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### Implications of International Law for Nuclear Command, Control and Communications

At the start of this Section we should remind ourselves of the overarching purpose of a nuclear command, control and communications (NC<sub>3</sub>) system. It must be designed to ensure that the threat or use of nuclear weapons is an absolutely last resort; that every less violent alternative to their use is pursued; that the resort to nuclear weapons is indeed prevented; and that confusion, ambiguity, uncertainty, mis-communication and any other factor that may lead to strategic misunderstanding is, as far as possible, prevented. All nuclear weapon-armed States must employ NC<sub>3</sub> systems that are similarly effective in achieving these goals. A parallel, and arguably equally important, objective of an NC<sub>3</sub> system should be to try to make sure that all involved in nuclear weapon operations fully understand the rules of international law that apply to their activities and actually implement those rules in all of their actions relating to nuclear weapons.

In the following paragraphs, the authors offer thoughts on some of the matters that should, in their view, be addressed in an NC<sub>3</sub> mechanism – which, for these purposes, can be taken to comprise the instructions, directives, guidance, training, laws, documents, orders and other elements that, taken together, constitute NC<sub>3</sub> arrangements. The Rules and Commentaries in the earlier Sections of this book will, it is hoped, assist States to identify the international law provisions that are of greatest relevance when drawing up or revising their NC<sub>3</sub> mechanisms. In the following paragraphs, some of the matters that are considered by the present authors to be of greatest importance are teased out in the hope that this will be useful for those tasked with such a revision.

In Section A we concluded that, to be effective, NC<sub>3</sub> measures must be rigorous, robust and sufficiently secure to ensure that nuclear weapons will not be used outside the most exceptional, compelling and strictly lawful of circumstances. The NC<sub>3</sub> architecture must be so designed that nuclear

weapons are only ever used as an absolutely last resort; that every possible step to prevent and avoid their use is taken; that the precautionary NC<sub>3</sub> procedures that are in place will prevent the resort to nuclear engagement; and that confusion, ambiguity, uncertainty, miscommunication or any other source of reduced clarity are weeded out. There is a mutual interest among States to be sure that all other nuclear-capable States have in place the best possible NC<sub>3</sub> systems that are designed to achieve the same objectives and that all such States can feel mutual confidence in each other's NC<sub>3</sub> systems. We also noted that NC<sub>3</sub> processes must be designed such that, were nuclear weapons ever actually to be employed, they would not have an adverse impact on third-party, neutral States.

It is clear from Section B that wider NC<sub>3</sub> arrangements must include legislation that prescribes the nuclear weapon-related activities that are prohibited; that criminalises those prohibited acts; that provides for arrangements that are necessary to secure nuclear sites and equipment, as well as the associated information relating to nuclear weapons; and that implements other required arrangements. The legal basis for this requirement rests in the sovereign rights and responsibilities of States. Accordingly, nuclear weapon-capable States must make sure that their legal arrangements enable them potentially to take legal action in all cases where international law gives them jurisdiction to do so. This means that such legal arrangements must extend to ships, aircraft or other platforms over which the State has flag-State or State-of-registration jurisdiction. Such legal arrangements must also be so designed that sovereign immunity, where applicable, is respected.

The detailed NC<sub>3</sub> provisions must have the effect that the nuclear weapon capabilities of States situated on their territory or under their exclusive control, including their NC<sub>3</sub> systems themselves along with the associated equipment and information, are not used in peacetime for activities that adversely and unlawfully affect other States. This again implies the need for suitable legislation; for the issuing of appropriately clear orders and instructions throughout the relevant chains of command and management; and for the maintenance of proper discipline so that the laws, orders and instructions will in fact be complied with. If such activity adversely and unlawfully affecting another State were to take place, all means at the disposal of the nuclear weapon-capable State must be so organised as to put an end to the activity promptly. Information that nuclear weapon-related equipment is being used in State A adversely and unlawfully to affect State B must be acted on swiftly and the NC<sub>3</sub> arrangements must facilitate this.

