in Washington. Finland and Sweden attend for the first time. Participants examine the criteria for evaluating membership applications and search for a means to expand membership.

Members discuss expanding the regime to cover all types of weapons of mass destruction, but they reject the concept of lowering system range thresholds. Members also examine adjusting current guideline parameters, recognizing the need to allow for legitimate transfer of missile technology for peaceful uses. Reportedly, current MTCR guidelines are viewed by some member states as excessively restrictive.

The revised and updated MTCR Annex from the previous technical meeting is adopted. In many cases notes are added at the end of each item section; the notes contain definitions or further clarifications of technical parameters. The new version of the annex contains definitions for "microcircuit" and "radiation hardened," while "production equipment" is expanded to apply not only to serial production, but all production. A new terminology section clarifies the terms "specially designed," "designed or modified," "usable in," and "capable of," which are used throughout the new annex's item sections. These terms provide a more specific description to determine the extent to which an item is dedicated toward missile applications. In many cases, the term "designed or modified" replaces "specifically designed" to encompass a greater range of dual-use items. New Item 17 (materials, devices and specially designed software for re-

duced observables) and Item 18 (devices for use in protecting rocket systems and unmanned air vehicles against nuclear effects), are added to the annex. Members approve Item 19 (complete rocket systems and unmanned air vehicles not covered in Item 1 with a range equal or greater than 300 km.) but do not implement it.

Argentina requests that the United States officially communicate Argentina's adherence to the MTCR and request an invitation to the sixth plenary meeting. According to the Felix Menicocci, Third Secretary in the Argentine Foreign Ministry, Directorate for International Security, Nuclear, and Space Affairs, there was "considerable satisfaction on the part of the members regarding Argentina's decision to join the regime..."<sup>86</sup>

**11/17/91** Secretary of State Baker announces that his visit to China produced a Chinese verbal agreement to adhere to MTCR guidelines. In exchange, the United States will remove sanctions placed on two Chinese firms in 6/91. Mr. Baker interprets the agreement to preclude M-9 and M-11 sales. However, China's official News Agency and *Beijing Review* says only that China "may consider observing the MTCR guidelines and parameters in actual transfers."<sup>87</sup> Before accepting the guidelines, China argues that the M-11, which carries an 800 kg. payload a range of 290 km. fell below the regime's restrictions. The U.S. response is that lowering the M-11's payload would extend the range to fall within the jurisdiction of the MTCR.<sup>88</sup>

**12/20/91** U.S. State Department spokesman Richard Boucher reports that the United States will lift restrictions imposed in 6/91 when Beijing agrees to adopt safeguards against missile proliferation.<sup>89</sup>

**12/24/91** The Israeli Ministry of Defense (MOD) announces that "Israel is joining today the sixteen nations which decided to adhere to the guidelines of the international Missile Technology Control Regime(...).Israel is the first country in the Middle East to participate in the Missile Technology Control Regime, in order to curb the proliferation of such platforms." According to the statement, in one week the Minister of Defense will sign a proclamation of commodities and services (#6752-1991) to implement MTCR controls by amending the Control of Commodities and Services Order. The far-reaching regulations prohibit researchers from lecturing on any of their missile-related work. Under the proclamation ratified by the Knesset, the MOD must approve all missile technology exports, and the Ministry of Commerce and Trade must license all dual-use technology trade. The MOD Security Assistance and Defense Export Department (Sibat) will be responsible for implementing the new controls. The changes also include establishment of an interdepartmental technical committee in the MOD for identifying and monitoring MTCR items, creation of a joint MOD-Ministry of Industry and Commerce advisory committee to coordinate the control of dual-use items, and the utilization of data processing procedures and systems to address MTCR items licensing. Israel's adherence begins on January 1, 1992.<sup>90</sup>

## 1992

**1/92** During Undersecretary of State Bartholomew's visit to Moscow, Russian officials reaffirm the Soviet Union's prior commitment to observe MTCR guidelines.<sup>91</sup>

**1/30/92** In an interview, Third Secretary in the Argentine Foreign Ministry, Directorate for International Security, Nuclear, and Space Affairs Felix Clementino Menicocci comments that Argentina considers the MTCR non-discriminatory and wants to limit the spread of missile technology. He also notes that there are no private Argentinean firms in the missile business and that "Argentina does not want to be used for the development of missile technology that will be used by others as has been done in the past and that it does not want to be categorized with nations engaged in missile proliferation activities."<sup>92</sup>

**2/1/92** Chinese Foreign Minister Qian Qichen furnishes written confirmation to the U.S. government that China will follow MTCR "guidelines and parameters," provided that the United States lifts sanctions on the export of supercomputer and satellite technologies to China.<sup>93</sup>

**2/7/92** Argentine Defense Minister Antonio Gonzalez reveals that in order to pave the way for Argentina to join the MTCR, a U.S. team is monitoring the dismantling of the Condor II missile program. The team is apparently monitoring the transfer of the program from the Air Force to the civilian sector or the National Space Activities Commission (CNAE).<sup>94</sup>

