

# **Commonwealth of Kentucky Nuclear Energy Development Authority Report on Workforce Development and Education to the Kentucky General Assembly**

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## Executive Brief

This report summarizes the Kentucky Nuclear Energy Development Authority's (KNEDA) ongoing efforts to evaluate workforce development requirements associated with the potential deployment of new nuclear-energy technologies in the Commonwealth. It builds on the 2024 Gateway for Accelerated Innovation in Nuclear (GAIN) Kentucky Nuclear Workforce Assessment prepared in cooperation with KNEDA, the Kentucky Energy and Environment Cabinet's Office of Energy Policy and Shaping Our Appalachian Region (SOAR).

GAIN report findings indicate that a hypothetical deployment scenario totaling approximately 3 gigawatts electric (GWe) of nuclear generation would sustain between 1,200 and 1,600 long-term operations jobs and several thousand temporary construction jobs, representing a major opportunity for high-skill employment growth. Kentucky's existing technical-education infrastructure, manufacturing capabilities, and engineering talent base provide a strong platform to support this growth.

The nuclear industry's addition to Kentucky's energy mix may complement existing resources – supporting energy reliability, economic diversification, and workforce advancement. Continued coordination between state agencies, universities, industry, and community partners can ensure that the Commonwealth is positioned to meet both present and future workforce needs.

The purpose of this report is to inform policymakers, educators, industry participants, and community leaders of the workforce scale, educational needs, and economic impacts associated with potential future nuclear energy deployment in Kentucky, as KNEDA has thus far evaluated. It also summarizes KNEDA's current stakeholder-engagement efforts.

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## Introduction

The Kentucky Nuclear Energy Development Authority Workforce Development Report provides a foundational overview of the workforce, education, and economic considerations associated with potential nuclear-energy deployment in Kentucky. This report draws directly from the 2024 U.S. Department of Energy Gateway for Accelerated Innovation in Nuclear (GAIN) Kentucky Nuclear Workforce Assessment, which quantifies potential employment demand, skills requirements, and educational pathways necessary to support up to 3 GWe of installed nuclear capacity. It further integrates the framework established by KNEDA under KRS 164.2802, which authorizes the Authority to engage with stakeholders, identify practical needs, and coordinate nuclear-related economic-development efforts across government, academia, and industry.

This report further references KNEDA's 2025 stakeholder-outreach initiative, conducted via a formal solicitation letter distributed through the Authority's advisory board membership. This outreach seeks feedback from nuclear developers, utilities, educational institutions, workforce organizations, and community groups regarding perceived challenges, support needs, and opportunities related to nuclear energy development in the Commonwealth.

Together, these components provide a comprehensive view of Kentucky's current readiness and the strategic steps required to ensure a skilled and sustainable nuclear workforce as part of a diversified energy future.

Note that estimating nuclear workforce development needs at this time remains highly speculative. Without a comprehensive understanding of proposed project details – including their size, general nature, realistic construction timelines, and which proposals might successfully come to fruition – it is difficult to predict workforce requirements with high fidelity. This represents a fundamental 'chicken and egg' problem: without the necessary workforce, implementing new nuclear projects requires non-local labor contributions, yet without concrete project details, workforce planning lacks foundation.

Further, the timeline for nuclear workforce development is inherently expansive and can be unpredictable. The Commonwealth's utilities are actively researching the potential deployment of small modular nuclear reactor technologies. These utilities indicate that the earliest such resources could be added is 2039. Additionally, recent announcements regarding the broader nuclear ecosystem, including the potential reprocessing of depleted uranium tails from the Paducah Gaseous Diffusion Plant, suggest specialized workforce needs may emerge for fuel-cycle activities alongside, or potentially before, needs associated with electricity-generating facilities.

## GAIN Nuclear Workforce Assessment

### About the GAIN Nuclear Workforce Assessment

The Gateway for Accelerated Innovation in Nuclear is a U.S. Department of Energy (DOE) initiative. GAIN's mission is to accelerate the deployment of innovative nuclear technologies by connecting private industry with DOE's technical expertise, research facilities, and regulatory support resources.

As part of its broader mission to enable state-level planning, GAIN commissioned a series of workforce assessments across selected states, including Kentucky. These studies provide independent analyses of labor requirements, skills development, and educational infrastructure necessary to support nuclear deployment.

