



Host Community Perspective on Nuclear Energy in Iowa:

Lessons from Linn County and the Duane Arnold Energy Center

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Why Nuclear, Why Now?

- U.S. power demand growth.
- AI/data center demand and electrification needs.
- Federal policy is accelerating nuclear deployment.
- Iowa is actively exploring increased nuclear development through the Task Force.
- DAEC restart positions Iowa and Linn County as a national test case.

Where Nuclear Happens: The Local Level

Federal Government

- Nuclear safety, radiation, and waste handling.
- Issues licenses for construction and operation of nuclear facilities.
- Inspects construction of nuclear facilities.
- Oversees long-term storage and transportation of nuclear waste

State

- Utility regulation.
- Grid infrastructure and planning.
- Energy policy.

Local Government

- Zoning and land use compatibility.
- Site design (limited).
- Inspects construction of buildings not related to power production or waste storage.
- Local emergency services and planning.
- Community and economic impacts.

Linn County Case Study: DAEC

- Duane Arnold Energy Center (DAEC) operated from 1975-2020 with a 601 MW capacity boiling water reactor.
- Prior to operation, DAEC was granted a Conditional Use Permit from the Linn County Board of Adjustment on November 5, 1969.
- Decommissioned following August 2020 Derecho (had been scheduled to decommission October of 2020).
- Independent Spent Fuel Storage Installation (ISFSI) remains on site.
- Proposed restart would be among the first in the U.S.
- Existing infrastructure and workforce provide a unique opportunity.

The Local Challenge

- How to say yes: no nuclear-specific zoning code existed.
- High public interest and concern.
- Need to clearly define local vs state vs federal authority.
- Risk of being reactive without a framework.

Zoning: How Communities Say Yes

- Zoning is the local government's way to review and approve land uses.
 - Standard tool used by most cities and counties nationwide for over 100 years.
 - Defines where a use may go.
 - Establishes what standards must be met.
 - Creates a predictable public process for review and approval.
 - Gives communities a legally durable framework to say yes to projects.
- Why this matters for nuclear.
 - Clear zoning reduces uncertainty for developers, utilities, and the public.
 - Nuclear projects are large, long-lived, and locally impactful.
 - Communities need clarity on land use, infrastructure, emergency planning, and compatibility.

Zoning: How Communities Say Yes

- Why this matters for the Nuclear Energy Task Force
 - Projects move more smoothly when host communities have a clear framework.
 - Zoning gives nuclear-interested communities a way to “raise their hand”.
 - An adopted zoning code shows developers where and how projects could be approved locally.
 - Gives the state a practical and cost-effective way to identify and support host communities.

The Local Solution: Exclusive Use Zoning Framework

- Created dedicated Nuclear Energy and Waste Storage Use.
- Established a new exclusive use zoning district specifically for this new use.
- Required major site plan review.
- Required economic development plan.
- Required coordination with NRC and IUC.
- Required Host Community Agreement.

Managing Local Impacts: Host Community Agreements

- Legally binding agreement between operator and local government.
- Recognizes long-term demands on local services.
- Provides predictable, long-term funding.
- Consistent with national best practices, including recommendations from the U.S. Blue Ribbon Commission on America's Nuclear Future.

DAEC's Historic Economic Footprint

- Approximately 600 full-time workers.
- Approximately 400 lived in Linn County.
- Linn County DAEC employees earned \$82,620 on average compared with the county average of \$45,690.
- \$66.2 million expenditures in Linn/Benton counties.
- \$64 million of those expenditures were in compensation.
- Supported 978 total local jobs.

DAEC's Historic Economic Footprint

- Direct output from DAEC was \$200 million.
- Total local economic impact was \$246 million.
- For every \$1 of output, the local economy produced \$1.23.
- Iowa total impact was \$255 million.
- U.S. total impact was \$514 million.
- Produced 8% of Iowa's annual electricity.

Economic Reality: Understanding the Tax Structure

- Nuclear facilities (and other power generating facilities) pay a replacement generation tax.
- Based on electricity production, not property value.
- Difficult to estimate and variable over time.
- Not intuitive to the public.
- Can not be paired with a Tax Increment Financing (TIF) local government partnership.

How Iowa's Generation Replacement Tax Works (Example Nuclear Facility)

Generation Tax

Formula:
 $\$0.0006 \times \text{kWh}$

Example:
 $\approx \$700,000$

Delivery Tax

Formula:
 $\text{kWh} \times \text{variable rate}$

Example:
 $\approx \$200,000$

Transmission Tax

Formula:
 $\text{Line miles} \times \text{rate}$

Example:
 $\approx \$75,000$

Statewide Property Tax

Formula:
 $\$0.03 / \$1,000 \text{ value}$

Example:
 $\approx \$25,000$

Total Estimated Replacement Tax \approx \$1,000,000 per year

The Bigger Opportunity: What Nuclear Enables

- Reliable baseload power supports:
 - Data centers.
 - Advanced manufacturing.
 - Industrial development.
- Strengthens grid stability.
- Enabled long-term economic clustering.

Why Local Buy-In Matters

Why it matters

- Implementation happens locally through land use, infrastructure, emergency response, and public process.
- Clear local frameworks reduce uncertainty and project risk.
- Public acceptance shapes timelines, cost, and long-term viability.

History shows the risk

- Bodega Bay: Local opposition stopped project before completion.
- Shoreham: Lack of local and state support made operation politically and practically unworkable.
- Rancho Seco: Public opposition led to shutdown by local vote.
- Yucca Mountain: Lack of host community consent stalled the project indefinitely

Key Lessons for Iowa

- Pro-nuclear communities are essential for successful projects.
- Local governments need frameworks before projects arrive.
- Clear federal/state/local roles reduce confusion.
- Public communication must be simple and transparent.
- Economic expectations must be realistic and meaningful.

Ideas for Supporting Nuclear Development in Iowa

- Identify and support willing host communities.
- Provide model zoning and review frameworks for local governments.
- Establish a centralized state point of contact (Texas model).
- Create a technical advisory team for communities.
- Consider enabling legislation for Tax Increment Financing and nuclear projects.

Conclusion

- Nuclear is a federally regulated technology, and it is also a locally experienced land use.
- Communities must be prepared, not reactive.
- Local governments are not a barrier- they are an asset.

[Nuclear Energy | Linn County, IA - Official Website](#)