EXECUTIVE SUMMARY

Local governments have a critical role to play in the development of new nuclear facilities and need to be part of the discussion on future nuclear policy with decision-makers at the federal, state and regional levels. Nuclear facilities and activities can provide a community, region and state with economic opportunities. Expanding nuclear energy manufacturing and resources also can provide a “clean” and reliable electricity supply. However, risks do exist and a community must become educated in order to understand and address such risks.

Energy Communities Alliance (ECA) developed *A Community Handbook on Nuclear Energy: Understanding Nuclear Energy and Alternatives for the Future* (Handbook) to assist local communities in identifying and understanding the myriad issues associated with potentially hosting a nuclear power production, manufacturing, defense, disposal or other facility. Included in this Handbook is the history of issues that should be considered and more importantly the role that local governments and communities can play in the development of a nuclear facility in their community.

This Handbook is an update of the May 2012 version of *A Community Handbook on Nuclear Energy* (Original Handbook). Although many of the lessons learned and the history have not changed since the Original Handbook was published, a number of efforts to prioritize and address nuclear waste management have evolved and key issues such as the role of the local government in siting a nuclear waste facility are addressed in this update. Further, this Handbook expands on local community strategies, provides an update on the future of the nuclear industry in the United States, and addresses new waste management legislation that has been introduced in the past two Congresses.

This Handbook is not written by people who work for the nuclear industry, the federal government, or anti- or pro-nuclear groups. Instead, this Handbook is written from the experience of local governments that host nuclear facilities, which have been and will be most impacted by any policies regarding nuclear energy development and nuclear waste management. ECA’s leadership consists of mayors, councilmembers, commissioners, chairpersons, judges, city and county managers, Community Reuse Organization executives and board members, economic development professionals, and others. They assisted in the development of this Handbook and provided input into the realities of hosting such a facility, including the benefits and challenges.

**Handbook Outline**

From the outset this Handbook introduces local governments that may be interested in hosting nuclear facilities to the concepts, terminology, benefits and challenges associated with
nuclear energy and nuclear waste. This Handbook aims to assist local communities to better understand the development and impact of nuclear energy policies; the various stages of the “nuclear fuel cycle;” alternatives to manage, store and dispose of nuclear waste; and the new nuclear technologies that are being developed.

At the beginning of each chapter, key issues are outlined for local governments and communities to consider, and, at the end of each chapter, this Handbook makes recommendations for local governments and communities interested in taking an active role in the future of nuclear energy.

Finally, this Handbook includes case studies in Appendix A that consider how nuclear waste issues are handled in other countries. Specifically, the case studies examine the role of local governments in other countries that are evaluating whether to (1) increase the use of nuclear energy, (2) close the fuel cycle to manage nuclear waste or (3) develop a permanent geological repository for high-level nuclear waste. Some aspects of the case studies can serve as models for communities in the United States to consider.

Recommendations

Nuclear energy policy — in regards to new nuclear facility development and nuclear waste management — is constantly evolving. In 2012, the United States Department of Energy (DOE) announced the first award of a small modular nuclear reactor (SMR) grant to the Babcock & Wilcox Company to support accelerated development of its mPower™ SMR technology. In addition, DOE announced $13 million in new investments for university-led nuclear innovation projects. A year later, DOE awarded NuScale Power a second round of funding to develop SMR technologies. Also in 2013, DOE announced it was investing $3.5 million for four advanced nuclear reactor projects and funding a new dry storage research and development project led by the Electric Power Research Institute (EPRI).

In 2013 the Department issued The Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste (DOE Strategy) in response to a Congressionally-mandated requirement. The DOE Strategy relies on a new federal entity to manage nuclear waste that will need to be created through federal legislation. The Senate Energy and Natural Resources Committee released two pieces of legislation in subsequent Congresses on nuclear waste issues. As of this printing neither piece of legislation had moved beyond that committee, and the House and Senate are still in disagreement on the necessity of new nuclear waste management legislation.

Several questions have evolved out of the nuclear waste policy debate:

- What is the role of local government in manufacturing or utilizing SMRs?
- What is the role of local governments in communities that could become hosts for interim or permanent waste management?
- Why would a community — specifically states, local governments and, where applicable, tribal lands — want to host a new facility?
What incentives exist for hosting a new facility?

This evolution has created opportunities for local governments to engage with state and federal decision-makers to develop, support and implement plans for the future of nuclear energy.

Below are five general recommendations for local communities to consider as they evaluate whether to host nuclear reactors to produce electricity and nuclear waste facilities:

1. **Local governments must be educated and actively engage with DOE, regulatory bodies (including NRC and EPA), federal policy-makers, the state (in its multiple roles), and industry early (and often) in the decision-making process on siting new nuclear facilities.**

   Local government and community involvement in the discussion of future nuclear policy decisions is critical at all stages of the discussion — beginning with the development of the vision, refining the goals and priorities, and providing input when conflicts arise. A community can make more informed decisions if it has a full understanding of the benefits and risks that come with constructing, operating and hosting a new nuclear power plant, a nuclear waste storage facility, a manufacturing plant or enrichment facility.