### Purpose and Scope

The Kentucky Nuclear Workforce Assessment was prepared by Will Jenson, Energy Economist at INL, under DOE Contract DE-AC07-05ID14517. The study was designed to quantify workforce needs for a representative build-out scenario of 3 GWe of nuclear capacity – a practical benchmark reflecting the potential scale of nuclear additions that could reasonably be developed in Kentucky within the coming decades. This capacity level

aligns with the order of magnitude of Kentucky’s potential electricity-generation expansion and provides a manageable reference point for workforce modeling.

The assessment does not recommend specific sites or reactor technologies. Rather, it offers a technology-neutral, data-driven foundation for understanding workforce implications under varying deployment scales, including both gigawatt-scale and small modular reactor (SMR) designs.

## Methodology and Process

The GAIN analysis combined data from the U.S. Bureau of Labor Statistics (BLS), U.S. Energy Information Administration (EIA), and employment estimates from multiple advanced-reactor developers. The modeling process involved:

1. Quantifying labor demand by occupation and education level for both SMR and large-reactor scenarios;
2. Mapping nuclear workforce requirements against Kentucky’s existing educational and technical-training infrastructure;
3. Evaluating potential economic impacts of nuclear plant operations and construction; and
4. Benchmarking employment estimates against national averages and historical projects, such as Plant Vogtle and TerraPower’s Natrium facility.

The resulting projections indicate that for 3 GWe of installed capacity, Kentucky could anticipate approximately 1,200 operations positions for modular reactors or 1,600 positions for larger gigawatt-scale facilities. These findings provide a quantitative framework for future planning by KNEDA and its partners.

## Key Assumptions

The 3 GWe capacity assumption is based on prior evaluations which have indicated the Commonwealth being in a position for future deployment of nuclear generation on that

scale. This projection serves as a planning scenario rather than a committed development target, recognizing that actual deployment will depend on utility resource planning decisions, regulatory processes, and market conditions.

## Workforce by Reactor Type

The United States has 94 currently operating nuclear reactors at 54 power plants. These plants have a combined electricity-generating capacity of 97 gigawatts electric.<sup>1</sup> The most recent additions to the list were large-scale AP1000 reactors that each produce a net electricity output of 1,110 MWe. Plant Vogtle in Georgia was the recipient of two new AP1000 reactors. News releases indicated that the two reactors would add an additional 800 permanent jobs.<sup>2</sup> The market for new reactors also includes smaller options, including, but not limited to, the TerraPower Natrium plant in Wyoming. According to TerraPower, the 345 MWe facility is expected to employ 250 full-time workers.<sup>3</sup>

The employment estimates for other small modular reactors (SMRs) vary by design but indicate reduced staffing needs per unit of electricity compared to larger GW-scale facilities. Based on publicly available employment estimates from reactor developers, the deployment of SMRs with an installed capacity of 3 GWe would result in needing nearly 1,200 workers to support normal operations of the nuclear reactor facilities. The number of reactor facilities is dependent on the reactor designs selected, which range in size from around 100 MWe to over 900 MWe. Larger GW scale reactors, like those in the current fleet and recently completed nuclear power facilities, would be expected to employ more than 1,600 workers for the same 3 GWe of electricity-generating capacity.

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<sup>1</sup> EIA. 2024. FAQ. Accessed November 19, 2024. <https://www.eia.gov/tools/faqs/index.php#nuclear>.

<sup>2</sup> Bechtel. 2021. Bechtel completes last major lift at U.S. nuclear plant construction site. April 26. <https://www.bechtel.com/newsroom/press-releases/bechtel-completes-last-major-lift-at-u-s-nuclear-plant-construction-site/>.

<sup>3</sup> TerraPower. n.d. Wyoming Nuclear Energy Milestones. Accessed November 18, 2024. <https://www.terrapower.com/wyoming/#:~:text=The%20project%20will%20employ%20approximately,once%20the%20reactor%20is%20operational>.

## Education Requirements

Kentucky can develop capabilities to provide the needed education and training that is required for nuclear-industry-related occupations. In some cases this will require short-term training solutions, but in other cases, it could require offering new undergraduate- and graduate-level degrees that are currently not offered within the state. It is helpful to consider the education and training opportunities that already exist to support existing Kentucky energy industry – coal mining and coal-fired generating plant – workforce needs as part of this discussion.

