

Exceptional service in the national interest



Introduction to Virtual Reality Exercise

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Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

The virtual exercise takes place at an “operational” air defense base.



The host government decided that visitors can visit the base without any security issues. There might, however, be restrictions for visitor safety.

For this exercise, the host government has announced that it will transparently dismantle a MIM-14 air defense missile



Credit: US Army, Image Courtesy of Golden Gate NRA, Park Archives, PAM Prints Collection, GOGA-1766

The MIM-14 air defense missile is a two stage missile designed for a strategic air defense mission. It is radar controlled and was often deployed in batteries capable of launching multiple missiles.

Goals of the two (host and visitor)



missions: Increase confidence that the host nation is dismantling a missile as declared.

The Host country needs to:

1. Ensure the safety of both teams during a visit to an operational missile base.
2. Maximize transparency while minimizing time on site:
 1. Minimize the chances of an “incident” during the visit by satisfying all reasonable visitor requests.
 2. Explain features of the facility to the visitors as you go along

The Visitors need to:

1. Take responsibility for their own safety by following the rules of the set out by the host country as well as being cautious.
2. Maximize confidence gained while minimizing the risks of an “incident.”
 1. Make requests to stop and look at things that might help

Operational air defense missile sites can have the following facilities:

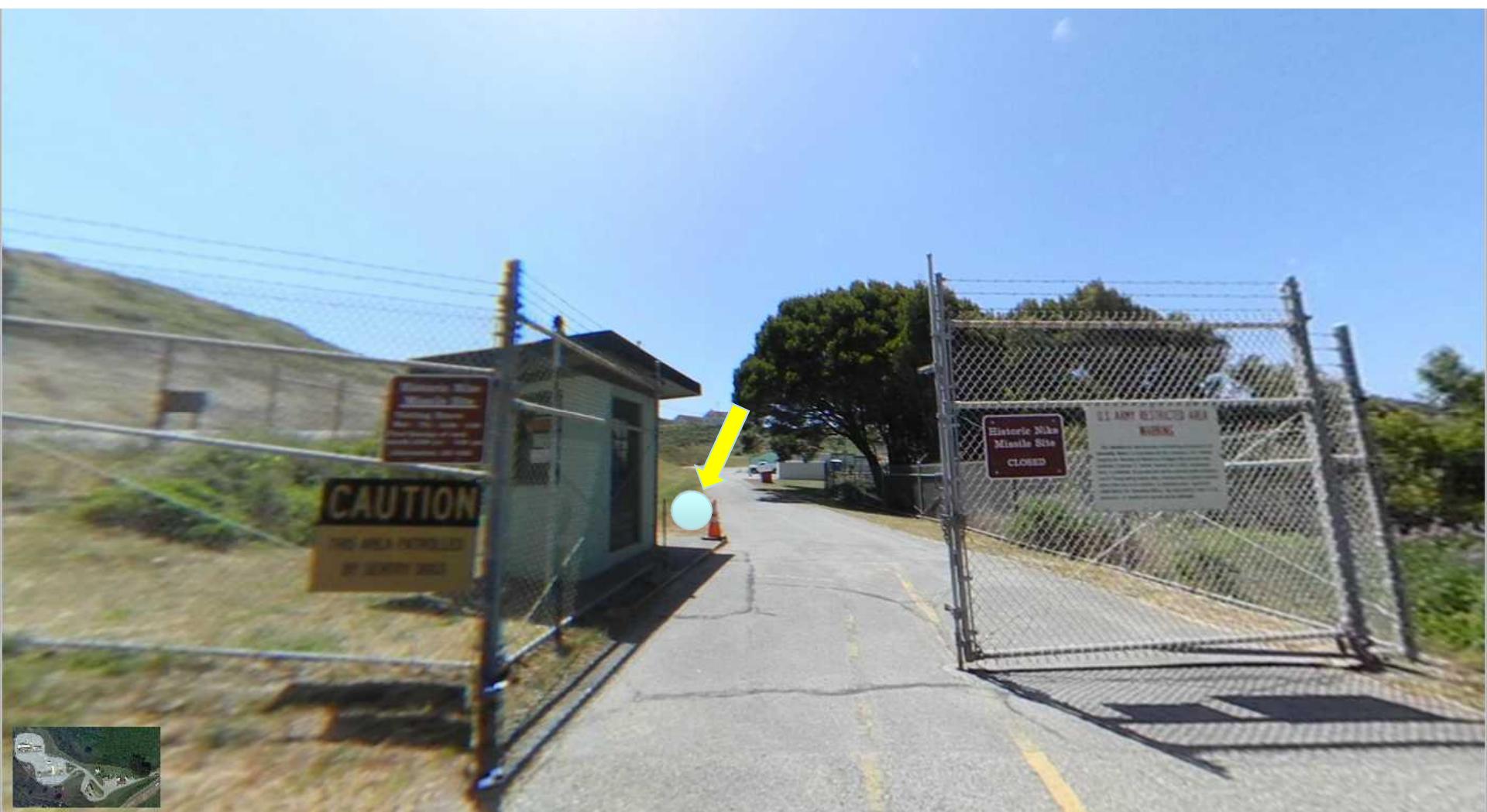
- Administrative buildings
- Technical support buildings
- Security perimeters and checkpoints
- Launch facilities such as special pads and launch rails
- Missile storage facilities
- It is *possible* that radars will also be on site

