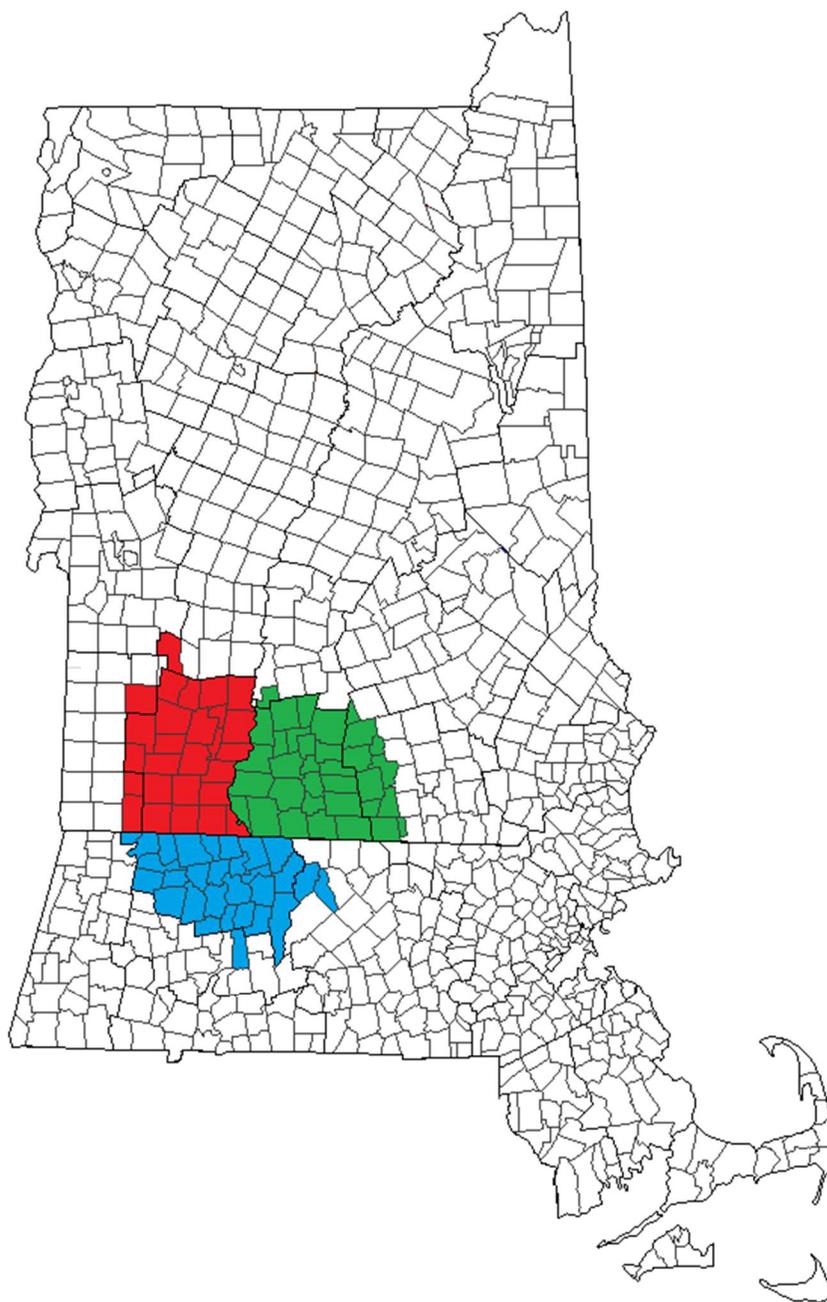


When People and Money Leave (and the Plant Stays) – Lessons Learned from the Closure of the Vermont Yankee Power Station: A Tri-Region Experience

Presented Oct 14, 2016 in Brattleboro, Vermont



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Introduction

This is a summary of the “lessons learned” by the Tri-State Region team comprised of the Franklin Regional Council of Governments in Massachusetts, the Southwest Region Planning Commission in New Hampshire, and the Windham Regional Commission and Brattleboro Development Credit Corporation in Vermont in the wake of the closure of the Vermont Yankee (VY) Nuclear Power Station located in Vernon, Vermont. The Windham Region is host to the nuclear power station itself, while together the Tri-State Region area is home to the vast majority of those employed by the plant and where the loss of VY employees, employee income, as well as indirect and induced job loss, will be most acutely experienced.