It is common for entry-level workers in coal and nuclear energy-related industries to pursue higher levels of education as they transition to long-term employment. **Error! Reference source not found.** shows the most common education levels for workers entering various energy-related industries and compares these to the education levels that make up the largest share of the total workforce for each occupation within the industry. According to BLS data, almost 90% of all coal mining workers hold a high school diploma as their highest level of educational attainment, compared to 64% of all entry-level workers.<sup>4</sup> In contrast, 46% of entry-level workers at nuclear-based electricity-generating facilities hold a high school diploma as their highest level of educational attainment. As nuclear facility workers transition to long-term employment, a higher level of educational attainment is necessitated, with only 33% of workers holding a high school diploma as their highest level of educational attainment. Almost 50% of all workers at a nuclear power plant hold a bachelor's degree, compared to 32% at coal power plants.

With advanced planning and coordination through educational institutions, preparing workers to fill new nuclear deployment positions will be more achievable.

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<sup>4</sup> BLS. 2023. Educational attainment for workers 25 years and older by detailed occupation. Accessed November 18, 2024. <https://www.bls.gov/emp/tables/educational-attainment.htm>.



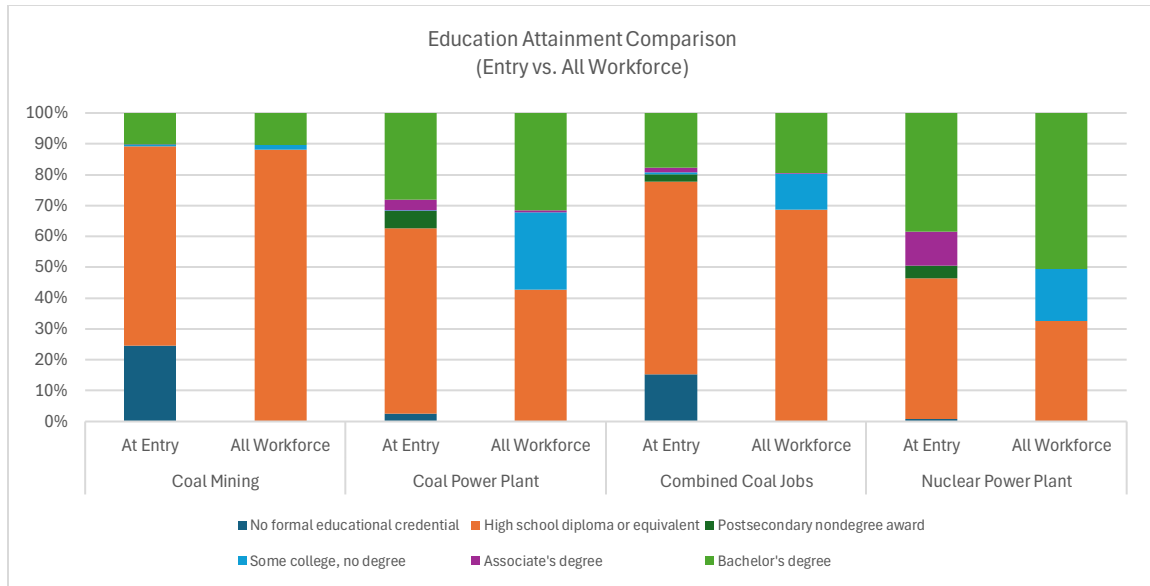


Figure 1: Education attainment comparison.

The annual average number of coal-mining-related jobs to support 3 GWe of installed capacity at coal-fired power plants is expected to require 622 workers. Around 550 of those workers would likely have a high school diploma or its equivalent. The remaining balance of more than 70 workers would typically have a bachelor's degree or at least some college. Education attainment for workers at coal power plants is more evenly distributed across the various education levels. In contrast, roughly half of nuclear reactor facility occupations are predominantly held by workers with bachelor's degrees. **Error! Reference source not found.** shows the distribution of education levels across specified sectors of the coal and nuclear industries.

