

Early steps in the Cold War

We think we live in a rapidly changing world today and we do. However, that didn't just begin. Major shifts in technology that affected the entire world also occurred in the 1940's and 1950's. The atomic bomb was used to end a war, the nuclear era ushered in vast new technological advances. Change was everywhere and happening rapidly in a number of places across the globe.

On August 29, 1949 the Soviet Union exploded its first atomic bomb. This came as a shock to the United States government as no one expected they could develop a nuclear capability that quickly. Remember that Klaus Fuch, the British spy, had given them the plans to Fat Man. So, they had a tremendous advantage from the start. He gave them the plans almost as soon as Fat Man was completed.

Interestingly enough, Fuch's information also included the United States' production rate for uranium 235 and plutonium. This allowed the Soviets to know just about how many nuclear weapons we were capable of manufacturing. You will recall that in the late 1940's Y-12 was taking over the uranium metal processing operations from Los Alamos. By the time the Soviet bomb was dropped in late 1949, all uranium machining was being done at Y-12.

The Soviet bomb created a stir among scientists as well as government officials and the general public. Scientists were divided on what response they felt would be appropriate. Most agreed that expanding the nuclear weapons program was in order. However, not everyone agreed upon exactly what type bomb should be built.

Even Robert Oppenheimer and Edward Teller, both leading scientists who were at the forefront of the nuclear age, disagreed. Oppenheimer was by 1949, the head of the General Advisory Committee. In October, 1949, at the AEC's request, he called a two-day meeting where the issue of response to this new threat was discussed. The committee agreed to recommend expansion of the nuclear weapons efforts for fission bombs only. They did not recommend the pursuit of a fusion or hydrogen bomb (thermonuclear bomb).

These scientists who had been a part of the Manhattan Project understood the full implications of moving from the fission bomb to the fusion bomb. They were reluctant to recommend creating something as they saw as being without limits regarding its destructive power.

The AEC commissioners were also divided on the issue of the "super" weapon or fusion bomb. While they agreed on the need to respond to the Soviet threat by producing more nuclear weapons, not all of them were willing to support the transition to thermonuclear weapons.

AEC commissioner Lewis L. Strauss, in a letter to President Truman on November 25th, made his position known. "I believe that the United States must be as completely armed as any possible enemy. From this, it follows that I believe it unwise to renounce, unilaterally, any weapon which an enemy can reasonably be expected to possess. I recommend that the President direct the Atomic Energy Commission to proceed with the development of the thermonuclear bomb..."

The Joint Chiefs of Staff indicated they felt it imperative that the United States not be in the position of allowing a potential enemy to possess thermonuclear weapons and the United States not have them. President Truman also asked a special committee of the National Security Council to weigh in on the question.

This special committee consisted of David Lilienthal, Chairman of the AEC, Louis Johnson, Secretary of Defense, and Dean Acheson, Secretary of State. Both Johnson and Acheson were in support of the thermonuclear weapon and Lilienthal then changed his position and agreed with them.

Others who supported Teller in his strong push to convince the political system to support the advanced technology of the thermonuclear bomb were, Ernest Lawrence (inventor of the Calutron used at Y-12 to separate uranium 235 for Little Boy), Senator Brien McMahon of Connecticut who had sponsored the Atomic Energy Act of 1946, and AEC commissioners Gordon Dean and Lewis Strauss.

On January 31, 1950, President Truman announced that the United States would pursue the development of the hydrogen bomb. On March 10, 1950, he further specified that the AEC should expand facilities and make an all out effort to produce the hydrogen bomb.

Four days later, the Soviet Union issued a protocol ordering Soviet scientists to report on the progress of their own thermonuclear bomb. The race was on!

As a side note, Klaus Fuchs was not caught until January 1950, well after the Soviets had exploded their first atomic bomb. He served nine years of a 14 year prison term. When he got out of British prison on June 23, 1959, he immediately went to East Germany. It is said that he tutored the Chinese to help them develop an atomic bomb.

With Fuchs' help along with substantial assistance from the Soviet Union, China exploded its first atomic bomb on October 16, 1964 and became the fifth nation to possess nuclear weapons. Great Britain had exploded their first test device in October, 1952 and France on February 13, 1960.

Other countries with nuclear weapons and the year of their first test are: India – 1974, Pakistan – 1998 and North Korea – 2006.