**2/11/92** A U.S. delegation visits South Africa to address Pretoria's participation in the MTCR. Minister of Foreign Affairs Botha states that "[I]t is the intention of the South African government to adhere to the guidelines of the MTCR as a prelude to its possible membership."<sup>95</sup>

**2/17/92** The Swiss Bundesrat passes an ordinance on the export and trans-



portation of goods and technologies having application in NBC weapons and missiles, which includes accepting membership in the MTCR. The ordinance, which goes into effect on February 18, 1993, also includes the MTCR control list. Upon passing the ordinance, the Swiss government files a formal request to join the MTCR.<sup>96</sup>

**2/21/92** U.S. Department of State spokesperson Margaret Tutwiler announces that the United States intends to lift sanctions imposed on China in June 1991, with the expectation that in response China will announce its adherence to the guidelines and parameters of the MTCR.<sup>97</sup>

**2/24/92** Speaking before the U.S. Foreign Operations Subcommittee of the House Appropriations Committee, Secretary of State James Baker states that Chinese non-compliance with the terms of the MTCR would not effect China's MFN status but would trigger the reimposition of sanctions.<sup>98</sup>

**2/92** In anticipation of Brazil's adherence to the MTCR, the Brazilian Congress takes up legislation designed to harmonize Brazil's export controls.<sup>99</sup>

**3/27/92** The U.S. sanctions two North Korean enterprises (Lyongaksan Machineries and Equipment Export Corp. and Changgwang Credit Corp.) and an Iranian entity (Ministry of Defense and Armed Forces Logistics) for their involvement in missile proliferation activities. Sanctions imposed for a period of two years include: 1) suspension of U.S. export licenses for controlled items; 2) denial of licenses to the above mentioned firms and certain North Korean government bureaus involved in missile proliferation; 3) denial of US government contracts with the sanctioned entities; 4) denial of im-

ports from the sanctioned entities into the United States.<sup>100</sup>

**3/13/92** U.S. Assistant Secretary of State Richard A. Clarke, in a statement before the Subcommittee on Technology and National Security of the Joint Economic Committee, says that the United States and its "non-proliferation partners" have initiatives underway to counteract proliferation, including U.S. efforts to enlist Portugal, Greece, Ireland, Switzerland, Iceland, and Turkey into joining the MTCR. He notes that a dialogue has also been opened with Eastern Europe, the former Soviet republics, Argentina, and Brazil. The United States is also discussing adherence to MTCR guidelines with South Africa.<sup>101</sup>

**3/92** The Finnish government establishes a task force, under the leadership of the Ministry for Foreign Affairs and chaired by Ambassador Antero Viertiö, to investigate the obligations that fall to Finland resulting from participation in various export control regimes, including the MTCR. The task force eventually recommends that an export control unit in the Ministry of Trade and Industry be established to handle all licenses relating to dual-use goods and technologies covered by the MTCR Annex and COCOM regulations. The task force also advises that Finnish export control legislation be amended gradually.<sup>102</sup>

**Spring 1992** Romania applies for MTCR membership.<sup>103</sup>

**3/30/92** As part of an active outreach program for non-members, a special MTCR meeting is held in Warsaw to inform East European countries, the Baltic states, and former Soviet Union republics on export controls.<sup>104</sup>

**4/92** Brasília welcomes a team of MTCR representatives to discuss Brazilian participation in the regime.<sup>105</sup>

**4/3/92** U.S. Ambassador to China J. Stapleton Roy warns Beijing that its agreement to abide by the MTCR implies "no grandfather clause" and that the agreement precludes China from shipping M-11s to Pakistan or M-9s to Syria.<sup>106</sup>

**4/9/92** The Argentine National Assembly adopts legislation (Decree 603/92) that controls materials, equipment, technology, and chemicals that could be used in the development and production of missiles. Argentine President Carlos Menem says the measure will "allow responsible control of exports of sensitive items." Argentina says it "will fight" for formal acceptance into the MTCR at the forthcoming Oslo meeting.<sup>107</sup>

**4/92** In response to Argentina's request to join the MTCR, an MTCR mission is sent to Argentina to assess those export control measures it has already taken. The mission, consisting of Elizabeth Varville (USA), Phillippe Thiebaud (France), Toshio Kunikata (Japan) and Sten Lundbo (Norway), submits its report to the MTCR Oslo plenary. Response to the report is positive, but membership is not extended.<sup>108</sup>

**4/92-5/92** The United States threatens Russia and India with sanctions if Moscow follows through on a deal to sell cryogenic rocket engines to New Delhi. U.S. officials claim the contract violates MTCR guidelines, which Russia has agreed to enforce. Russian and Indian officials deny violation of the regime, claiming the engines cannot be used for military purposes. ISRO chairman, Dr. U. R. Rao criticizes the MTCR calling the guidelines arbitrary and ill-defined and points out that MTCR controls on

launch vehicles with a range of 300 km. and 500 kg. payload would include space launch vehicles such as the Augmented Satellite Launch Vehicle (ASLV). Glavkosmos official Nikolai Semyonov accuses Washington of attempting to destroy Russia's space industry and says: "When working out the contract, we used the Missile Technology Control Regime guidelines in reaching the contract with India...what is more, Indian partners said at the start and later confirmed that they would use our technology exclusively for peaceful purposes."<sup>109</sup> Glavkosmos Chairman Aleksandr Dunayev says that both Russia and India have called for an international inspection to determine that the deal did indeed comply with the terms of the MTCR. The United States does not respond to the proposal, but sends a U.S. team to Russia to examine the situation.<sup>110</sup>