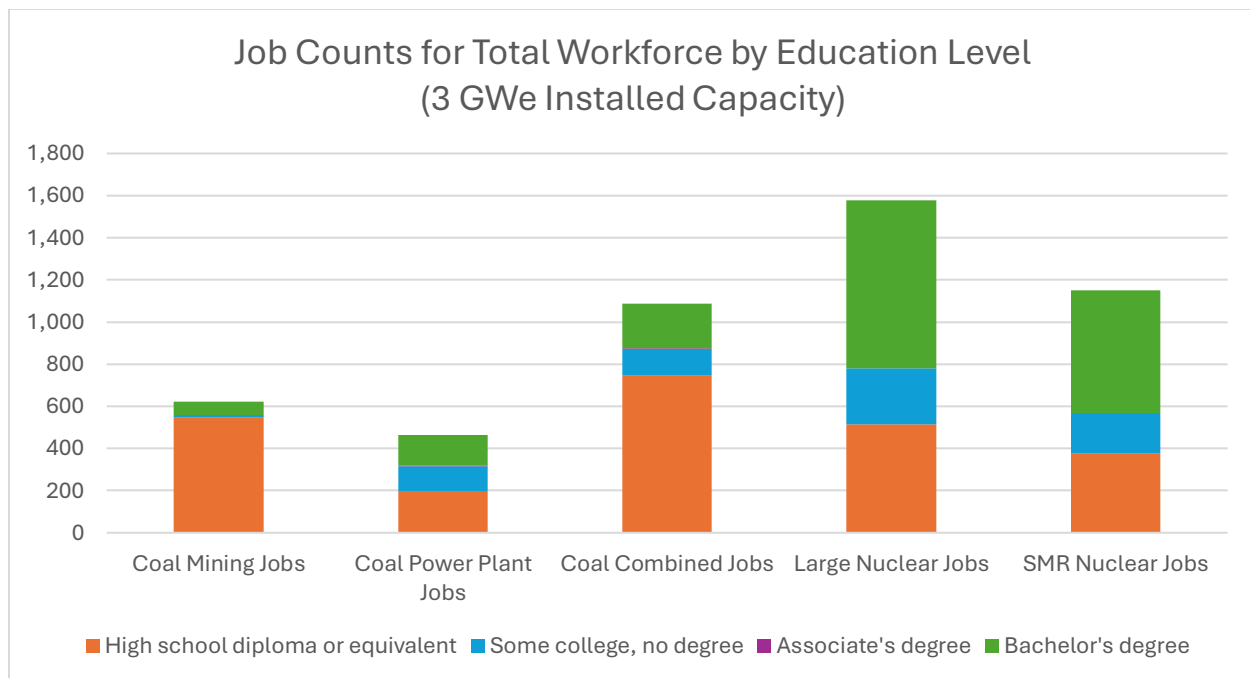


Figure 2: Figure 2. Job count estimates by education level.

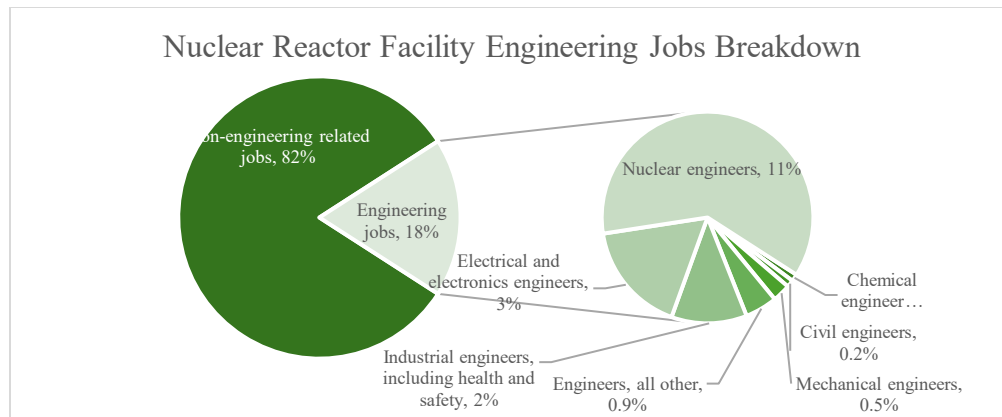
The current education attainment levels for specific nuclear industry occupations show there are multiple training pathways to successful long-term employment. **Error! Reference source not found.** provides a detailed look at three nuclear-industry-specific occupations. It is very common for nuclear engineers to hold at least a bachelor's degree. The latest BLS data indicate that 84% of those working as nuclear engineers hold a bachelor's degree or higher. In contrast, only 46% of nuclear technicians hold a bachelor's degree or higher. The highest percentage of nuclear power reactor operators have some college experience but no degree. In fact, 57% of nuclear power reactor operators have some college or less education. Those who pursue training to become a nuclear power reactor operator must pass a comprehensive written and performance examination administered by the Nuclear Regulatory Commission. Training programs typically last 18 to 24 months.