Underpinning the NC<sub>3</sub> architecture, there should be a recognition that the State will be responsible for all activity that breaches international law and that

is attributable to the State. So proper disciplinary and other arrangements must apply to the armed forces; to internal security, customs, intelligence and other relevant State agencies; and proper control must be exercised among all persons that are acting on the instructions of, or under the direction or control of, the State while carrying out nuclear weapon-related duties. This includes military, civilian and State agency personnel and contractors' employees. Because State responsibility may also extend to the activities of groups or individuals involved in a non-international armed conflict where the relevant State is providing material assistance, the NC<sub>3</sub> arrangements should stipulate the security arrangements designed sufficiently to safeguard nuclear weapons and their related materials, equipment and data.

NC<sub>3</sub> documentation should reflect certain core international law obligations of the State, such as to refrain from the threat or use of force contrary to the UN Charter. This implies the inclusion of clear instructions within the documentation and an explanation of what 'threats' for these purposes comprise. Such instructions should be expressed as applying to all persons who have the authority to make statements on behalf of the State or to decide on the taking of nuclear weapon-related action.

It seems to the present authors that it would be useful for States in peacetime to consider, in advance as it were, the kinds of nuclear weapon-related event or situation that they would classify, respectively, as a use of force contrary to Article 2(4) of the UN Charter or as an armed attack. States should consider specifying the criteria they would regard as relevant to such determinations, with a view to reflecting these in strategic-level, probably classified, doctrine. Such doctrine might also, usefully, set forth national policy on the response options to particular kinds and degrees of nuclear operation amounting to an armed attack or the use or threat of force.

The military doctrine of all States should recognise that NC<sub>3</sub> systems of a State are likely to be regarded by it – and, indeed, by other States – as being part of its critical national infrastructure, such that disabling and damaging interference with such systems is likely to be classed by the victim State as an armed attack. This implies the need for great caution in undertaking certain intrusive operations involving the nuclear weapon systems of nuclear weapon-capable States, and the present authors believe that this need should be reflected in both doctrine and practice.

The Commentary accompanying Rule 11 sets forth the legal controversy over the right of a victim State to take forceful action by way of extraterritorial self-defence. The opportunity to formulate a policy on that topic may well be limited or non-existent in the immediate aftermath of a relevant nuclear weapon-related incident. The present authors therefore consider that each

nuclear weapon-capable State should develop internal, probably classified, strategic doctrine addressing this and related issues for inclusion in the NC3 documentation.

It would be sensible for States to include, either in their classified strategic doctrine or in their publicly available LOAC manuals, a statement of the national view as to whether force in self-defence can be employed lawfully to address an imminent armed attack and, if so, in which circumstances where nuclear weapons and their associated systems are concerned. The points made in the Commentary accompanying Rule 13 are, it is hoped, helpful in formulating the national view. Where NC3 documents address the taking of collective self-defence action, they should draw attention to the requirement for a prior request from the assisted State and to the need for any collective defensive action to comply with the terms of the request. The provisions dealing with action in self-defence generally should also allocate responsibility for submitting a timely report to the UN Security Council, as noted in Article 51 of the UN Charter and in Rule 15.

NC3 documents and instructions must be consistent with the differing international law rules that apply to the range of nuclear operations throughout the spectrum of conflict. Thus, the rules applicable in international and non-international armed conflicts must be distinguished from those that apply in peacetime, and those states of affairs must be explained with clarity. Moreover, the danger that an unauthorised act involving nuclear weapon systems (e.g. undertaken by a member of the armed forces) could cause a State to become involved in an international armed conflict reinforces the extreme importance of proper discipline and of clear, unambiguous instructions and lines of authority.

