THE SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

JUN 7 1980

MEMORANDUM FOR THE PRESIDENT

SUBJECT: False Missile Alert (U)

INTRODUCTION

During the last two weeks we have had three false missile warning
incidents, each of which has been isolated to the same component,
a dual-channel multiplexer within the NORAD computer system. The
first incident on May 28th lasted only 6 seconds and was immediately
recognized as an anomaly. No actions were taken. The second
incident on June 3rd lasted for about 30 minutes. This is described
in detail below. After this incident, a modification to the computer
program was installed in order to recognize a repeat of this error
and to alert the system. Unfortunately, when a similar error occurred
on June 6th, the corrective modification did not immediately identify
the error. As a result, SAC did respond to the June 6th incident
by alerting air crews and starting engines. However, as in the
June 3rd incident, no SAC aircraft were taxied or launched. We have
now instituted further corrective actions described below.

These incidents differ from the false alert of November 9, 1979.
They cannot be traced to improper test procedures but are the result
of a failure in the computer hardware or software. These incidents
therefore weaken further my confidence in the computer system and I
consider the situation to be very serious. I have instituted a number
of actions designed to reinforce immediately the human safeguards,
which have worked well, to review critically the computer system,
and then to repair the deficiencies.

I remain confident that our system has sufficient safeguards to prevent
irreversible actions being taken as a result of inconclusive data.
My highest priority is to insure that remains the case. But I am
also determined to assure that the experience of repeated false
alarms does not cause a real alarm to be ignored.

WHAT HAPPENED?

    May 28

    -    A false BMEWS output of 2020 missiles appeared on the
         warning display at SAC for 6 seconds.

    -    At nearly the same time the warning display at the ANMCC
         showed 9000 missiles for a similarly brief duration.

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- Because of the brevity of the display, no alert actions were initiated, but NORAD began a technical investigation of the anomaly.

June 3

- A false indication of 2 threat SLBMs appeared on the warning display at SAC. The count quickly jumped to 200 SLBMs. No other command centers displayed any missile warning.

- In less than 2 minutes SAC alerted its crews to move to their aircraft and start engines. (Note: SAC begins these actions, even when the data is known to be ambiguous, as a precautionary measure to ensure survivability.)

- Six minutes after the first false display SAC began displaying 2020 ICBMs from BMEWS.

- Twelve minutes after the appearance of the first false display at SAC, the NMCC display began to show 200 SLBMs.

- The senior duty officer at the NMCC initiated a missile display conference, and shortly thereafter 220 ICBMs were displayed indicating all had already impacted.

- The conference was then upgraded to a Threat Assessment Conference and a NORAD assessment was requested.

- Pacific Command initiated a launch of its airborne command post because a Threat Assessment Conference had been convened.

- NORAD issued an assessment that we were not under attack since there were no outputs from the warning sensors (radars and satellites) to produce such displays. These sensor indications are present on the same boards that display the computer outputs; the absence of any sensor indications in these incidents has caused the duty officers in each case to be aware from the beginning that the situation was probably a false alarm.

- Thirty-two minutes after the first false display appeared at SAC, the Threat Assessment Conference was terminated, and one minute later the SAC alert was terminated.

June 6

- A false BMEWS output of 2000 ICBMs appeared on the warning display at SAC. This was followed in a few seconds by false displays of 6 missiles at the NMCC and 2020 missiles at the ANMCC.

- SAC again alerted its crews to move to their aircraft and start engines.

- A Missile Display Conference was convened 2 minutes after the first false display appeared at SAC. NORAD immediately assessed no confidence in the displays and no further alert actions were initiated.

- The SAC alert was terminated 17 minutes after the first false display appeared at SAC.

WHAT CAUSED IT?

- All of the false missile warning displays were caused by a malfunction in a minicomputer at NORAD. Such a minicomputer is used with each channel of the NORAD computer system to transform the missile warning data from the NORAD computers into a form suitable for transmission to the NMCC, SAC and the ANMCC where it is automatically displayed.

- The information reaches the display at NORAD via another route, so no false data ever appeared on the NORAD missile warning display screen.

- When no missile warning data are present, the output of the minicomputer for the operational channel of the NORAD computer should be a string of zeroes. However, in each of the preceding events, the minicomputer associated with channel B, which was then operating, spuriously began introducing random 2's into the output message. The result was a display of false missile warning data at the command centers other than NORAD.

- Although after the June 3rd incident an automatic interrupt was installed in an attempt to prevent transmission of spurious data, it did not prevent the June 6th recurrence; consequently, NORAD is now using its back-up computer system to avoid the use of the minicomputer altogether. This is an appropriate temporary expedient, but we need to take much more extensive actions than that.

WHAT CORRECTIVE ACTIONS ARE BEING TAKEN?

- A team including members of my staff and the OJCS spent June 5th at SAC and NORAD reviewing the incident. The source of the technical problems was verified and the conduct of operations during the incident was reviewed.

- NORAD has been instructed to use a different computer, the Mission Essential Backup Computer, as their primary computer. This computer uses completely different hardware and software from the system which caused the problem. All of the command centers will receive the same information in this mode of operation. NORAD will have the key displays necessary for its mission; however, some of the displays that they use to assist them in detailed attack assessment will not be available.

-    All command centers involved in missile attack warning
     now have special voice circuits continuously operating,
     over which we quickly identify false displays.

-    A special task force has been organized to review in detail
     the computer and communications systems at NORAD. This
     team consists of national experts in large scale computer
     systems. Their objective will be to identify the problems
     with the present system and recommend corrections and improve-
     ments. The task force will have its first meeting next
     Wednesday and Thursday at NORAD.

-    The JCS is conducting a review of missile warning operational
     procedures and the CINCNORAD is conducting an internal
     investigation.

-    In parallel I will have my staff conduct a comprehensive
     review of the entire surveillance and warning system to
     determine if any basic changes are needed in order to
     fulfill its mission.

SUMMARY

In summary, I feel that we have a serious problem with the computer
system at NORAD. I intend to devote adequate senior staff attention,
manpower, and resources to correction of this problem as soon as
possible. However, in spite of this deficiency, I have confidence both
that the overall system is designed so that you will get accurate
warning information in a timely manner and that there are enough safe-
guards in the system that the United States would not take any offensive
action based on false information.

The command and control of our strategic forces is an essential part
of our nuclear deterrent. We must avoid repetition of incidents which
weaken our confidence or the Soviets perceptions. Therefore, while
we will be brutally honest internally we must pursue our fixes with
a minimum of publicity.

Harold Brown