*Table 1: Detailed nuclear workforce education attainment.*

Nuclear Workforce Education Attainment Example								
Occupation title	SOC code	Less than high school diploma	High school diploma or equivalent	Some college, no degree	Associate's degree	Bachelor's degree	Master's degree	Doctoral or professional degree
Nuclear engineers	17-2161	1%	4%	7%	6%	49%	27%	8%
Nuclear technicians	19-4051	3%	17%	24%	11%	36%	8%	2%
Nuclear power reactor operators	51-8011	2%	24%	31%	20%	19%	4%	0%

Although nuclear engineers are highly prevalent at reactor facilities, other engineering degrees are also in high demand. According to BLS, nuclear engineers make up 61% of engineering disciplines represented at nuclear facilities; the remaining 39% come from other engineering fields that are vital to operations.

Figure 3 provides a breakdown of engineering disciplines represented at reactor facilities.



*Figure 3: Engineering disciplines utilized by nuclear reactor facilities.*

There are education facilities in Kentucky that offer training and degrees relevant to working at nuclear facilities. Kentucky Community & Technical College System has a degree in Engineering and Electronics Technology, a 2-year program earning an associate's degree in applied science.<sup>5</sup> Although not available in Kentucky, many neighboring states have nuclear engineering programs.<sup>6</sup> The University of Tennessee, Knoxville, offers undergraduate and graduate degrees in nuclear engineering and is a feeder to the nearby Oak Ridge National Laboratory, Y-12 Nuclear Security Complex, and over 100 other nuclear-related companies.<sup>7</sup>

The interest in nuclear industry workforce education and training is national, and there are multiple organizations that are engaged in the effort. This report will not have a comprehensive list of organizations, but it is worth highlighting a few.

Headquartered at Indian River State College in Florida, the Regional Center for Nuclear Education & Training is one such organization. The center was established by the National Science Foundation as a resource to help maintain a nuclear-fields-workforce pipeline across the United States.<sup>8</sup> Other industry associations like the Nuclear Energy Institute are

<sup>5</sup> KCTCS. 2024. Engineering and Electronics Technology. Accessed November 18, 2024. <https://kctcs.edu/findyourcareer/advanced-manufacturing/engineering-electronics-technology.aspx>.

<sup>6</sup> NEDHO. 2024. Nuclear Engineering Programs. Accessed November 18, 2024. <https://nedho.org/members>.

<sup>7</sup> University of Tennessee. 2024. Department of Nuclear Engineering. Accessed November 18, 2024. <https://ne.utk.edu/>.

<sup>8</sup> RCNET. 2024. About RCNET. Accessed November 19, 2024. <https://gonuke.org/about/>.

also very involved in assisting efforts related to nuclear workforce development. In September 2024, the U.S. Department of Energy announced a \$100 million Nuclear Safety Training and Workforce Development Program.<sup>9</sup> This program was specifically created to help ensure there is an adequate workforce in place as the U.S. nuclear energy industry grows.