**4/92** A technical meeting is held in Rome to address the issue of how the regime could cover delivery systems that carry chemical and biological warheads. The result of that meeting is the development of criteria to determine whether an import is intended for peaceful uses or a weapons program (the so-called "intent test.")<sup>111</sup>

**5/92** North Korean Foreign Minister Kim Yong Nam notes, "It would be no problem for our country to associate itself with [the MTCR] because we oppose the proliferation of missiles."<sup>112</sup>

**5/1/92** Hungary claims to have implemented controls similar to MTCR guidelines.<sup>113</sup>

**5/4-5/92** At a meeting in Helsinki, the Foreign Ministers of Denmark, Finland, Iceland, Norway, and Sweden issue a statement on the "Non-Proliferation of Weapons of Mass Destruction." The

document expresses support for further strengthening of multilateral cooperation in export controls and supports international treaties which set international export control parameters for missile technology and ban or limit the proliferation of weapons of mass destruction. In addition, it points to negotiations between major weapons exporters and the realization of a UN arms trade register as keys to successful in limiting the trade in conventional weapons. Noted also is Iceland's consideration of joining the MTCR. The other four states are already party to the regime.<sup>114</sup>

**5/8/92** Russian First Deputy Minister of Foreign Economic Relations Sergei Glazyev comments that for Russia to join the MTCR, sanctions and barriers against Russia maintained by COCOM must be removed. In a letter to President Yeltsin, the Chairman of the Russian Parliament expresses similar sentiments. Glazyev also notes that in response to the Russian leadership's announcement of its intention to join the regime, the United States had demanded cancellation of the Glavkosmos-ISRO cryogenic contract.<sup>115</sup>

**5/11/92** The U.S. sanctions the Indian Space Research Organization (ISRO) and Russia's Glavkosmos for two years on the grounds that ISRO's contract to purchase Russian cryogenic rocket technology violates MTCR guidelines. According to the U.S. Department of State, "the MTCR partners all have concluded that the Glavkosmos-ISRO deal is inconsistent with the MTCR Guidelines."<sup>116</sup>

**5/11/92** Portugal joins the MTCR.<sup>117</sup>

**5/12/92** First Deputy Minister for Foreign Economic Relations Sergei Glazyev urges Russia to reconsider joining the

MTCR, warning that if Russia were to become bound to the MTCR, it would find itself under double U.S. control through the MTCR and COCOM. He suggests that Russian adherence to the MTCR be made contingent on the removal of COCOM restrictions on space technology imports.<sup>118</sup>

**5/29/92** During a meeting on Middle East arms control issues of the permanent five members of the U.N. Security Council, agreement is reached on "interim guidelines concerning transfers of weapons of mass destruction." The agreement publicly commits China to abide by MTCR guidelines. However, it is noteworthy that the interim export guidelines point only to China's "support for" the MTCR instead of a concrete agreement to observe its limits.<sup>119</sup>

**6/16/92** The U.S. Department of Commerce, in amending the Export Administration Regulations (EAR) with Supplement No. 6 to Part 778, notes positive non-proliferation steps on the part of Brazil, including a visit to Brasilia in 4/92 by MTCR representatives. Nevertheless, it rejects dual-use transfers.<sup>120</sup>

**6/22/92** Greece joins the MTCR.<sup>121</sup>

**6/29-7/2/92** An MTCR plenary meeting is held in Oslo, Norway. The 22 participants are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Spain, Sweden, the United Kingdom, and the United States, with Greece, Ireland, Portugal, and Switzerland participating for the first time.

Ireland accedes to the MTCR during the Oslo plenary meeting. According to the Irish government, Ireland "does not produce any Category I items and only a few of the Category II items.

However, it was considered important for Ireland to adhere to the MTCR guidelines to ensure that it could not be used as an intermediate destination in order to circumvent the MTCR controls applied by other countries. Also, with the advent of the single market in the EC, it is desirable that all of the twelve EC nations should have the same export controls vis-a-vis third countries to avoid distortions in intra-Community trade."<sup>122</sup> The government also notes that Ireland's membership demonstrates its continued commitment to nuclear nonproliferation.

Members agree that the guidelines for sensitive missile-relevant transfers adopted on 4/16/87 continue to be an important mechanism for preventing proliferation of missiles capable of carrying nuclear weapons and agree to extend the guidelines so that the scope of the regime addresses missiles able to carry biological and chemical weapons. While no items are added to the control list, new licensing and control procedures are adopted to address weaknesses of the regime. The group approves a set of retransfer controls on MTCR-related equipment and technology whereby authorization for reexport of all MTCR controlled items would be required. U.S. Under Secretary of Commerce for Export Administration, Joan McEntee, praises the changes as a meaningful triumph. Discussion also touches on the issue of licensing among MTCR countries and on the impact of EC unification on European implementation of MTCR export controls.