   Community leaders need to be informed and engaged with officials at the state and federal level. Hiring experts to provide independent analyses of key community issues to local governments will enable them to educate their citizens and citizens in adjacent communities. In addition, this information can help local governments ensure that state and federal policy-makers and regulators understand community priorities. Education will be helpful as nuclear advocates are sure to face political and public opposition to the siting of a nuclear facility.

   A new, consent-based siting process has been proposed to facilitate transparency and the engagement of impacted parties including local, state and federal governments. While the process for achieving “consent” has not been formally defined, the goal is to ensure that all impacted parties are engaged on decisions regarding the management of spent nuclear fuel and nuclear waste.

2. **Companies and government entities leading the siting of a new nuclear facility should engage local governments.**

   Without local support, any nuclear facility project will likely fail. By meaningfully engaging the local community, federal government entities and companies constructing a nuclear facility can assist in creating an advocate. In addition, it is up to local governments and communities, at sites where high-level waste and spent nuclear fuel have been produced and stored and as potential hosts for new production facilities, to ensure federal agencies understand the local community’s unique health, safety and environmental needs and concerns. Local governments also must ensure federal decision-makers understand the impact of their decisions and policies on any surrounding communities.
In order to become engaged, a local community needs financial resources. These resources will be used to help provide and develop the education and outreach programs outlined in the first recommendation. They also will ensure the community can hire its own experts to verify and engage in the technical and policy decision-making. Further, the resources can be used to train and engage the local workforce.

3. **Local government and community support alone will not lead to the successful siting of a new nuclear facility; support from the state government is necessary. Local governments and state governments must work together.**

For new nuclear facilities, state and local governments working together can ensure that political support remains constant and effective for a project. If there are clear disagreements between the state and local government on whether a facility should be located in a state, siting can become more difficult. Both the local government supporting the project and the private company and/or federal agency supporting the project should ensure that the state and local governments are included in the decision-making process.

The Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico, is an example of how communities and governments can successfully be involved in siting and developing a new nuclear waste facility. (See the Case Study in Chapter 2 for further discussion). When dealing with waste facilities, experiences at WIPP can be applied in developing a new siting plan for nuclear facilities. For example, the State of New Mexico received financial support from the Department of Energy to analyze safety issues and implement a regulatory scheme that allowed the permitting of WIPP. In addition, the state’s oversight responsibilities and incentives for a host community were negotiated. DOE and the State worked together on the technical regulatory issues. The support of local governments hosting the site, along with education and outreach efforts helped to ensure state political support for the project. The development of WIPP demonstrates that through collaboration and cooperation, state and local governments can build political support, mitigate opposition and increase the likelihood of successfully siting a nuclear facility.

4. **Communities should consider and encourage policy-makers to look at lessons learned to avoid pitfalls and to develop an improved governance plan for future nuclear energy development and waste management.**

There are numerous examples of siting processes for new nuclear power plants and nuclear waste storage and disposal facilities in the United States and abroad for local communities to consider. The lessons learned, as identified in this Handbook and other reports including the Blue Ribbon Commission’s (BRC) Final Report to the Secretary of Energy, help to illustrate processes that are critical for any community supporting such a facility.

On the waste front, the siting of a new facility has been difficult. The Yucca Mountain Project and WIPP, as well as experiences in France and Sweden, provide technical and political lessons that can be applied to the development of a new siting process, the creation of a waste management organization, incorporation of affected communities and stakeholders, and identification of funding mechanisms. There is no need to start from scratch.
5. Real progress requires that (1) all necessary parties are engaged, (2) there is trust among the parties, (3) there is confidence in the path forward and (4) there is the political will and means to implement new policies or governance plans.

One of the challenges when developing new nuclear facilities is creating trust and providing a clear project schedule. Currently a new nuclear power facility regulated by the Nuclear Regulatory Commission (NRC) can take several years to go through the regulatory approval process. There must be continued long-term support from all levels of government and the utilities that will purchase the power. Over time, some projects may fail if support or the market for electricity changes.

Further, when addressing waste issues or siting any new nuclear facility, communities must be prepared for a long process. The current high-level waste debate has impacted several communities’ trust that the process for a permanent geological repository will continually be impacted by politics (and technical issues). Without trust, public acceptance and political support will be hard to retain.

Ensuring there is a forum for local governments, states, tribes and other stakeholders to have a definitive role in developing a new process, and providing the resources needed for their meaningful participation will help build trust in DOE and NRC.