## Employment Economic Impact

Economic impacts from operating a nuclear power plant are highly correlated with the generating capacity of the facility and the local population size. As the local population increases in size, there is a greater likelihood that supply chain availability improves. The more a power plant can be supported through local businesses, the greater the overall economic impact will be. One particularly relevant study finds that a 500 MWe nuclear power plant in a community with 20,000 residents would have a total employment impact of around 313 jobs.<sup>10</sup>

The generating plant itself would be expected to employ around 140 personnel, and an additional 173 jobs would be created or sustained through a combination of new supply chain activity and employee spending at local businesses. In a community with a population between 90,000 and 200,000, the total employment impact of the same size nuclear reactor would increase to 436 jobs. From that total, 296 jobs would be created or sustained through increased supply chain activity and community spending. By comparison, coal power plants of the same size yield an economic impact that is roughly half of what is produced by a nuclear power plant. The same study identifies economic impacts for four other reactor sizes and five different population ranges. It also includes estimated impacts for labor

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<sup>9</sup> DOE. 2024. Department of Energy Launches \$100 Million Nuclear Safety Training and Workforce Development Program. September 30. Accessed November 19, 2024. <https://www.energy.gov/ne/articles/departments-energy-launches-100-million-nuclear-safety-training-and-workforce>.

<sup>10</sup> Hansen, J., W. Jenson, B. Dixon, L. Larsen, N. Guaita, N. Stauff, K. Biegel, F. Omitaomu, M. Allen-Dumas, and R. Belles. 2024. Stakeholder Guidebook for Coal-to-Nuclear Conversions. Technical Report, Idaho Falls: Idaho National Laboratory.

income, value-added (contributions to gross domestic product), and business revenue (total output).<sup>11</sup>

## Commercial Nuclear Reactor Construction

Kentucky construction industry employment has shown growth in recent years. As shown in **Error! Reference source not found.**, statewide nonresidential construction employment trends show the industry hosted more than 11,500 jobs in 2023.<sup>12</sup> Nuclear reactor facility construction projects tend to be very large. Reports on the construction of the two AP1000 reactors in Georgia indicated construction employment peaked at somewhere between 7,000 and 9,000 workers.<sup>13</sup> Although large reactors like the AP1000 have significant onsite construction requirements, large forgings and many components are sourced outside the region. Construction for SMRs will still have significant onsite construction impacts, but more assembly work is expected to be completed outside the region where the reactor will be located. TerraPower indicated the number of onsite construction employment for the Natrium project in Wyoming would involve 1,600 workers (TerraPower n.d.).

If the TerraPower construction employment estimates hold true, that would result in about 4.6 peak construction jobs per MWe of installed capacity for an SMR project compared to 4.1 construction jobs per MWe for the AP1000 construction at Plant Vogtle. The duration of construction for SMRs is expected to be much shorter than larger GW-scale reactors. Regardless, the impact of construction for both types of reactors is temporary, and workers are usually mobile and travel from project to project.

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<sup>11</sup> There are employment opportunities more readily available (in a shorter timeframe) with already deployable/deployed technologies, including coal, natural gas-generation, and solar; these further support of these technologies can enhance Kentucky's metal and metal working industries and make use of our skilled labor force.

<sup>12</sup> BLS 2024. Quarterly Census of Employment and Wages. Accessed November 19, 2024.  
<https://www.bls.gov/cew/>.

<sup>13</sup> Bechtel, Building the Next Generation of Nuclear Power in the US. Accessed November 19, 2024.  
<https://www.bechtel.com/projects/plant-vogtle-unit-3-4/>.

# Stakeholder Engagement on Nuclear Development

As part of its statutory mission under KRS 164.2802, KNEDA has initiated a stakeholder-engagement process to identify real-world needs associated with nuclear development and deployment in Kentucky. In 2025, KNEDA distributed a letter requesting input on ‘Needs and Suggestions for Advancing Nuclear Energy Development and Deployment in Kentucky’ through its Advisory Board membership.

## Purpose of the Stakeholder Engagement Letter

The letter seeks to collect targeted input from utilities, energy developers, academic institutions, workforce and labor organizations, local governments, and economic-development entities. Specifically, it requests feedback on:

1. Primary needs or challenges encountered in pursuing nuclear projects within Kentucky (e.g., regulatory, financing, supply-chain, or workforce constraints);
2. Suggestions for support – actions that KNEDA or the Commonwealth could take to most effectively enable nuclear development, such as policy initiatives, training partnerships, or community education efforts;
3. Suggestions for engagement – how KNEDA might engage in community education efforts, regional economic development projects, etc.; and
4. Opportunities for collaboration between stakeholders and KNEDA in areas such as technology demonstration, economic analysis, research coordination, or community engagement, or other.

