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Pits 101: The true meaning of deterrence

Mark Davis inspires employees to understand why our mission matters.



Mark Davis (left) speaks with members of the TA-55 custodial staff at a thank-you breakfast for their work.

Mark Davis (ALDWP-COO) is the Chief Operating Officer for the Associate Laboratory Directorate of Weapons Production, where he focuses on ramping up operations in the Plutonium Facility in support of the directorate's programs, including the [plutonium pit mission](#). Davis has had an accomplished career in the U.S. Navy that has compelled him to inspire those who support our nation's national security through sharing stories of our nation's history and the individuals who have been world-changers. He is passionate not only about our national security mission here at the Lab, but also about ensuring every employee understands that they play a key role in the mission, no matter their day job.

In this special edition of the [Pits 101 series](#), Public Affairs sat down with Davis to get his perspective on the meaning of credible and sustainable [strategic deterrence](#), and why it matters today.

How would you describe the Weapons Production, including the pit mission, and how we'll achieve it?

In Weapons Production, our mission is to enable credible and sustainable strategic deterrence for the nation. For us to accomplish that mission, it's essential that we all understand the sense of urgency that comes along with it. We — the United States — have done things like accomplishing the pit mission before. Even if it's the first time we're doing it at this scale at Los Alamos, our nation's history shows us we can do it.

What are some of those historical examples that inspire you?

In 1950, the United States was beginning to realize that we couldn't just sit back and declare victory after the events of World War II, because in 1949 — just four years after what we thought was the end of the

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need for nuclear weapons – Russia tested their first nuke. It was around then that President Truman wrote a letter to the president of the DuPont corporation, Crawford Greenewalt. The letter said that DuPont was uniquely qualified to undertake the most essential task of vital importance to our national security and defense. That task was to develop the strategic nuclear materials we needed to keep our stockpile credible and sustainable to deter Russia. DuPont, which had been known for manufacturing high explosives before and during WWII, had started to pivot their outlook away from war efforts and more into what they're known for today. Nevertheless, they understood that being called on by the President of the United States meant business. They took on the task and within two years started the first of what would become five nuclear reactors at the Savannah River plant to make materials needed for the nuclear security effort. That couldn't have happened without full commitment to the mission. Everyone involved understood the urgency due to Russia's actions.

But it's not just war-related moments in history that inspire me. Ten years after DuPont started those nuclear reactors, President Kennedy announced the mission to put a man on the moon within a decade. It didn't take a decade – just seven years later Neil Armstrong stepped onto the moon and said those famous words, "One small step for man, one giant leap for mankind." It happened because leadership at the very highest level focused the entire country on one singular task.

During that period of time, it's said that you could go to anyone in NASA, from the CEO to a scientist, to a custodian, to someone working in the cafeteria, and ask them, "What is your job?" and no matter the person, their answer would be simply "To put a man on the moon."

That's the kind of commitment I want all of us to have here at the Lab. We're all working to support national security, and history tells us that having that singular focus and pulling in the same direction will get us there.



Davis (right) stops by to encourage employees at TA-55's Operations Integration Center.

Deterrence is an idea that was founded after WWII and in the Cold War. So, what does it mean in today's world?

Today's geopolitical situation is vastly different than it was during and after the Cold War. We're all aware of the situation in Russia and all the instability associated with the war in Ukraine. Earlier this year, Russia announced it would pause its participation in the [New START Treaty](#), a nuclear arms reduction treaty signed by the U.S. and Russia in 2009. This means our formal lines of transparency and communication with Russia that allowed both nations to review and observe each other's nuclear weapons are severed, and the stability that came from that knowledge is at risk.

We also have a relatively new geopolitical threat emerging in the form of China as a second nuclear peer. During the Cold War there were two superpowers, the U.S. and the Soviet Union. We knew a great deal about each other. We had formal lines of communication and clear strategies to prevent the use of nuclear weapons on both sides. At end of the Cold War, both nations agreed we needed to draw down. Today, the combination of Russia's withdrawal from New START and China's increasing capability to build hundreds of nuclear weapons means our nation's role in deterrence is more important than ever.

In our day-to-day work at the Lab, it can be easy to get stuck in the details of our to-do lists and tasks and not remember that bigger picture. Why does that all matter to any given one of us working here?

This brings me back to my DuPont story. Just like when Truman wrote the DuPont president and said, "You're the only ones who can do this right now," our nation's leadership is saying the same to us here at Los Alamos.

We're the only place in the nation where plutonium pits are currently made. We're the only place in the nation that manufactures detonators. Why haven't we seen a nuclear weapon used since World War II? Because of each one of you. Our work here by technical experts and all the skilled staff who support them is the foundational reason that individuals like Vladimir Putin of Russia or Kim Jong Un of North Korea know our stockpile is credible and reliable, and that deters them from using their own.

Our mission is more important than it's ever been. Deterrence is only good if its credible and reliable, and that's why we're making new pits, building new detonators, performing research and development, materials science, and all kinds of other things.

As for me, I'm ~~humbled and honored~~ [daily](#) to be involved in something so essential – and at the only place in the nation where that vital work occurs.

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