THE NEW POWER EQUATION

Small Modular Reactors and the Real Estate Law of America's Next Energy Frontier

J. Cliff McKinney Quattlebaum, Grooms & Tull PLLC

WHEN ARTIFICIAL INTELLIGENCE MEETS REAL ESTATE REALITY

Over the past two years, I have become increasingly fascinated by artificial intelligence and its inevitable role in every corner of our economy, including the real estate industry. A close look at artificial intelligence quickly reveals that one of its most significant challenges is energy consumption. Data centers powering AI may consume up to 12% of total U.S. electricity by 2028.[1] Some estimates suggest that power demand for AI data centers could grow from 4 gigawatts in 2024 to 123 gigawatts by 2035, representing a thirtyfold increase.[2]

So where will this power come from? Some will come from traditional fossil fuel power plants and additional renewable plants, such as solar and wind farms. However, the reality is that these will not be enough to meet AI's needs. Utilities and developers are turning to small modular nuclear reactors ("SMRs") for reliable, clean power. SMR projects will require knowledgeable developers to bring them to reality.

WHY THE NEXT ENERGY REVOLUTION WILL BE A REAL ESTATE STORY

Traditional nuclear facilities were megaprojects located far from cities, often surrounded by vast exclusion zones. SMRs, by contrast, are designed for distributed deployment. They are much smaller units that can be installed on industrial sites, brownfields, or near high-demand users, such as data centers or manufacturing plants. A traditional nuclear power plant needs more than 640 acres to operate, while an SMR needs less than 40 acres. A full-scale SMR can generate nearly 925 MWh of electricity, and it would take nearly 2,850 acres of solar fields to generate an equivalent amount of electricity. SMRs operate continuously regardless of weather, unlike solar fields, which are limited to daylight hours. Companies like Google have announced plans to develop SMRs to power their AI growth, with Google projecting that its first SMR will come online in 2030.

While there are obvious regulatory issues involving SMRs, including federal approvals, SMRs will also implicate many complex real estate issues. Site selection, zoning, covenants, and long-term land stewardship will define success or failure.

Developers evaluating SMR sites will face familiar but magnified challenges:

- Is the proposed parcel zoned or eligible for rezoning to accommodate a reactor?
- How will setback, buffer, and access requirements be satisfied within the site boundaries?
- Who will bear long-term obligations for decommissioning and environmental stewardship?

The physical siting of reactors will rest on the same fundamentals that govern any large-scale development: control of land, compatibility of use, and community acceptance.

SITE SELECTION AND CONTROL

The initial question in any SMR project is deceptively simple: where can it go?

Most local zoning codes do not reference nuclear facilities. Even broadly defined "utility" or "industrial" use categories may not contemplate energy generation using fissile material. That means developers and their counsel will need to navigate special use permits, conditional approvals, or custom zoning overlays. Each path requires a public process, often with political and emotional overtones. Local governments may find themselves ruling on a type of land use application they have never seen before.

From a transactional perspective, the purchase agreement must account for this uncertainty. Standard inspection periods and closing timelines are inadequate when entitlements could take months or years. Developers should ensure they have sufficient control of the property through a long-term option or contingent closing structure before incurring major permitting expenditures. Land control should also anticipate multi-parcel assemblies, easement corridors, and access rights for

construction, maintenance, and operation.

Although SMRs have a small footprint, their infrastructure requirements are substantial. Projects require transmission connections, access roads, cooling water supply, and emergency egress routes. Each of these may cross multiple parcels and jurisdictions. The easement and right-of-way work for such projects will resemble that of a utility corridor. Negotiating permanent and temporary easements, along with associated maintenance, indemnity, and restoration obligations, could require significant lead time. Additionally, many SMRs will be co-located with energy-intensive users, including data centers and manufacturing plants. These arrangements will raise novel questions regarding shared facilities and reciprocal easements.