We hope our experience will empower the reader to better know:

1. The types of questions you’ll have and want to ask.
2. The kinds of information you’ll want to gather or develop.
3. Things to keep in mind when organizing to act.

While the discussion here relates specifically to the closure of a nuclear power station in a rural area, the lessons learned are applicable to any locale that will or could lose 1) a major employer; 2) a major source of local earned income; 3) a major contributor to the local tax base; and 4) a major contributor to charitable organizations in terms of both funding and volunteer time. There are also lessons to be learned about a major employer whose site and physical plant present land use and orderly redevelopment questions including plant decommissioning, site restoration, the presence of hazardous materials, and complex regulatory frameworks.

We note that the perspectives shared and story told here are those of the Tri-State Region team of regional organizations. This is not the story of the individual towns or states and their experiences. We respect that their perspectives on our work, and the situation as a whole, may differ from ours and we encourage them to share their stories so other towns and states might learn from them.

Background and Context



The Vermont Yankee (VY) Nuclear Power Station is located on the Connecticut River in the Town of Vernon in the extreme southeast corner of the State of Vermont. The power station site is approximately 125 acres in size. Vernon is bordered by Franklin County, Massachusetts to the south and by Cheshire County, New Hampshire along and across the Connecticut River to the east.

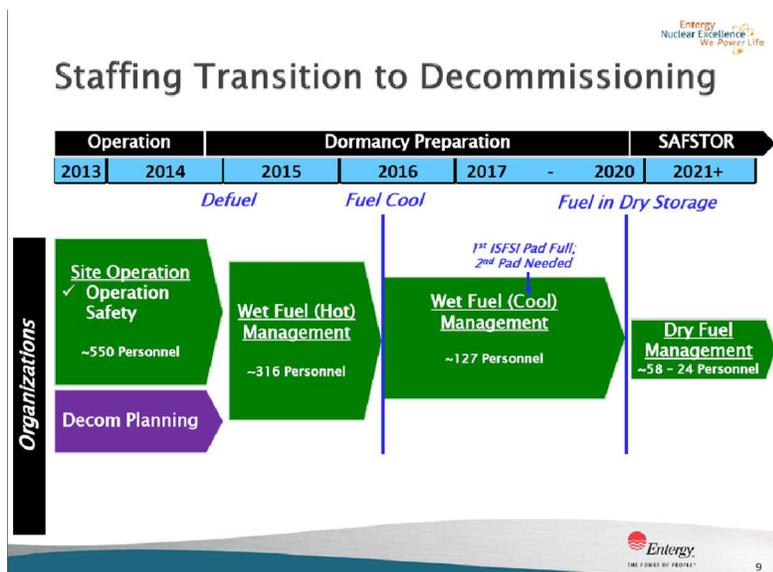
The boiling water reactor became operational in 1972 and was owned and operated by the Vermont Yankee Nuclear Power Corporation, which was a public utility. It was originally constructed to produce 500 megawatts of electricity, but was later updated to produce 620 megawatts. In 2002 the plant was purchased by Entergy Nuclear Vermont Yankee, thereby becoming a merchant plant rather than a

public utility. Merchant plants are funded by private investors and sell power into a wholesale electricity market rather than directly to retail customers. In August, 2013 Entergy Nuclear Operations announced it would cease operations and close VY during the fourth quarter of 2014 due to economic factors and filed a letter with the Nuclear Regulatory Commission (NRC) on September 23, 2013 stating its intention to permanently cease power operations. It filed its Post Shutdown Decommissioning Activities Report, its decommissioning activities plan, with the NRC on December 14, 2014 and ceased operation fifteen days later on December 29th.

