



[ANNEX 3-72 NUCLEAR OPERATIONS](#)

NUCLEAR COMMAND, CONTROL, AND COMMUNICATIONS

Last Updated: 19 May 2015

The nuclear command, control, and communications (NC3) system refers to the “collection of activities, processes, and procedures performed by appropriate commanders and support personnel who, through the [chain of command](#), allow for decisions to be made based on relevant information, and allow those decisions to be communicated to forces for execution” (AFI 13-550, [Air Force Nuclear Command, Control, and Communications \[NC3\]](#)).

Successful NC3 in all environments, including denied access and stressed operating areas, is an essential element to stabilizing a crisis, deterring attack, and maintaining the safety, security, and effectiveness of nuclear operations. The ability to command, control, and communicate with nuclear forces across all phases of conflict is a foundational capability of the Air Force and undergirds US national defense policy.

Specifically, resilient and effective NC3 ensures that civilian authorities have the maximum possible decision time in all scenarios, which strengthens strategic stability particularly at lower force levels; strengthens the Air Force’s ability to employ forces against a target or series of targets in a timely manner; provides civilian authorities the means to terminate a conflict and, thus, avoid further escalation; and strengthens the Air Force’s ability to respond even after suffering an attack or series of attacks.

Survivable and enduring [command and control](#) (C2) capabilities disseminate warning information and nuclear control orders and add significant resilience to the NC3 system of systems. Resilient NC3 contributes to stability by convincing adversaries that they cannot execute an attack against the United States or its allies without suffering consequences of a nuclear response. C2 of nuclear operations is provided through a survivable line of communication and warning systems to ensure dedicated connectivity among the President and nuclear forces.

NUCLEAR COMMAND AND CONTROL SYSTEM

The President’s ability to exercise nuclear authority is through the Nuclear Command and Control System (NCCS).

“The NCCS supports the Presidential nuclear C2 of the combatant commands in the areas of integrated [tactical warning](#) and [attack assessment](#), decision making, decision dissemination, and force management and report back. To accomplish this, the NCCS comprises those critical communications system components of the

DOD information networks that provide connectivity from the President and Secretary of Defense through the National Military Command System to the nuclear combatant commanders and nuclear execution forces. It includes the emergency action message dissemination systems and those systems used for tactical warning/attack assessment, conferencing, force report back, reconnaissance, retargeting, force management, and requests for permission to use nuclear weapons. The NCCS is integral to and ensures performance of critical strategic functions of the Global Command and Control System. The Minimum Essential Emergency Communications Network provides assured communications connectivity between the President and the strategic deterrent forces in stressed environments.” ([Joint Publication 1, “Doctrine for the Armed Forces of the United States”](#))

Because only the President of the United States can authorize the employment of US nuclear weapons, nuclear operations require NC3 systems to provide national leaders with situational awareness, advance warning, and command and control capabilities. [Deterrence](#), stability, and escalation control require that these capabilities endure nuclear attack so that no adversary can contemplate a disarming first strike.

POSITIVE CONTROL

The President may direct the use of nuclear weapons through an [execute order](#) via the Chairman of the Joint Chiefs of Staff to the [combatant commanders](#) and, ultimately, to the forces in the field exercising direct control of the weapons.

To allow for the timely execution of these orders, emergency action procedures allow for a timely response to an execution message and ensure an execution order is valid and authentic. Air Force personnel involved in the actual employment of nuclear weapons are intensively and continuously trained and certified in these procedures so they can quickly and accurately respond to the order.

POSITIVE RELEASE ORDERS

To prevent unauthorized employment of nuclear weapons, cryptologic systems are used to validate the authenticity of nuclear orders. Access to these systems and codes are tightly controlled to ensure unauthorized individuals are not permitted to gain access to the means to order or terminate nuclear weapons employment. Conversely, once appropriate orders have been sent, weapon system operators must respond in a timely manner using standard procedures. Knowledge of these procedures could allow an adversary to determine the time required to conduct operations and the methods crew members will use to accomplish them, allowing that adversary to take more effective measures to counter or limit a nuclear strike.

As with all components of [force protection](#), information security and [operations security](#) are critical to mission success.