## Summary of Received Responses

As of November 2025, KNEDA has received responses from a diverse set of stakeholders, including local government officials, educational leaders, and private citizens with experience in nuclear technologies. These responses highlight enthusiasm for nuclear opportunities in Kentucky – particularly in Western Kentucky – and concerns about practical barriers. Below is a synthesis of the key inputs, organized by the solicitation letter’s focus areas; recurring themes noted, where appropriate.

## Primary Needs or Challenges:

**Workforce and Education:** Multiple respondents emphasized the need for adaptable workforce training amid rapid industry changes. Representatives from industry noted public misconceptions about nuclear safety and the associated potential of those misconceptions to hinder local support. Respondents from regional community and technical colleges highlighted challenges in funding and structuring training programs that can quickly adapt to political, regulatory, and technological shifts; further identified challenges include upskilling in trades (from existing Kentucky industries) and addressing labor force misconceptions. County and city officials in Western Kentucky cited workforce-development limitations in rural areas – such as housing shortages from influxes of workers near sites like the Paducah DOE plant – and the need for early training pipelines to prepare local students for future opportunities.

Respondents further note that, beyond standard Bureau of Labor Statistics categories, the nuclear ecosystem requires highly specialized expertise, including:

- Health physics and medical monitoring professionals
- Environmental monitoring personnel (private and public sector)
- Environmental epidemiologists
- Risk assessors
- Public health administrators specializing in radioactive materials
- Emergency planners
- Trainers for EMT, fire departments, and emergency services in radiation response
- Laboratory chemists and physicists equipped to analyze mixed hazardous and radioactive media (soil, water, waste, air)
- Legal and environmental consultants for compliance with Atomic Energy Act, Cabinet for Health and Family Services, EPA, and Department for Environmental Protection requirements
- Law enforcement and homeland security professionals, including cybersecurity specialists



Current demand for these specialized roles already exists at sites within the Commonwealth, including the Paducah Gaseous Diffusion Plant and Maxey Flats, where ongoing environmental monitoring, health physics expertise, and emergency response capabilities are essential. Kentucky currently lacks bachelor-level degree programs in health physics; the commonwealth does not have programs listed by the Health Physics Society's academic directory. However, the Commonwealth's major academic medical centers – University of Kentucky and University of Louisville – do offer residency programs in related fields of medical physics. Developing comprehensive health physics educational capacity would require strategic partnerships between universities, medical institutions, and industry stakeholders to create programs aligned with the Nuclear Regulatory Commission and professional society standards.

**Infrastructure and Regional Issues:** Local officials stressed rural infrastructure gaps, including transportation, broadband, and housing, which limit competitiveness for large-scale projects. Utility respondents also pointed to workforce talent loss (labor market participants departing roles with current industrial employers to join new companies) without adequate training safeguards.

**Broader Obstacles:** Several respondents offered critical perspectives, listing systemic barriers such as lack of in-state experience with fission power plants, high financial costs, longevity commitments (10–15 years for design/licensing, 40–60 years operation, indefinite decommissioning), and population decline in rural areas straining local resources. They also warned of risks associated with spent nuclear fuel (SNF) repositories, which could undermine public support given Kentucky's history with nuclear waste (e.g., Maxey Flats and the Paducah UF6 tailings).

### Suggestions for Support:

**Workforce and Education Initiatives:** Respondents recommended the pursuit of flexible training programming and the establishment of a dedicated nuclear training and innovation facility in Western Kentucky as a hub connecting K-12 programs, community colleges, and universities. Local officials and educators advocated for introducing nuclear workforce

training as early as middle and high school, funding pre-college and adult programs, and directing West Kentucky Workforce Board resources toward the nuclear ecosystem. Utility industry representatives suggested policies that encourage partnerships, such as allowing municipal utilities to form interlocal agreements across state lines (modeled on Ohio's American Municipal Power).

**Recurring Themes:** Policy reforms enabling partnerships, targeted funding for education and training, regional promotion – especially in Western Kentucky – and infrastructure upgrades.

### Suggestions for Engagement:

**Community Education and Development:** Respondents generally proposed community initiatives to educate citizens on nuclear safety and economics, with the goal of increasing local buy-in, including shifting discussions from “nuclear energy” to a broader “nuclear ecosystem.” Further suggestions centered on educational outreach and public information sessions describing employment opportunities, with KNEDA participating visibly in training classes and public forums. Local leaders encouraged planning assistance at the Paducah DOE site and partnering with DOE for recruitment initiatives.