The U.S. delegation calls for MTCR members to implement export controls on all item transfers to countries that are "known" to have suspicious missile projects. Reportedly, MTCR members support the U.S. initiative but did not approve the idea for incorporation into the guidelines.<sup>123</sup>

**7/7/92** The United States imposes sanctions on both Syria and North Korea under terms of the U.S. Missile Technology Control Act. Entities sanctioned are Lyongaksan Machineries and Equipment Export Corporation (North Korea), Changgwang Credit Corporation (North Korea), the Syrian Scientific Research Center, and the Ministry of Defense (Syria). The above entities and North Korean government bureaus associated with missile-related activities will be denied the following: U.S. export licenses for items regulated under the Export Administration Act of 1979; U.S. government contracts; and U.S. import licenses. (This is the second time that the North Korean enterprises named above have been sanctioned by the United States.)<sup>124</sup>

**7/11/92** In a press release on the MTCR, the Japanese government notes the value of the regime in strengthening missile nonproliferation. It also states that Japan had implemented strict export controls through careful examination of end-use and end-users and through the exchange of information with other MTCR members. The release also notes that Japan, sometimes along with other MTCR members, had approached China, North Korea, Argentina, Brazil, and the states of the former Soviet Union regarding the adoption of MTCR guidelines.<sup>125</sup>

**7/17/92** Under pressure from the United States, France announces that it cannot provide any rocket technology to the Indian Space Research Organization (ISRO) unless India first joins the MTCR. French General Blondeau, Head of International Affairs at the Department of Space, explains that the restrictions apply to launcher technology.<sup>126</sup>

**7/24/92** The French Embassy in

Buenos Aires notifies the Argentine Ministry of Foreign Affairs that MTCR members approved of Argentine Decree 603/92 and subsequent measures taken by the Argentine government. The MTCR expresses a desire to continue dialogue with Argentina and points out that such communication is conducive to Argentina's participation in the MTCR.<sup>127</sup>

**7/26/92** Israeli defense officials say that European countries, led by France, thwarted Israel's attempts to join the MTCR. They claim that the barring of Israel was also conducted with the tacit consent of the United States.<sup>128</sup>

**7/92** The United States reiterates its call for MTCR Partners and all governments to adopt MTCR guidelines as part of their national policy and encourages all nations to establish effective missile technology export controls, including appropriate laws, regulations, and provisions for the education of exporters and customs officials.<sup>129</sup>

**7/92** U.S. Assistant Secretary of Commerce for Export Administration Jim LeMunyon states that extended MTCR guidelines will not significantly affect the parameters of missile technology items contained in the U.S. Commerce Control List and that Commerce would simply pursue a modified missile licensing policy.<sup>130</sup>

**7/92** According to Dr. U. R. Rao, chairman of the Indian Space Research Organization, the MTCR is "blatantly discriminatory." However, he sees that the MTCR may possibly be a "mixed blessing in disguise" in the case of India's Integrated Guided Missile Development Programme as well as

for ISRO since "the highly publicized sanctions may bring to the fore national resolve and may actually help India."<sup>131</sup>

**8/92** The Icelandic government is reported to be considering the possibility of participation in the MTCR.<sup>132</sup>

**8/12/92** U.S. Senator Joseph Biden introduces the Weapons Proliferation Containment Act of 1992 (S. 3193), calling for the U.S. directors of the International Bank for Reconstruction and Development, the International Development Association, the Inter-American Development Bank, and the Asian Development Bank to vote against any loan or utilization of funds to any nation that commits a material breach or violation of various nonproliferation regimes, including the MTCR.<sup>133</sup>

**8/27/92** Senator John McCain and Representative Howard L. Berman, two of the original authors of the Missile Technology Control Act, send a memo to Acting Assistant Secretary of State for Export Administration James LeMunyon to articulate their interpretation of how the MTCR sanction legislation should be implemented. They reject denying export licenses to sanction importing entities when there are no indications that the items to be exported are useful for missile proliferation purposes. They also note that implementation of MTCR sanctions against ISRO has caused confusion and concern among U.S. exporters.<sup>134</sup>

**9/12/92** The U.S. State Department, in announcing the decision to lift 6/91 sanctions of satellites and satellite component exports to China, states that "the administration carefully monitored Chinese compliance with guidelines and parameters of the missile technology control regime (MTCR) and concluded that Chinese behavior is consistent with its obligations."<sup>135</sup>

**9/18/92** Marketing Director Ferdi Stark of the South African firm Denel states

that there are limits to what the firm would sell to China and that "although we have not signed the [MTCR], we will not sell anything covered by it." China is understood to have sought guidance technology from South Africa.<sup>136</sup>

**9/92** China threatens to withdraw from its agreement to abide by the MTCR and not to export ballistic missiles to the Middle East in response to the U.S. decision to sell F-16s to Taiwan. A U.S. official notes, "We don't hold a lot of faith in their adherence to the MTCR in the first place."<sup>137</sup>

