Nedelin Rocket Disaster

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What Happened:

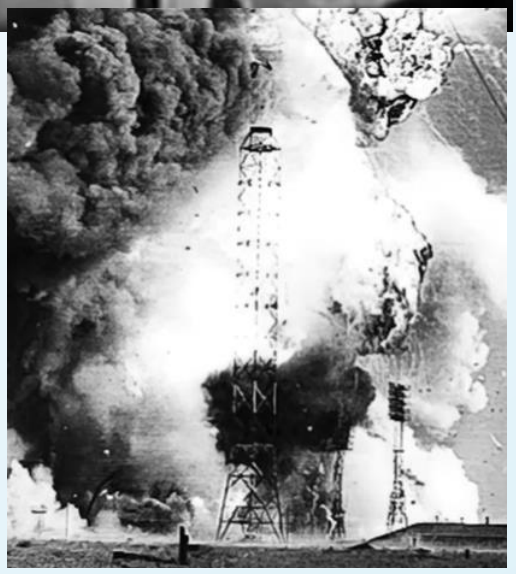
In 1960 an R16 prototype rocket exploded killing over 100 people. Lead commander Nedelin vanished in the incident.

The rocket fuel named Devils Venom contained N_2O_4 solved in nitric acid as oxidizer and UDMH or $H_2NN(CH_3)_2$ that react directly when mixed.

Time pressure to meet Bolshevik Revolution celebration, caused overlap of testing and launch preparation.

An engine was (pre-launched) tested and accidentally caused a fuel tank to detonate that already was filled.

Images from a video of the incident



https://www.russianspaceweb.com/r16_disaster.html

Aspects:

- The incident was kept a Soviet secret for three decades.
- When problems arise, it was decided to not unload the rocket fuel, but to continue to meet the deadline.
- Nedelin violated the procedure to remove personal when fueling the rocket and all engineers remained working.
- Nedelin sat on a chair next to the rocket to demonstrate it was safe: do not act as a hero in hazardous operations.

Only start-up when fully ready for that

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