Visitors will have “satellite” images—purchased from international corporations specializing in such images—available to them before their visit.

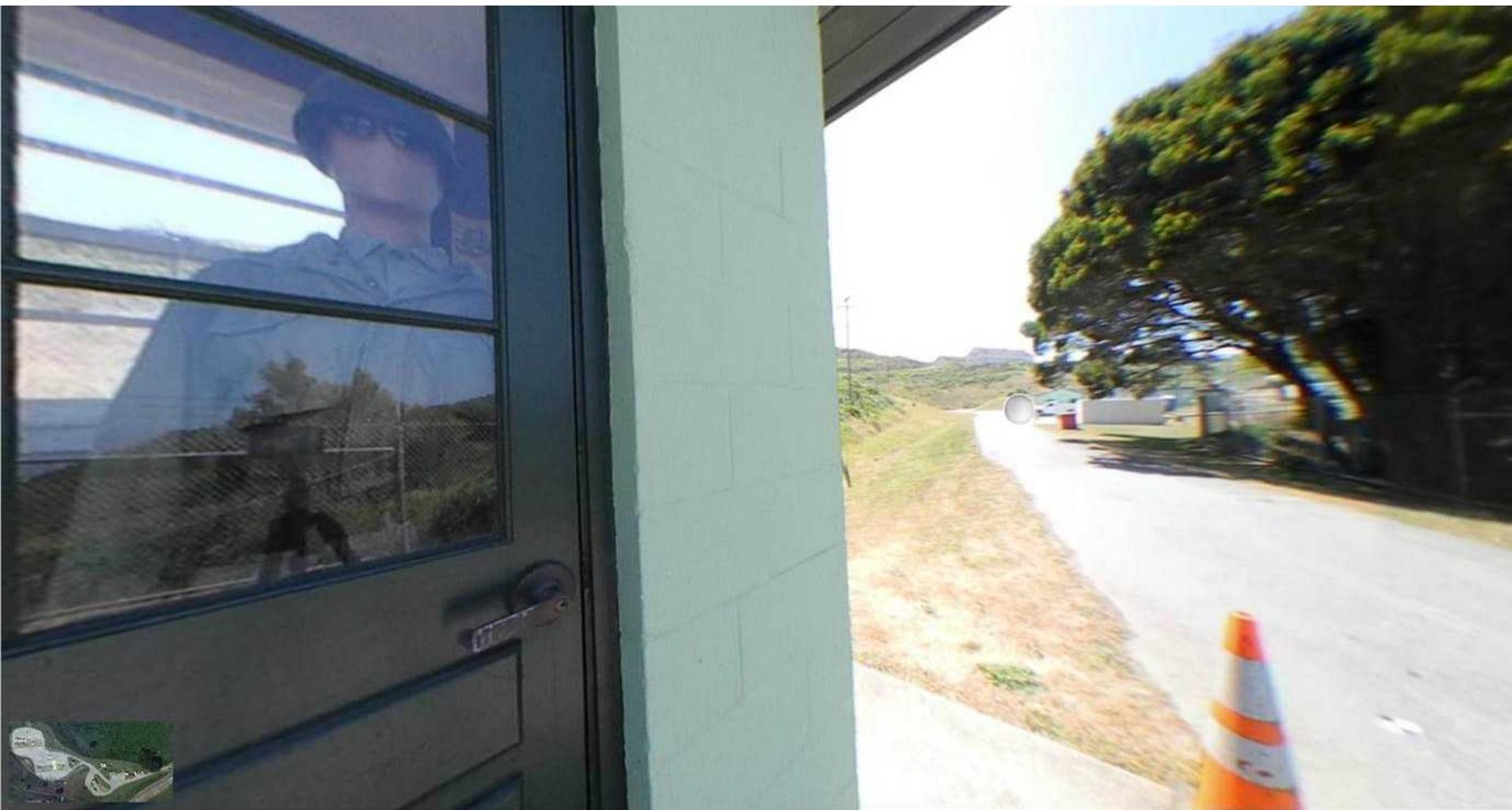


Visitors will need to identify before their visit the likely function of buildings and other structures so as to increase their understanding and confidence associated with their visit. They should not expect their hosts to explain anything not associated with the missile being visited, though the hosts could choose to do so to increase confidence.

