

Verifying Treaty Compliance

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(Editors)

Verifying Treaty Compliance

Limiting Weapons of Mass Destruction
and Monitoring Kyoto Protocol Provisions

 Springer

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Preface

Verifying the compliance of states with treaties may sound dry and dreary. However, when it is about respect for pledges that states have given not to acquire lethal weapons or not to emit more than limited quantities of greenhouse gases the voltage in the circuit may be quite high.

The experiences I had at the United Nations of verification and inspection before the Iraq war (2003) and during sixteen years as the Director General of the International Atomic Energy Agency were anything but dreary. I lived some of the problems and possibilities, which are so well described and analyzed by the writers of this most welcome volume. For instance:

- the reluctance of states to accept inspection that is sufficiently far-reaching to give high level confidence;
- the impossibility of proving the negative and the inevitability of some residue of uncertainty;
- the effectiveness and cost of verification;
- the new techniques and equipment that continuously become available.

I concur wholeheartedly with many of the findings in this book, in particular that monitoring, verification and inspection must remain technical, professional and independent of individual governments. The experience of the Iraq war started in 2003 shows the danger of governments relying on and presenting faith based evidence. I said at that time of our UN inspection team: “We may not be the brightest in the world, but we are professional and we are in nobody’s pocket.” This is vital both for states accepting inspection and for the inspection results to be given credibility.

International verification does not preclude that government conduct their own verification, whether by electronic and satellite surveillance or other means. However, if they do so, they should weigh all the evidence they obtain, whether it comes from their own means or through the independent international inspection. They have some means of verification which international authorities do not have. On the other hand, international inspectors

have direct and legal access to installations, documents and people, which governments are unlikely to have.

Governments would do well to assist international inspection authorities by transmitting to them information that may be helpful. Yet, such cooperation must remain largely a one way traffic. International inspection must never function as remote controlled instruments of national intelligence or else they will lose the respect and credibility they have.

If international factual verification of compliance with treaties is a rather new and difficult activity, the next step - reaching conclusions and determination of what is to be done - is even more difficult. In the field of trade, governments have handed considerable power to an impartial judicial institution within the World Trade Organization to examine the factual dossier of each case submitted to it and to judge on compliance with treaty obligations. It may even decide whether economic measures of retaliation are permitted in cases of non-compliance. While this marks a desirable step towards an effective rule based system the permission of retaliation is a primitive form of sanctions. It is evidently not a model for the enforcement of, say, restrictions in the emission of greenhouse gases.

The councils and boards to which verification reports in the sphere of arms control are submitted - for instance, the UN Security Council or the IAEA Board of Governors - are no judicial institutions. They consist of states, which judge in matters in which they, themselves, are interested parties and stakeholders. In the field of security governments will not easily step back from these prerogatives. This is all the more reason that they should have before themselves reports which are the results of independent professional verification.

This book rightly starts from the premise that multilateral treaties on arms control and global environmental issues will remain vital to lay down agreed standards and that effective verification of compliance will promote faithful implementation. The authors bring a wealth of experience and their analysis is rigorous. They show that the subject of verification is a central and dynamic discipline and they make very substantial contributions to its development.

Hans Blix

Foreword

The risks posed by the spread of sensitive technologies that can be used to produce weapons of mass destruction have increased dramatically in recent years. The 21st century has ushered geopolitical transformation, socioeconomic movements and environmental change on an global scale. The bipolar, East-West world of the last century exists no more; old political alliances are drifting; new coalitions are forming; and the global war on terrorism creates new divides. Political turmoil and conflict in the post September 11, 2001 era have led to a growing realization that nuclear, chemical and biological weapons may now be obtained clandestinely by non-state actors, sub-national groups or terrorists who, in a fluid and rapidly changing environment of globalisation, could use them to destroy people or blackmail their leaders. International efforts necessary to inhibit the spread of weapons of mass destruction, and to eliminate them as far as possible, face challenges of extraordinary complexity.

International treaties and conventions requiring binding commitments on the part of the member states and establishing appropriate compliance verification regimes constitute a primary assurance against such risks. For instance, the Treaty on the Non-proliferation of Nuclear Weapons (NPT) with its safeguards system, applied by the International Atomic Energy Agency (IAEA) on nuclear materials and facilities on the territories of the member states, represents the cornerstone in the nuclear field, gives assurance about the peaceful nature of the nuclear activities and aims to prevent nuclear proliferation. The NPT, with its long history and positive experience since 1968, has become a model, and its elements have influenced other fields where proliferation concerns exist, such as the biological and chemical industries. In the environmental field, the Kyoto Protocol represents the major international effort to reduce the emissions of greenhouse gases.

From a technical perspective, verification of compliance requires not only the use of a broad range of technologies, but also the development of new and creative methodologies for integrating them into comprehensive systems taking into account related factors such as delivery systems for weapons of

mass destruction and black market networks. Another factor that needs to be considered is the impact of globalization on the development of verification methodologies. The global scale of commercial activities affects the amount and quality of information that needs to be processed and evaluated. The increased processing needs demand more complex information processing systems. At the same time, in the interest of efficiency and cost-effectiveness, synergies need to be found among verification technologies and methodologies that have been developed for different treaties as, for example, special on-site inspections, protection of sensitive information in connection with attribute measurements, satellite imagery, forensics, etc.

A wide range of issues dealing with technologies and methodologies have been addressed in depth by the Working Group on Verification Technologies and Methodologies of the European Safeguards Research and Development Association (ESARDA). This organization has been engaged since 1978 in further developing and improving the safeguards system for nuclear materials and facilities, especially in connection with the Treaty establishing the European Atomic Energy Community and implementing its safeguards system. Out of this unique experience of international scientific collaboration grew the realization that the knowledge gained in the study of nuclear safeguards issues is transferable to other fields and endeavors involving international agreements.

The experience gained by the IAEA from research and development in the nuclear verification arena gives rise to great optimism. In a growing number of different IAEA member states research networks are being established. This is due to the new dynamics caused by the expanded task of the IAEA to detect undeclared nuclear materials and activities. From this, many new initiatives have emerged.

Of extreme importance, however, is the need to generate interest in the academic community to perform structured and coordinated research in the field of compliance verification, with the emphasis on interdisciplinary cooperation. This approach of involving different disciplines, ranging from political science to mathematical game theory, is inherently imbedded in this book and can be followed throughout the various contributions. The philosophy, contents and organization of the book are described in detail in the introductory chapter. It is hoped that the approach taken in this book can lead toward the establishment of a specialized discipline in compliance verification. A major challenge in reaching that goal is the difficulty of finding the appropriate balance between generality and detail in the discussion and analysis of problems in areas of scientific controversy.

The Editors

Acknowledgement

The editors wish to express their appreciation to the European Safeguards Research and Development Association (ESARDA) for providing a forum where topics related to the main theme of this book were presented and discussed. Presentations by the contributors to this volume and many other knowledgeable experts took place during a number of meetings of the Working Group on Verification Technologies and Methodologies over a two-year period. These presentations gave rise to lively discussions within the working group, which helped crystallize the unifying theme of the book. The editors also wish to thank the German government for providing partial support for this project.

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