VY reported in December 2011 that it had 623 employees, with 167 of those residing in Massachusetts, 210 in New Hampshire, and 238 in Vermont. Eight employees lived elsewhere. The majority of employees resided in the three adjoining counties of Windham County, Vermont, Cheshire County, New Hampshire, and Franklin County, Massachusetts. These three counties are served by the Windham Regional Commission (WRC), the Southwest Region Planning Commission (SWRPC), and the Franklin Regional Council of Governments (FRCOG) respectively. These regional commissions serve as an essential link between local, state and federal government in the absence of county government. In Vermont, regional development corporations, which may take the lead on regional economic development planning, are separate entities from regional planning commissions. The Brattleboro Development Credit Corporation (BDCC) is the regional development corporation that serves the Windham Region.

We should mention that none of the entities that comprise the Tri-State Region team have any direct fiscal ties to VY as we have no taxation authority. This fact may or may not be relevant to the context of others that do have direct fiscal ties to the plant. Current or future negotiating positions related to property valuation and taxation were never a concern for us, though understanding the plant’s post-closure taxation assumptions were important to estimate the potential fiscal impacts to the Town of Vernon. It is our hope that having direct fiscal ties to a facility will not weaken community resolve to understand and plan for resilience in the face of an eventual closure, but we understand anecdotally that these ties may cause some reluctance. If anything, that reluctance should underscore the importance of understanding what the impacts will be and how they can be mitigated.

Impacts Still Unfolding



Since it ceased operation in December, 2014, VY has ramped down its number of personnel from approximately 550 to approximately 125 as of July, 2016. Once spent fuel has been transferred from the spent fuel pool to dry casks, a task which should be complete by 2021, the plant will employ approximately 24 people, most of whom will be security staff. Although closure has occurred and staff reductions have been well underway, the full

impacts of the closure on our communities and the local economy have yet to be realized and may not necessarily be easy to quantify or otherwise measure.

Lessons Learned

Early, ongoing, and neutral engagement in state regulatory processes enabled the host region to understand what the impacts would be when the plant would eventually close, for whatever reason that might be, and to develop evidence-based policy positions.

The WRC actively engaged in Vermont Public Service Board¹ (PSB) dockets related to VY, but it did so from a neutral position as to whether or not the plant should continue operation. The context here is important. VY was controversial from the outset, both locally and within the states it bordered. The WRC adopted a neutral position so it could promote conversation among all sides. Importantly, it also meant that while the focus of most parties in PSB dockets was on the continued operation of the plant, the WRC was in the position to ask what happens when the plant ceases to operate. To that end it was able to look at the evidence presented by all parties about the socioeconomic impacts of the plant on the region (employment, income, taxes, charitable contributions, etc.) as well as how the plant owner intended to decommission the plant and restore the site when it did shut down. Based upon this evidence the WRC was able to develop policy positions as to what would be in the region's best interest when the plant eventually ceased operations for whatever reason in order to mitigate the socioeconomic impacts and to restore the plant site to industrial reuse as soon as possible. It also meant the WRC had knowledge of and understood information introduced into the record that described in considerable detail:

- how many people the plant employed,
- in what communities they lived,
- employee average salaries,
- beneficiaries of charitable contributions,
- plant owner assumptions about taxes to be paid post-closure and the basis for value assessment,
- plant owner assumptions about decommissioning, site restoration, and site restoration standards,
- plant owner assumptions about the decommissioning trust and the management thereof, and
- the corporate structure of the plant owner and how that structure related to decommissioning responsibilities, including financial responsibilities.

¹ [This is the entity in Vermont that supervises energy utilities. In other states this might be referred to as a public service commission or utility board.](#)

With this foundation of evidence from the formal record the WRC could present to the PSB what conditions of a certificate of public good would be in the best interests of the host region when the plant ceased operation.