**9/28-30/92** Indian Prime Minister P. V. Narashima Rao visits France to investigate French statements on its new "independent" stand on the MTCR. However, France actually expresses a "hardened" response in support of the MTCR. French Foreign Minister Roland Dumas notes that while France understands India's desire to acquire technology for peaceful uses, France also wants "to see a great country like India associating itself with the consensus in the field of nonproliferation."<sup>138</sup>

**10/1/92** In the Resolution of Ratification of the START Treaty, the U.S. Senate urges the President to seek adherence to the MTCR by Belarus, Kazakhstan, and Ukraine.<sup>139</sup>

**10/92** China's Defense Ministry plans to set up a new office to handle armaments transactions and to satisfy international agencies that China is abiding by accords such as the MTCR.<sup>140</sup>

**10/92** The Commission of the European Communities proposes the creation of an EC Council regulation to control certain dual-use exports. A control list is being drawn up to include the revised MTCR Annex as well as the COCOM

Core list, the Australia Group Control list, and the Nuclear Suppliers Group list.<sup>141</sup>

**10/92** Pentagon sources report that there are "indications" that the Chinese are violating the MTCR by discussing M-9 and M-11 exports with Pakistan and Syria. Officials also fear that China may be discussing "nuclear missile" exports with Iran.<sup>142</sup>

**11/92** According to a statement released by the South African Department of Foreign Affairs, South Africa already adheres to MTCR guidelines. A draft bill regarding the nonproliferation of weapons of mass destruction is due to be tabled in the South African Parliament in 1993.<sup>143</sup>

**11/92** A WEU report notes that several non-MTCR countries are developing ballistic missile technology for export to the Third World. The report calls for perfecting and extending the MTCR.<sup>144</sup>

**11/92** Nine former SNIA-BPD employees are cleared of all charges of illegally transferring missile technology to Argentina's Condor II project. Charges were dropped on the basis that the defendants' activities took place before the Italian government implemented 1990 legislation on arms and military technology exports.<sup>145</sup>

**12/18/92** Hungary officially applies for MTCR membership, and the government adopts Decree 166/1992 (XII.18), to modify Budapest's export control regulations. The decree implements the Oslo guidelines of the MTCR and adds the list of MTCR controlled items to Hungary's national list (Annex 9 of Governmental Decree 61/1990(X.1)).<sup>146</sup>

**12/23/92** United States and Russia approve a joint venture between Lockheed Missiles & Space Co. and Khrunichev Enterprise to commercially launch the Proton 1 which includes an agreement by Khrunichev to follow MTCR regulations and laws.<sup>147</sup>

**12/92** The U.S. State Department investigates reports that China violated its MTCR pledges delivering 24 M-11 missiles to Pakistan.<sup>148</sup>

**12/92** Van Vann Diepen, Director of the Office of Weapons Proliferation Policy in the U.S. Department of State, distributes a set of questions during an MTCR Task Force fact-finding meeting of the Defense Trade Advisory Group. The questions are designed to serve as a guide for exporters when they complete applications or make inquiries that may be forwarded by the Missile Technology Export Committee.<sup>149</sup>

## 1993

**1/7/93** MTCR members reveal and implement new MTCR guidelines, to extend the regime's scope to ballistic missiles that are able to carry biological and chemical weapons. The new guidelines do not alter the established payload or range limits, but instead restrict the sale of any missile or unmanned aircraft to a country thought to be developing weapons of mass destruction. No changes to the annex are made.

According to some U.S. government sources, the guideline changes will have a "tangible impact" on U.S. munitions export controls but will not significantly alter dual-use controls. Until revisions to the U.S. Munitions List are complete, the Bureau of Export Administration does not plan to formulate any changes in regulations to implement the MTCR changes.<sup>150</sup>

**1/11/93** Russian President Boris Yeltsin issues a presidential order (N 20-RP) 'On Introducing Controls over the Export from the Russian Federation of Equipment, Materials, and Technologies Used in the Manufacture of Missile Weapons.' The order confirms a list of missile equipment, materials, and technologies requiring an export license. The list controls exports of unmanned atmospheric vehicles and missile systems able to carry a payload greater than 500 kg. to a range of more than 300 km., as well as specified missile components, technology, know-how, and materials.<sup>151</sup>

**1/15/93** Russian and U.S. State Department delegations meet to discuss U.S. claims that the Glavkosmos/ISRO cryogenic deal violates the MTCR. The delegations are led by Sergei Tschuvakhin and Robert Einhorn respectively. The meeting fails to yield a resolution on the issue. The United States notes that it is considering sanctions on other Russian entities associated with the transaction, including the "Salyut" design office. The two sides do settle U.S. petitions for the creation of a "black list" of nations that will be barred from all missile technology transfers. The two parties also agree not to export missile technology contributing to delivery weapons of mass destruction.<sup>152</sup>

**2/23/93** Iceland passes regulation No. 70/1993 to become the 23rd member of the MTCR. The decision to join is based on Iceland's support for disarmament and arms control and its desire to coordinate export control lists with trading partners.<sup>153</sup>