Respondents further note that successful nuclear project development depends, in large part, on early community engagement and transparent information sharing. Host communities benefit from clear disclosure of project fundamentals: licensing requirements, materials handling procedures, environmental safeguards, and safety protocols. Making project information accessible through online repositories and local channels – including details on emissions monitoring, decommissioning planning, and how residents can engage with oversight processes – builds the informed public support essential for project success. Such a transparency framework further helps communities understand both the opportunities and responsibilities associated with hosting nuclear industry activities.

### Opportunities for Collaboration:

**Direct Partnerships:** Respondents expressed interest in facilitating conversations with investor-owned utilities and proposed quarterly or biannual meetings with local elected

officials and economic developers focused on Paducah DOE site planning. Educational institutions conveyed interest in joint curriculum development, coordinated K–12 and postsecondary engagement, and structured pathways that align training programs across the Commonwealth. Several suggested KNEDA participate in outreach and events to attract nuclear-adjacent industries and join existing coordination meetings with K–12 school districts, the Kentucky Community & Technical College System, the University of Kentucky, the University of Kentucky – Paducah Campus (of the Pigman College of Engineering), and Murray State University to align programs without duplication.

## Status and Next Steps

This outreach effort remains ongoing, with additional responses anticipated. KNEDA has compiled the received inputs, as summarized above. Key actionable insights include prioritizing workforce training expansions (e.g., early education integration, dedicated education facilities), public education to address misconceptions regarding the nuclear ecosystem, infrastructure investments in rural areas to support reasonably foreseeable population and other economic shifts associated with the nuclear ecosystem, and certain statutory/policy reforms. These insights will inform KNEDA’s ongoing development of a statewide workforce strategy and future recommendations to the General Assembly.

## Conclusions

In sum, the findings of the GAIN Kentucky Nuclear Workforce Assessment provide notable quantitative insights. Based on that assessment, the hypothetical addition of approximately 3 GWe of nuclear generating capacity in Kentucky would support 1,200 to 1,600 permanent operations jobs and several thousand temporary construction positions. Nuclear workforce development would require coordination among educational institutions, industry, and public agencies to expand degree and training pathways in engineering, nuclear technology, and related disciplines.

Kentucky's technical colleges, universities, and skilled-labor programs are well-positioned to meet these needs through incremental curriculum expansion, credential alignment, and cross-disciplinary partnerships. National resources – such as DOE's Nuclear Safety Training and Workforce Development Program and the Regional Center for Nuclear Education & Training – offer additional opportunities for collaboration.

KNEDA's stakeholder-engagement process has thus far yielded valuable qualitative insights that complement these quantitative findings. Key themes from responses include the need for enhanced public education to address misconceptions about nuclear safety and potential, adaptable workforce training starting in middle and high schools, infrastructure investments in rural areas (e.g., housing, transportation, and broadband), and policy reforms to foster partnerships and attract industry investment, with a strong emphasis on Western Kentucky's historical nuclear role. While some feedback highlights systemic challenges such as financial viability and regulatory risks, it underscores opportunities for targeted support in areas including research, technology demonstration, and regional economic development.

Critically, educational program development must proceed in alignment with actual nuclear industry development timelines and project specifications. Creating specialized degree programs, certification tracks, and training curricula without corresponding industry demand risks producing graduates for nonexistent opportunities. Workforce development initiatives should be tied directly to nuclear ecosystem and utility plans, project proposals with realistic timelines, and documented industry commitments. This synchronized approach ensures educational investments respond to genuine market needs rather than speculative forecasts, protecting both students and educational institutions from misallocated resources. As nuclear projects in Kentucky transition from concept to concrete proposals with defined scopes, scales, and timelines, corresponding educational programs can be developed to supply appropriately trained workers when they are needed.

KNEDA anticipates additional future input from the stakeholder-engagement process. As this input is received, KNEDA will review. Further efforts will focus on the development of a

guide on best practices for community education and engagement, and the synthesis of a workforce-development strategy and implementation plan to guide future legislative and programmatic actions.