You move around the virtual reality exercise by pressing the white “globes”



...that takes you to the “next” position



You can stop and look around by
grabbing and dragging the image...



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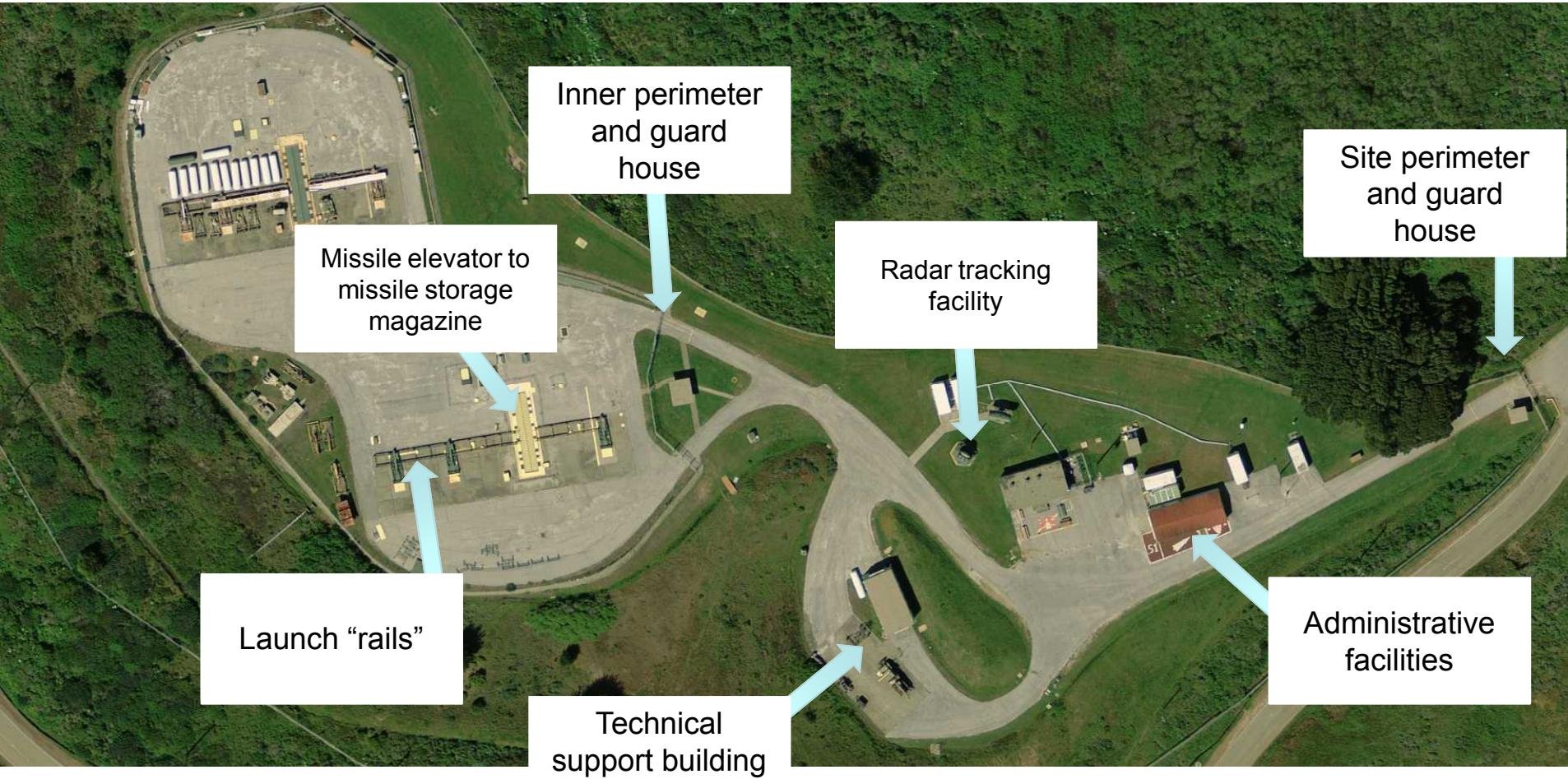


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Backup Slides



Host team: Here is your site with the various facilities indicated:



Hosts: the entrance to the underground missile magazine is here