Section E suggests that it would be wise to include within NC3 arrangements an explanation of the differing situations confronting members of the armed forces and civilians (including civil servants and contractors' employees) who take a direct part in nuclear operations. Such guidance will need to differentiate between peacetime and armed conflict and will draw upon points made in the Commentaries accompanying Rules 21 and 22. The guidance will necessarily clarify what activities the State considers amount to direct participation in nuclear-related hostilities and the time periods during which a person is to be regarded as so participating. It is hoped that the Commentary accompanying Rule 28 provides helpful information to States on the matters to be considered. In the view of the present authors, civilians whose duties would, in the event of armed conflict, be likely to involve direct participation in nuclear-related hostilities should be made aware of the potential legal consequences for them of such participation.

It would be useful for States to express, preferably publicly, whether they regard unmanned maritime systems and vessels that otherwise fulfil the relevant requirements as constituting warships and, thus, as having belligerent rights, including the right to participate in nuclear operations. So, for example, before unmanned maritime platforms are developed and deployed for maritime patrols involving the carrying of nuclear weapons, the present authors regard it as essential that the deploying State make its legal interpretation on this topic publicly known. The Commentary accompanying Rule 23 explains the relevant issues.

A State's NC3 arrangements that regulate the conduct of nuclear operations during an armed conflict will, of necessity, distinguish between those activities that constitute attacks and nuclear operations that fall below the attack threshold, noting that non-violent operations that have no adverse effect on the enemy are not subject to the principle of distinction. However, most nuclear operations will cause death, injury, damage and/or destruction, so the distinction principle will apply and will need to be explained in terms informed by Rules 30–6. The NC3 documentation should specify the persons and objects that can lawfully be made the object of attack and those that must not, and should draw attention to the point made in paragraph 2 of the Commentary accompanying Rule 34.

More generally, it is most important that all of the Rules applying the principle of distinction to persons and objects, in particular Rules 25–47, are properly set forth in the NC3 documents and instructions. While this might in part be achieved by the inclusion of a 'legal annex', the Rules should also properly inform the content of other, substantive and procedural parts of the NC3 text. So, for example, while the legal annex might state and explain the definition of military objective in Rule 34, the other substantive NC3 provisions should also reflect that definitional Rule, the Commentary relating to it, paragraph 2 of the Commentary accompanying Rule 35 and Rule 36 with its accompanying Commentary. A legal annex that does not inform the substance of the NC3 arrangements is of limited value. An NC3 regime that in its entirety is coherent with applicable legal rules is, in the opinion of the present authors, what is required.

There might be merit in stating in the NC3 documentation, or perhaps in a more generally applicable national LOAC text, the relevant State's view as to the US position on war-supporting or war-sustaining objects.<sup>1</sup> Complex issues do, however, arise in connection with the prohibition of indiscriminate attacks. The precise terms of the rule, as it applies to a particular State, will

<sup>1</sup> See Commentary accompanying Rule 34, para. 8.

depend on the factors mentioned in the Commentary accompanying Rule 37. Accordingly, a State should consider its own position under applicable treaty law and should then draft the relevant part of its NC3 instructions and guidance accordingly. States should also consider the kinds of circumstance that can render a nuclear attack indiscriminate and should mention this in the instructions and guidance, which will draw attention to the proportionality rule,<sup>2</sup> explaining the procedures that the State employs in order to ensure that nuclear attack decision-making complies with the Rule. The very nature of nuclear attack operations and of their likely consequences makes it essential that the rules on indiscriminate attacks and proportionality are explained with utmost clarity and applied with the greatest care. This point therefore applies with equal force to the implementation of the rules on precautions in nuclear attack and against the effects of nuclear attacks.<sup>3</sup>

A clear priority will therefore be for the NC3 mechanism clearly to set forth the precautionary measures referred to in Rules 39–47 that the particular State acknowledges are required by international law as it applies to that State, noting the points made in the narrative preceding Rule 39. Having stated the constant care obligation as given in that Rule, the documentation should then specify the persons and activities to which, and the times when, the duty applies. How such care is in practice to be exercised should, where appropriate, be spelt out, and procedural mechanisms designed to enhance that care should be devised and implemented. These will include, among other things, the arrangements under which targets are selected and verified; the procedures for assessing expected collateral damage and anticipated military advantage and for comparing them; the technique for programming target co-ordinates into the missile guidance system; whether a controller is able to divert and disable the warhead at all times up to the point of detonation; and the ways in which orders from senior commanders are communicated to the pilot of a nuclear weapon-armed aircraft or the commander of a nuclear weapon-armed submarine.