**2/24/93** CIA Director James Woolsey testifies at a Senate hearing that both Russia and Ukraine are displaying "a

growing willingness to sell missile technology prohibited by the Missile Technology Control Regime." Citing the cryogenic engine deal with India and Russia's attempts to advertise a derivative of an SS-23 missile as a civilian rocket, Woolsey also suggests that Russia's export controls are inconsistent with MTCR guidelines.<sup>154</sup>

**3/8-11/9** The seventh MTCR plenary meeting is held in Canberra. Iceland is voted in as the 23rd member. Australian Minister for Foreign Affairs and Trade Gareth Evans opens the meeting by calling for a global norm to back the MTCR in treaty form. Evans also notes North Korea's lack of interest in the MTCR. All partners conclude that the extended guidelines, established at the Oslo plenary, continue to be an important mechanism for the prevention of missile proliferation. Weaknesses of the regime are discussed, including the increased risk of proliferation from the inability of former Soviet republics to enforce export controls. Members also conclude that the future direction of the regime be given further detailed consideration, "taking into account their concern about continuing exports of missiles and technology by non-member suppliers." Members approve annex Item 20 (complete subsystems for Item 19) and set a 7/1/93 implementation date.

The United States backs Argentina's application to become an MTCR full member. (Its application for membership is enhanced after it makes an agreement to allow its missile production facility to be inspected by the United States). Members extend Argentina an invitation to join provided that it relinquishes its Condor equipment. Hungary is also invited to become a partner, provided that its Scud missiles and related equipment are destroyed. Both memberships are established in accordance with

arrangements made with the members, which includes "a satisfactory elimination of missile components."<sup>155</sup>

**3/17/93** In reference to the MTCR, South African Foreign Minister Pik Botha states: "We want to be part of it, then we can play a role, then we are part of the club (...).The United States can be assured there would be no transfers which could ever harm or damage United States interests." Botha also notes during his Washington visit that rather than dismantling its missile program, South Africa is making plans for its commercialization.<sup>156</sup>

**3/30/93** According to a U.S. Pentagon official, Defense and State Department officials are considering the idea of allowing "special exemptions" (or a redefinition of Israel's status regarding the MTCR) in order to facilitate the export of U.S. technology to Israel. Congressional investigators have questioned how the joint U.S.-Israeli Arrow project conforms with U.S. commitments to protect key missile technologies. A U.S. meeting is scheduled for May 9-10, 1993, to address MTCR constraints while seeking to improve "strategic relations" between the two countries.<sup>157</sup>

**3/31/93** Israeli defense attache to Washington, Major General Giora Romm, states that Israel would like to become a full member of the MTCR, but declines to give further details.<sup>158</sup>

**3/31/93** To date, the Brazilian Congress has not taken up the government's 2/92 MTCR legislation. According to a Brazilian Embassy official, the delay is not based on political objections to the legislation, but rather on internal domestic difficulties that have taken precedence over the issue.<sup>159</sup>

**4/4/93** At a summit meeting in Vancouver, U.S. President Clinton and Russian President Yeltsin issue a joint statement that states, "The Presidents agreed that it is necessary to achieve the earliest possible resolution of questions about cooperation in nonproliferation of missiles and missile technology in all its aspects, in accordance with the principles of existing international agreements."<sup>160</sup>

**4/13-16/93** Francois Barry Delongchamps, Chief of the Office of Strategic Affairs and Disarmament in France's Ministry of Foreign Affairs, cites the difficulties that MTCR members encounter with the regime's implementation, noting that most MTCR technologies are dual-use. Delongchamps adds that the MTCR continues a dialogue with South Korea, which has expressed interest in the regime.<sup>161</sup>

**4/93** U.S. intelligence sources disclose that China sold key missile components to Iran in violation of the MTCR.<sup>162</sup>

**5/1/93** Ukrainian Deputy Minister of Foreign Affairs Boris Tarasyuk comments that Ukraine, as one of the largest producers of missiles, hopes to develop a future for its space industry. While it is interested in observing the existing norms and standards in the field, Kiev is also concerned that its national interests in the missile producing industry be met adequately. Tarasyuk notes that Ukraine "had experienced protectionist measures" from some governments and considered these measures unfair. He says that under such circumstances, Ukraine would not join existing missile proliferation regimes and demands that, "Ukraine must be treated as a partner and not a subject." In response to the question of whether Ukraine would join the MTCR if it were offered equal partnership, Tarasyuk says,

"We do not use our missile production for any external use as a principal, so we rejected this demand as absolutely unfair and uncivilized(...).We will join [the] MTCR on the condition that Ukraine be on equal terms, a partner in [the] missile technology world market...because we have capabilities and would like these capabilities to be used for the benefit of the Ukrainian people." He concludes by saying that Ukraine is considering two options in regards to joining MTCR, but does not give specifics.<sup>163</sup>

**5/17/93** Russian government official Tschuvakhin says that he hopes to see the MTCR "strengthen[ed] and rendered more effective" but challenges several "ambiguities" of the regime that permit missile proliferation within the Western alliance and European Community. In his opinion, such ambiguities make it difficult for Russia to participate in the regime despite Russian President Yeltsin's declaration that Russia would adhere to the MTCR in principle.<sup>164</sup>

