

0. K19 Widowmaker - Story Preface

1. NUCLEAR ENERGY
2. HOW NUCLEAR ENERGY WORKS
3. NUCLEAR SUBMARINES
4. THE K-19
5. A NUCLEAR ACCIDENT
6. AVOIDING NUCLEAR MELTDOWN
7. RADIATION SICKNESS ABOARD a NUCLEAR SUB
8. SAVING THE K-19 CREW
9. SECRET HEROES



Photograph of the Russian Submarine K-19. Image online, courtesy dynamicscience.com/au website.

It seems that what really determines the choices a man makes in critical, life-threatening situations is still his inner conviction, his sense of responsibility for the events around him, his personal conscience.

Nikolai Zateyev
Commander of the Soviet Submarine K-19

The 4th of July, 1961, was supposed to be a triumph for the crew of the Soviet Union's first nuclear-powered, ballistic-missile submarine. K-19, not yet dubbed "Hiroshima" by her crew, was under the command of Captain First Rank Nikolai Vladimirovich Zateyev.

Finished with naval exercises in the North Atlantic, K-19 was returning home from her first patrol voyage for the Soviet Northern Fleet. Unknown by Zateyev (who is the basis for the character "Captain Alexei Vostrikov" in the [film](#)), K-19 had three potentially fatal strikes against her on that summer day.

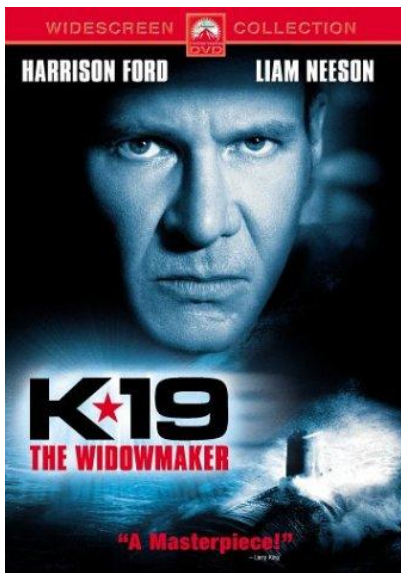
The ship, a "Hotel 1" class (Project 658) submarine, had a design flaw in her steam plant. Moreover, the ship's power source, two [liquid metal](#) nuclear [reactors](#), had [no emergency](#) backup system to prevent reactor overheating in the event of a malfunction. And there was something else neither the captain nor his crew knew. A welder had failed to follow safety procedures when he installed the reactor's primary cooling loop pipelines.

As K-19 made her way in the Norwegian Sea, not far from the island of [Jan Mayen](#), the submarine's early morning routine was disrupted by the screeching of an alarm. The worst possible event was unfolding: Reactor Number Two had experienced a sharp drop in pressure in its [cooling](#) loop.

Unless clear thinking and courageous action intervened, the reactor's core (including its nuclear fuel) could meltdown. And if THAT happened, a nuclear [explosion](#) would likely follow.

See Alignments to State and Common Core standards for this story online at:
<http://www.awesomestories.com/asset/AcademicAlignment/K19-Widowmaker>

See Learning Tasks for this story online at:
<http://www.awesomestories.com/asset/AcademicActivities/K19-Widowmaker>



k19 The Widowmaker Movie Poster

Image online, courtesy Wikimedia Commons.

View this asset at:

<http://www.awesomestories.com/asset/view/k19-The-Widowmaker-Movie-Poster>



K19 Widowmaker

View this asset at: <http://www.awesomestories.com/asset/view/K19-Widowmaker0>