



NUCLEAR COMMAND, CONTROL, AND COMMUNICATIONS

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The nuclear command, control, and communications (NC3) system refers to the “means through which Presidential authority is exercised and operational command and control of nuclear operations is conducted. The NC3 system is part of the larger national leadership command capability (NLCC), which encompasses the three broad mission areas of: (1) Presidential and senior leader communications; (2) NC3; and (3) continuity of operations and continuity of government communications” (Air Force Instruction 13-550, [Air Force Nuclear Command, Control, and Communications \(NC3\)](#)).

The Air Force Global Strike Command (AFGSC)-supported Air Force Nuclear Command Control and Communications Center (AFNC3C) is responsible for lead command management and centralized organize, train, and equip functions of the Air Force NC3 weapon system (AN/USQ-225), comprising terminals, radios, direct ancillary communications devices, and support equipment for the execution of 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 is a foundational capability of the Air Force and undergirds US national defense policy.

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 nuclear command and control (NC2) capabilities disseminate warning information and nuclear control orders and add significant resilience to the NC3 system of systems. NC2 is the exercise of authority and direction by the President, as Commander-in-Chief of the US Armed Forces, through established national command authority lines over nuclear weapons, nuclear weapon systems, and nuclear weapon operations of military forces. Resilient NC3 contributes to stability by convincing adversaries that they cannot execute an attack against the US or its allies and partners

without suffering the consequences of a nuclear response. NC2 mission essential functions include force management, planning, situation monitoring, decision making, and force direction.

When conducting conventional-nuclear integration (CNI) operations, command and control relationships may be different than those described in AFDP 3-30, [Command and Control](#). For example, Commander, US Strategic Command could control nuclear bombers while the [combatant commander](#) with an area of responsibility executes command and control of conventional forces in either a Conventional Conflict with a Nuclear Element or a Conventional Support to Nuclear Operations scenario. While CNI may improve [unity of effort](#), it may pose [unity of command](#) challenges.

NUCLEAR COMMAND AND CONTROL SYSTEM

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

The Nuclear Command and Control System

"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 [Department of Defense] 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 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 during and after nuclear attack so that no adversary is capable of 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.

Execution of these orders through emergency action procedures allow for a timely response to an emergency action message and ensure the directive 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

Cryptologic systems are used to validate the authenticity of nuclear orders to prevent unauthorized employment of nuclear weapons. Access to these systems and codes, and knowledge of these procedures are tightly controlled to prevent access by unauthorized individuals to the means and methods to order or terminate nuclear weapons employment. Once appropriate orders have been sent, weapon system operators must respond in a timely manner using standardized procedures.