**5/27/93** U.S. President Clinton announces his policies toward China, including instructions to "relevant officials" to obtain Chinese compliance with the MTCR.<sup>165</sup>

**6/93** During an "experts meeting" in Vienna, MTCR representatives exchange information on their missile export licensing and enforcement systems. The meeting focuses on the "nuts and bolts of administering MTCR controls" rather than on policy issues. One U.S. official says that the meeting is an effort to standardize MTCR controls among partners, noting that "all the participating countries agree that a formal forum for discussing common control and enforcement problems is critical to our mission."<sup>166</sup>

**6/16/93** The U.S. State Department determines that Moscow-based KB Salyut is associated directly with the contract to sell cryogenic engines to India, while other companies are also associated indirectly with the deal. As a result, the United States decides to impose sanctions on Russian producers of space technologies for violating the MTCR. The sanctions are waived until July 15 in order to allow the U.S. and Russian governments to make a final effort to resolve their differences over the cryogenic deal with India.<sup>167</sup>

**6/30/93** South African Acting State President Pik Botha states that his country is abandoning the development of a space-launch vehicle, which should pave the way for accession to the MTCR. He also notes, "The United States currently maintains strict sanctions against Denel and all its affiliates. We trust that these sanctions...can soon be lifted." According to a statement by Denel, studies show that South Africa's membership in the MTCR "could play an important role in international relations."<sup>168</sup>

**7/1/93** A U.N. Secretary-General report notes: "States have taken steps, both individually and multilaterally, to halt the proliferation of advanced military technologies, most notably through the Missile Technology Control Regime and other supply-side controls. However, these measures raise international political problems because they are perceived by many countries of the world to be inequitable. The international community must devise more equitable and comprehensive approaches to the problem of ensuring that space technology is used for peaceful purposes and not for destruction. As with other elements of proliferation control and disarmament, any controls must be non-discriminatory and generally acceptable, if they are to be effective."<sup>169</sup>

**7/1/93** MTCR members implement the amended guidelines and annex items 19 and 20, (covering production facilities and production equipment for individual rocket stages and designated rocket propellant engines). All members must inform the Secretariat regarding their implementation status.<sup>170</sup>

**7/15/93** Russia commits itself to MTCR adherence. The pledge is part of a compromise between the United States and Russia that settles the dispute over Russian sales of cryogenic technology to India. In return for not transferring manufacturing technology, greater U.S.-Russian space cooperation is expected. Russia will supply India, only with completed engines. Russian officials indicated that they require until 11/1/93 to adjust their export controls to reflect regime mandates.<sup>171</sup>

**7/21/93** The Russian Parliament passes a resolution declaring that international negotiations and agreements regarding the MTCR must be ratified by the Supreme Soviet of the Russian Federation. It also declares its intention to conduct parliamentary hearings on the decision to join the regime. Opponents of the agreement state that the Russian delegation was not authorized to make such a commitment.<sup>172</sup>

**7/22/93** Glavkosmos officials argue that Russian membership in the MTCR requires ratification by Parliament and a decision to alter the Indian contract needs a special decision of the government. In an interview, Glavkosmos spokesman Nikolai Semyonov also states, "We shall not stop fulfilling our obligations under the [Indian] contract until there is a government decision to the contrary."<sup>173</sup>

**7/25/93** During a meeting with Chinese Foreign Minister Qian Qichen,

U.S. Secretary of State Warren Christopher warns China that its sale of M-11 missile technology and components to Pakistan may activate U.S. sanctions. Qian denies that Beijing violated MTCR Guidelines and calls the charges "simply fabricated."<sup>174</sup>

**8/93** U.S. Senators John McCain and Jeff Bingaman request that State Department Inspector General Sherman Funk investigate the alleged failure of the department to "comply properly" with MTCA sanction laws. Both senators claim that the Clinton Administration has "ignored" reports that Russia and China have engaged in illegal missile-related activities with nations of proliferation concern. In a letter to Funk, the senators suggest that in 1990 the State Department misled the public when it declared that it had made an error in giving a license to a Chicago-based firm to export hardened rocket missile casings to Brazil.<sup>175</sup>

**8/93** U.S. President Clinton is reportedly ready to approve a presidential review directive that would relax restrictions on U.S. space technology exports for nations that participate in the MTCR. In discussions with Congress, National Security Council officials recommend that U.S. rocket technology export restrictions should be lowered in order to entice more nations to join the regime. Several senators argue against the new policy, saying that a loophole in the MTCR would be created since new members "would be free to export ballistic missile technology under the guise of 'peaceful' space launch technology." The State Department, a supporter of the new policy, wants to alter the agreement "into an intent-based agreement" to resemble the Nuclear Non-Proliferation Treaty.<sup>176</sup>

**8/17/93** Russian delegate to the UN Conference on Disarmament Valerii Zemsikov announces that Russia is giving serious consideration to joining the MTCR. He notes, however, that Russia wants the "discriminatory" COCOM trade restrictions lifted in return.<sup>177</sup>

**8/18/93** Indian Prime Minister Rao tells parliament that the deal to sell rocket technology to Russia is not dead and that India will not give up its right to acquire missile and space technology. Indian officials are reportedly considering whether the country should pursue an indigenous cryogenic rocket engine.<sup>178</sup>

