

## **Command and Control**

### **What is command and control**

- Refers to the policies and technologies that seek to: make clear who has the authority to order the use of nuclear weapons, enable that authority to use the weapons when they deem it appropriate to do so, make it so that the weapons cannot be used or detonated if that authority has not ordered it to be so
- Includes communication (C3) to emphasize the important role that communication technologies play in this dynamic

### **Always/Never**

- The US nuclear forces will always be usable when they are legally ordered
- The US nuclear forces will never be usable when that legal authorization is not there
- Very simple idea, but difficult because cost of failure can be very high, and these systems are very complex

### **Why do you need good command, control, and communication?**

- Ability to control when and where you nuke necessary if nuclear weapons to be viable weapons/threats
- Age of deterrence, need to be able to guarantee secondary strike capability
- Need to avoid threat of unauthorized nuclear use
- Need to avoid nuclear weapons accidents
- Need to avoid possibility of accidental nuclear war

## **C2 history in the USA**

### **Truman**

- Thinks nuclear weapons should be kept in a different line of reasoning. Removing the military from the list of commands.

### **Nuclear Accidents**

- US cold war bomber secondary strike policy: Airborne alert missions
- Operation chrome dome: live nukes flown on B52 to borders of USA, Canada, allies
- Numerous crashes involving live nuclear weapons as part of airborne alert
- 32 broken arrows - serious accidents involving nuclear weapons
- Inclusive list includes thousands of incidents involving nuclear weapons, including several very serious ones not on the Pentagon's list

### **Cold War Concerns**

- General Thomas Power: head of nuclear force -- kinda psycho
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### **Pals and tactical nuclear weapons**

- US began deploying more nukes overseas, fear of someone using one without permission or stealing one
- The nuclear weapons laboratories develop PALs: Permissive Action Links
- PALs are basically computerized locks - put in the wrong code, the warhead will permanently disable itself

### **US C2 History overview**

- Truman: military operation, light civilian oversight
- Truman: post war hard swing towards civilian control
- Eisenhower: movement towards military custody with nominal civilian control, predelegation, lots of overseas basing

- Kennedy: enforcement of civilian control PALs

### **American C3 today**

- Only POTUS can authorize the employment of US nuclear weapons
- You cannot disagree with the President

### **C2 in the 21st century USA**

- Civilian control, military ownership
- Unilateral launch authority vested in US President
- Authority enforced both with technical systems and regulations
- Highly technical means of moving orders through system - emphasis on speed, not deliberation, no codified capabilities for veto

### **Who can authorize nuclear weapons use?**

- USA: President of US is the only person authorized to use nuclear weapons
- USSR: Politburo has authority to use/make weapons, but many decisions about weapons take place in Ministry of Defense, in time of crisis, Supreme commander of armed forces appointed
- Russian Federation: President, defense minister, chief of general staff - two positive orders needed to begin use
- UK: prime minister can authorize nuclear use, supposed to meet with other ministers before doing so if possible - potentially even monarchy in principle, military has no say
- France: civilians originate order, military then can implement order (potentially split)
- Pakistan: military runs everything
- India: weapons entirely under control of civilians
- Israel: requires agreement of two people
- North Korea: Weapons in control of head of military, who is head of state
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