INDUSTRIAL SITE REDEVELOPMENT

Some of the most promising SMR sites will be retired fossil fuel power plants or industrial facilities that already possess transmission capacity, transportation access, and are zoned for heavy industry. These sites could dramatically shorten development timelines, but they may also carry legacy environmental issues that need to be addressed. However, these legacy environmental issues might make the public less concerned about the environmental impact of placing an SMR in one of these locations. Counsel representing either sellers or developers must scrutinize existing environmental covenants and consent orders, as well as potential CERCLA or state cleanup obligations, and disclosure and indemnity provisions that allocate liability.

Even where zoning allows industrial or energy use, compatibility questions will remain. How close can an SMR safely be to residential areas, schools, or commercial centers? The answer will depend on local land-use decisions as well as federal regulations. Cities and counties will likely establish setback distances, landscape buffers, and design standards similar to those used for large industrial or data-center projects. Lawyers can assist by drafting zoning amendments or development agreements that strike a balance between flexibility for the developer and clear safety and aesthetic standards for the community.

DECOMMISSIONING, LONG-TERM STEWARDSHIP, AND TRANSFERABILITY

An SMR may operate for half a century or more, long outlasting the entities that financed or built it. That longevity creates unique real estate concerns. Unlike many industrial projects, nuclear facilities will remain under regulatory oversight even after operations cease. Ground leases, restrictive covenants, and recorded instruments must address:

- Decommissioning obligations and financial assurance.
- Site restoration standards.
- Transfer of operational responsibility to successors.

COMMUNITY ENGAGEMENT AND PERCEPTION MANAGEMENT

Perhaps the most complex aspect of SMR development will not be technical but social. Even with decades of safe operation at existing nuclear plants, the term "nuclear" evokes strong reactions. Local acceptance will depend on early, transparent, and legally structured engagement. Early engagement to dispel rumors and answer questions will be critical to project success. Developers can play a constructive role through community benefit agreements and public communication frameworks that establish trust. Such agreements may include:

- Local infrastructure improvements.
- Workforce development initiatives.
- Environmental monitoring transparency.
- Community reinvestments.

FINANCING, TITLE, AND TRANSACTIONAL IMPLICATIONS

From a transactional perspective, SMR projects resemble mixed-use developments combined with infrastructure finance. Title insurers, lenders, and investors will scrutinize:

- Use restrictions in recorded instruments.
- Easements and rights-of-way.
- Potential stigma effects on neighboring properties.

Because nuclear projects involve heightened safety standards, some lenders may require enhanced indemnities or escrow arrangements to cover decommissioning and environmental obligations. In multi-parcel projects, cross-default and cross-access provisions between reactor, data center, and utility parcels may be vital. Developers can anticipate these requirements in early term sheets rather than treating them as closing obstacles.

PREPARING FOR WHAT COMES NEXT

Developers can begin preparing for SMR projects now by:

1. Reviewing local zoning codes for how they define "power generation" and identifying whether nuclear energy is addressed or excluded.
2. Developing model easement and covenant language that accounts for long-term access, security, and decommissioning.
3. Building relationships with local planning commissions and state energy offices, which will be the first points of contact when projects emerge.
4. Educating clients and communities about how modular reactors differ from legacy nuclear plants in both scale and safety.

The first successful projects will likely be those that integrate land use planning, community relations, and environmental diligence from the outset. In this process, real estate counsel will not merely be facilitators but strategic partners.

CONCLUSION: POWERING INNOVATION FROM THE GROUND UP

SMRs have the potential to reshape America's energy landscape and meet the enormous power demands of an AI-driven economy. Their success will depend not only on technology and regulation, but on practical issues: where these projects can be built, how communities respond, and how land is managed for decades to come. The siting of SMRs will require collaboration among developers, policymakers, investors, and local communities, with real estate professionals playing a central role. The future of clean, reliable energy will be grounded as much in smart land use and transparent planning as in science and engineering. Getting that balance right will determine how quickly and responsibly the next generation of energy comes online.

[1] DOE Releases New Report Evaluating Increase in Electricity Demand from Data Centers | Department of Energy.
[2] AI infrastructure gaps | Deloitte Insights

J. Cliff McKinney is a managing member of Quattlebaum, Grooms & Tull PLLC in Little Rock, Arkansas, where he practices real estate and land use law across the mid-South. He is a Fellow of both the American College of Real Estate Lawyers and the American College of Mortgage Attorneys.