**8/25/93** U.S. Undersecretary of State Lynn Davis informs "certain" Chinese and Pakistani entities that the United States determined that they had engaged in missile-related transfers requiring the imposition of sanctions under U.S. law. The United States applies Category II sanctions, which require denial of new export licenses for MTCR Annex items and a denial of U.S. government contracts relating

to MTCR Annex items for a period of two years. The sanctions will affect 10 entities in China and Pakistan's Defense Ministry.<sup>179</sup>

**9/93** The Chinese government threatens to withdraw its commitment to the MTCR in response to U.S. sanctions placed on China for exporting of M-11 missiles to Pakistan.<sup>180</sup>

**9/93** "Officials close to the MTCR" voice concern that the Russian "Complex" company's offer to sell the Start launch system violates the MTCR. The Start system, based on the SS-25, is a five-stage space launch vehicle able to place a 600 kg. payload into a 700 km. polar orbit.<sup>181</sup>

**9/21-22/93** An MTCR technical meeting takes place in London. Participants discuss the implementation of the revised guidelines issued in January 1993 and examine the comprehensiveness of the annex's technical parameters. The meeting's agenda includes some issues carried over from the meeting in Canberra and matters originating from subsequent discussions.<sup>182</sup>

**9/93** U.S. President Clinton is expected to be close to approving Presidential Review Directive 8 (PRD-8), which details U.S. missile proliferation policy. PRD-8 reportedly proposes that if a state adheres to the MTCR, the Non-Proliferation Treaty and the international NBC warfare conventions, it would then be eligible to acquire SLV technology under safeguards. While the policy is criticized that it will increase the risks of missile proliferations, administration officials say that the new policy would not "materially" change the way the U.S. government addresses export licensing requests for space launch technology.<sup>183</sup>

**9/27/93** U.S. President Clinton issues a new policy regarding U.S. efforts to prevent the proliferation of weapons of mass destruction and their delivery systems. The new policy calls for strong support for the MTCR, noting that the United States "will support prudent expansion of the MTCR's membership to include additional countries that subscribe to international nonproliferation standards, enforce effective export controls and abandon offensive ballistic missile programs." Washington will not support the development or acquisition of space-launch vehicles by non-MTCR members and will not encourage new members to develop new space launch vehicle programs, which "raise questions on both nonproliferation and economic viability grounds." In regards to exports of MTCR-controlled items

to MTCR members for peaceful space launch programs, the United States will consider each situation on a case-by-case basis. Finally, Washington will consider whether additional constraints or safeguards could diminish the risk of the misuse of space launch technology and "will seek adoption by all MTCR partners of policies as vigilant as our own."<sup>184</sup>

**11/29-12/3/93** The eighth MTCR plenary session takes place in Interlaken, Switzerland. Hungary and Argentina are welcomed as new members. The meeting focuses on the future planning of the regime. Partners agree to redouble their efforts in persuading potential exporters outside of the regime to abide by the regime's guidelines and plan to encourage proliferating countries to act more responsibly.<sup>185</sup>

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(DOC numbers refer to those sources which can be found in the International Missile Proliferation Project database.)

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<sup>4</sup> Government of Canada, *Missile Technology Control Regime*, Background Paper, 4/16/87; Scheffran and Karp (note 2), p. 240.

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<sup>8</sup> Government of Canada, Department of External Affairs, Communique, 4/16/87, No. 069; Karp (note 3), p. 15.

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<sup>13</sup> The Arms Control Association, "The Missile Technology Control Regime," Fact Sheet, 3/92; Karp (note 3), p. 19.

<sup>14</sup> William C. Potter and Adam Stulberg, "The Soviet Union and the Spread of Ballistic Missiles," Survival, November/December 1990, p. 547; "Soviet Foreign Minister Visits Washington," Department of State Bulletin, 11/88, Vol. 88, No. 2140, pp. 28-31.

<sup>15</sup> U.S. Efforts to Control the Transfer of Nuclear-Capable Missile Technology, General Accounting Office, NSIAD-90-176, 6/1/90, p. 16.

<sup>16</sup> Ibid.; Congressional Record, 2/9/89, pp. E354-E355; Rachel Schmidt, U.S. Export Control Policy and The Missile Technology Control Regime, (Santa Monica: The RAND Corporation, 1/90), pp. 41-42.

<sup>17</sup> General Accounting Office (note 15), p. 22.

<sup>18</sup> U.S. Congress, Ballistic and Cruise Missile Proliferation in the Third World, Hearing before the Subcommittee on Defense Industry and Technology, Committee on Armed Services, Senate, 5/2/89, H. Allen Holmes testimony, pp. 12, 29-30.

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<sup>20</sup> "Iraq Heavy Missile Launch 'Definitely' not Condor II," Defense & Foreign Affairs Weekly, 1/29-2/4/90, p. 1, (DOC 62).

<sup>21</sup> Congressional Record, 8/4/89, p. S10231; U.S. Congress, Hearing before the Committee on Foreign Relations United States Senate, 10/31/89, pp. 32-33.

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