The information, knowledge and policy base developed by the WRC over several years and through several dockets enabled it to:

- provide foundational information for a post-VY closure analysis conducted in 2011-12 led by the Brattleboro Development Credit Corporation when there was concern that the state's denial of a certificate of public good would result in the plant's closure regardless of its renewed license by the Nuclear Regulatory Commission (NRC);
- have an established position as to what was in the best socioeconomic and orderly redevelopment interests of the region immediately upon the announcement by Entergy of its intent to close the plant;
- provide detailed information about what communities would be most affected to its counterparts in Massachusetts and New Hampshire, as well as to state and federal elected officials and policymakers;
- present a clear and detailed position and related rationale to state policymakers to establish a clear understanding of what the host region's needs and expectations would be of any negotiations between the state and the plant owner; and establish a clear policy basis for comments on VY's Post Shutdown Decommissioning Activities Report and related Site Assessment, which were submitted to the NRC.

The larger lesson is that any host community should build its knowledge base about the fiscal and socioeconomic role of a major employer in that community and what that employer intends to do if and when it ceases operation.

Nuclear power station host communities may want to meet with plant owners to see what information they might share. They can also research other information such as Decommissioning Cost Estimates, generic environmental impact statements prepared by the NRC, and other public filings with federal and state regulators.

Understand the dynamics of the plant's contribution to the local economy.

Economic impact analyses had been prepared by VY and other parties to Vermont Public Service Board dockets which described in considerable detail the socioeconomic relationships of the plant to the local and state economy and communities. This information helped inform the work

of a Post-Vermont Yankee Working Group led by the Brattleboro Development Credit Corporation which released a study in 2012 about the impacts of a potential VY closure. That study is available here: <http://seveds.com/wp-content/uploads/2012/03/PostVY.pdf>. These analyses made it clear that the biggest impacts to the economy would result from the loss of the relatively high income of the employees as they departed the area for jobs elsewhere (see below). Upon the announcement that VY would close, the Tri-Region group identified as a priority the need for an independent analysis of what the direct, indirect and induced effects would result from the loss of VY employees and their income. FRCOG was able to fund the UMass Donahue Institute (UMDI) to conduct a study of these effects. That study was released in December, 2014 ahead of the cessation of plant operations and is available here: <http://frcog.org/publication/economic-impacts-vy-closure-study/>. Both of these studies provided quantitative economic analysis of the effect of closure, which has helped to clearly and realistically plan for the impact.

In our rural area, the greatest impacts will be the out-migration of employees and their families, and the loss of their disproportionately high incomes circulation in the local economy.

It should be noted that when a nuclear power station closes, many of the employees will be able to find work elsewhere within the nuclear industry if not within the same company. This is not

to say that there will not be employment impacts when a plant closes. As noted in the table in the table below the UMDI report, there will be direct, indirect and induced employment impacts. However, unlike the shuttering of a manufacturing facility, mine, distribution center or other large employer where the majority of those being laid off may have limited mobility, many of the professional employees employed by a nuclear plant will be recruited to move

Table 1. The Economic Activity Levels of Vermont Yankee to the Tri-County Region Over Time

