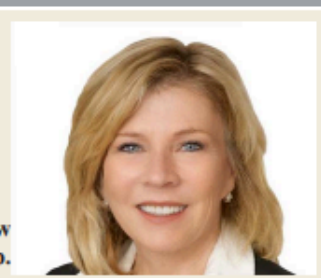


OP-ED

My Conversation with Dr. Dennis E. Stover

One of the Pioneers of In-Situ Recovery Uranium Extraction Across the World



Janet Lee-Sheriff, President & Director of the Clean Energy Association of New Mexico (CLEAN) and Chief Executive Officer & Director of Verdera Energy Corp.

The term nuclear renaissance is no longer limited to Washington, DC elites; it has become a dinner-table term and a topic of everyday discussion. Closely tied to this renaissance is In-Situ Recovery, or “ISR” for short. In-Situ Recovery is not a new technology, in fact ISR celebrated its 50th anniversary in 2025.

For all the advancements of ISR and the vast advantages over conventional mining many people have not heard of it. This leads to questions, misunderstandings, misconceptions and fear. In thinking about how to bring light to this much misunderstood technology, I thought what better way to address this matter than have a conversation with one of the pioneers of ISR, Dr. Dennis Eugene Stover.

I was honored to have a dynamic conversation with Dr. Stover on ISR and have an opportunity to discuss what I consider the “elephant in the room” — the often-asked question: “What about my water?”

JLS: When was ISR first used in the US?

Dr. Stover: ISR extraction for uranium was first tried on an experimental basis in Wyoming during the early 1960s. The first commercial

ISR uranium extraction was in Texas and began operating in 1975. Today, more than sixty percent (60%) of worldwide uranium production utilizes ISR. This includes operations in Australia, Kazakhstan, Russia, as well as the United States.

JLS: Can you describe an ISR Wellfield operation?

Dr. Stover: There’s no excavation involved. What we do is we install a series of wells. They’re typically similar or very identical to water wells that the local rancher or farmer would have for their own sources of water. The difference is that ISR wells are sealed at shallower depths so that there is absolutely no chance for fluid to move into any controlled area or unmonitored area.

Any disturbance both on the surface or sub-surface is temporary and heavily bonded by regulators to ensure reclamation is completed. After extraction is complete, the groundwater is restored, the wells are sealed, and the land is returned to the original landowner. And as we see in Texas and Wyoming, they can resume the same farming activities or return to livestock grazing - all the activities they had beforehand. It’s as if we were

never there.

JLS: What are some of the advantages of ISR?

Dr. Stover: Because uranium is recovered through wells rather than open pits or underground workings, ISR creates an inherently safer working environment with fewer physical hazards for workers. The process also results in significantly lower environmental impacts. ISR operations generate no tailings or waste rock, eliminating long-term surface disposal issues. There is no ore handling, which means no ore dust and no direct exposure to radioactive material. In addition, ISR uses substantially less water on a consumptive basis, as fluids are circulated and recovered within a closed system. Finally, ISR operations have a greatly reduced surface footprint, minimizing land disturbance and simplifying site reclamation.

JLS: One of the things that we hear a lot about is the use of groundwater in the In-Situ Recovery process. Often, you’re using exempted aquifers. Is that correct? They have uranium in them so you can’t use them for drinking water. At one time I mistook that for saying “you’re actually doing some form of reclamation after the ISR oper-

ation” but even when you’re done it still contains a lot of other metals that doesn’t make it useable for drinking water. Am I correct?

Dr. Stover: To begin with there are Federal regulations associated with the Clean Water Act and subsequent Federal legislation that allows certain portions of aquifers to be exempt from any other standards for specific uses and that is what happens in the case of the immediate area where you have a uranium deposit that is located in the water bearing sand. The quality of that water, as you alluded to, is not suitable for drinking because it does contain naturally elevated concentrations of uranium and it may have elevated concentrations of a number of other metals. State and Federal regulations require ISR operators to restore groundwater to certain levels established by state regulatory guidelines. I am not aware of any ISR operation that has ever actually worked in a true drinking water aquifer. Apart from the high radioactivity, the water quality may be very good. However, due to this radioactivity and the associated elements (uranium radium, radon, etc) the water would not qualify as a suitable

drinking water source under Federal regulations, even before the ISR operation.

As the President and Director of the Clean Energy Association of New Mexico, I must be clear that I am in support of clean domestic energy as a driver of a strong economy and as a basis for the opportunity to create meaningful wealth, including local jobs and business opportunities, for all stakeholders. Our long-term goal is to create opportunities within the nuclear sector in New Mexico that are exclusively supported by ISR technology for uranium extraction. As Dr. Stover stated, the quality of the water in these aquifers are not suitable for drinking water purposes. The fact is that where there are naturally occurring uranium deposits, you will always have naturally occurring high concentrations of uranium and other radioactive elements, making the water unfit for drinking purposes. It cannot be stressed enough that this is a highly regulated industry and sector with utmost care given to minimal footprint. I like what Dr. Stover said when describing the land at the end of an ISR operation, “it’s as if we were never there.”

We thank Dr. Stover for this time and answering our questions. If you want to see the full interview, please view it here:

<https://www.youtube.com/watch?v=7FnuVVa9ALw>

From April 20–22, The Clean Energy Association of New Mexico (“CLEAN”) will host its inaugural Nuclear in New Mexico Conference at the Hyatt Regency Tamaya Resort and Spa on the Santa Ana Pueblo. Dr. Stover will be a speaker at this event along with industry professionals, government officials, regulators, tribal representatives, companies, community members and academic institutions who will come together for an in-depth look at the evolving role of nuclear energy in the Southwest and the opportunities it presents for New Mexico’s future. We look forward to seeing you there, where you too can be a part of this dynamic conversation that we expect will provide answers and bring to light the issues that have been for far too long creating fear where answers are available. See you there!

Janet Lee-Sheriff is the President & Director of the <https://cleannm.org> (CLEAN).