The constant care duty requires that these and related arrangements be effective in ensuring that nuclear weapons are only ever used in lawful circumstances as a very last resort and that every possible precaution is taken to avoid or minimise collateral damage. While Rules 39–47 set forth the precautionary rules that apply to the use of nuclear weapons, arguably all possible precautions should be taken, including all of the precautions given in

<sup>2</sup> Rule 38.

<sup>3</sup> Rules 39–47.

Article 57 of API, whether as a matter of law or, in some cases, as a matter of policy.

On a matter of detail, note should be taken of the points made in paragraphs 2–4 of the Commentary accompanying Rule 40 regarding the persons who are required to take specific precautions in attack. It is in order to implement the precautions referred to in Rule 43 that States must devise and employ a suitable collateral damage estimate process so that the proportionality rule can be properly applied.

As paragraph 3 of the Commentary accompanying Rule 43 illustrates, pilots of nuclear-armed aircraft and commanders of nuclear-armed submarines rely on their superiors making lawful decisions based on a proper consideration of the law and of all relevant and reasonably available information. This does, of course, presuppose that those superiors are seeking to make rational and lawful decisions. Profoundly complex issues would arise if, say, an unstable individual were to occupy the supreme command position in a State that has nuclear weapons ('the madman with the codes'). The analysis in the Commentary accompanying Rules 40 and 43 presupposes the stability and rationality of supreme commanders and assumes that they are seeking to act within the law. If, hypothetically, a pilot of a nuclear-armed aircraft or the commander of a nuclear-armed submarine were to receive an order to fire a nuclear weapon and if the supreme commander of the State is known to be unstable, irrational or reckless, or to have evil intent, it would seem to the present authors that the pilot or submarine commander can no longer assume that the orders he has received are lawful and proper. In such a circumstance, the pilot or submarine commander is under an obligation to verify the lawfulness of the order he or she has received. If unable to do so, he or she should decline to implement that order. It is appreciated that this will place that individual in a most difficult position and is likely to amount to a potential breach of his or her service disciplinary code.

Accordingly, it is most important that the NC3 arrangements that are put in place give pilots and submarine commanders ample assurance that the nuclear weapon-related orders that they receive have been thoroughly reviewed to ensure their compliance with applicable law.

Rules 48–68 should, it is suggested, be incorporated into the training of relevant personnel, and the Rules themselves should also feature in the legal annex mentioned earlier.

Nuclear weapons, like any other weapon, are regulated by the principles and rules of weapons law. While the detail of the weapon review obligations of States differs depending on whether or not the particular State is a party to API, the present authors suggest that any State that is studying, developing or

acquiring a nuclear weapon should conduct a full weapon review, in which the factors discussed in Rules 70–73 and 75 and in the Commentaries accompanying those Rules are properly considered. This is a legal obligation for each State, and States that have ratified the TPNW must also ensure that any action they take in respect of nuclear weapons complies with their obligations under that Treaty.

#### FINAL REMARKS

It is hoped that the comments made in this Section, and indeed in the rest of the book, help States to develop and maintain NC<sub>3</sub> provisions, arrangements and policies that achieve the purposes outlined in Section A and in the opening paragraphs of this Section. The dire potential consequences of a nuclear mistake, or indeed of most nuclear weapon-related incidents, mean that it is now of vital importance that the NC<sub>3</sub> processes of all nuclear weapon-equipped States must achieve and maintain the very highest standards. In a sense, the duty to do NC<sub>3</sub> properly is the corollary of the perceived security that derives from nuclear deterrence. The perceived security and the duty sit together. States cannot have the perceived benefit without complying with the duty. If the guidance in this short book helps States to comply with that duty, the goal which the authors set themselves will have been achieved.