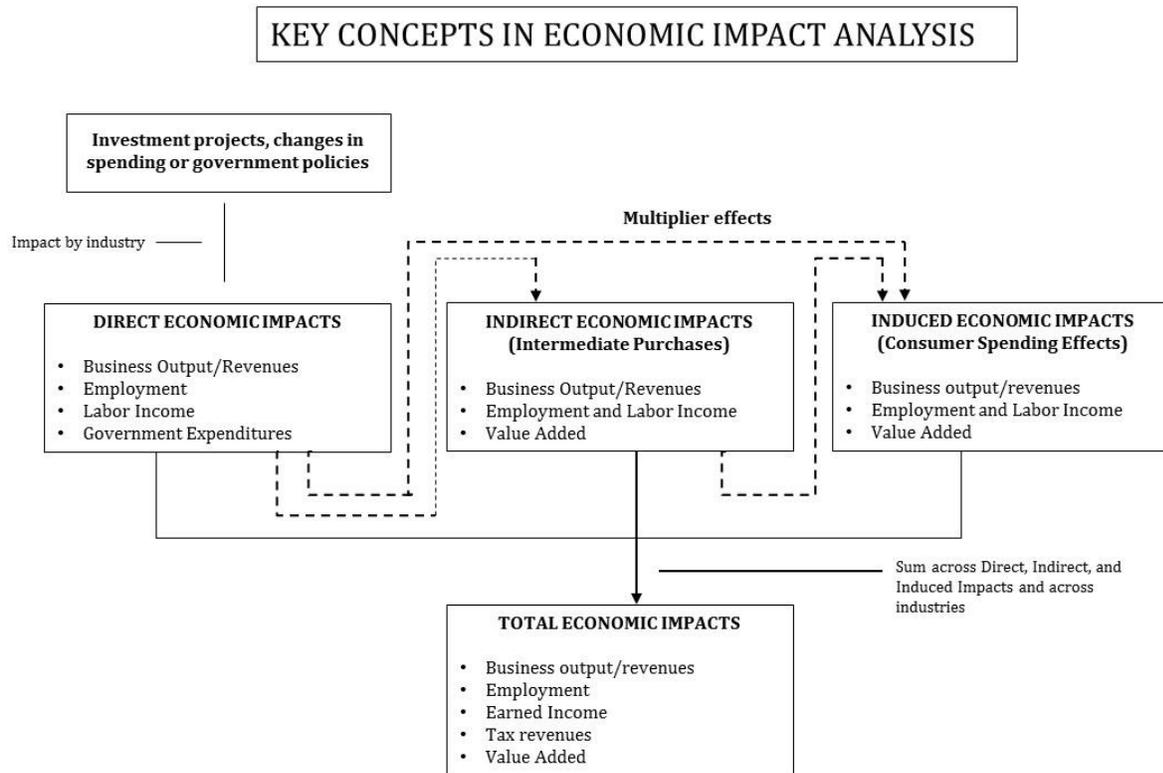
	Operational	2015-2016	2017-2020	2021 Plus	2021 Plus (2)
Direct					
Employment	550	318	126	58	24
Labor Income	\$82,099,127	\$38,564,486	\$15,508,264	\$2,675,750	\$1,100,406
Value Added	\$244,286,992	\$66,121,377	\$26,547,585	\$7,849,919	\$3,242,067
Output	\$402,707,428	\$81,769,337	\$32,091,293	\$10,573,188	\$4,328,235
Indirect					
Employment	282	93	37	16	6
Labor Income	\$10,425,325	\$3,547,281	\$1,426,498	\$618,522	\$246,311
Value Added	\$31,131,267	\$5,541,555	\$2,224,922	\$968,233	\$386,153
Output	\$47,691,302	\$10,528,954	\$4,227,352	\$1,734,171	\$692,314
Induced					
Employment	387	165	66	10	4
Labor Income	\$14,377,220	\$6,106,431	\$2,455,631	\$361,327	\$148,855
Value Added	\$26,575,152	\$11,297,051	\$4,535,741	\$667,946	\$275,168
Output	\$43,008,077	\$21,464,397	\$8,617,908	\$1,081,549	\$445,562
Total*					
Employment	1,220	577	229	84	34
Labor Income	\$106,901,672	\$48,218,198	\$19,390,393	\$3,655,600	\$1,495,572
Value Added	\$301,993,411	\$82,959,983	\$33,308,248	\$9,486,099	\$3,903,388
Output	\$493,406,806	\$113,762,689	\$44,936,552	\$13,388,908	\$5,466,111

Source: Results are from simulations run in IMPLAN.

Notes: All economic activity levels shown are annual (e.g., the levels shown in the "2017-2020" column represent the *annual* contributions to the economy that are expected for each individual year during the indicated period; they are *not* multi-year cumulative contributions).

*Total impacts represent the sum of direct, indirect, and induced impacts.

elsewhere. These employees likely earned considerably greater income than their fellow local workers who did not work for the power station. The annual pay of a Vermont Yankee worker was approximately \$105,000, which is two and a half times greater than the average pay in the region (about \$40,000 in 2010). While VY accounted for only about .7 percent of employment in the Tri-Region area, it accounted for 1.8 percent of the regional payroll. This is described in considerable detail in the aforementioned UMDI study, which used the methodology below:



Don't assume you will have access to plant employees through the employer, or the ability to directly communicate with those employees.

Because of the nature of the work, and the qualifications and clearances required, nuclear power plant workers are in high-demand within the industry. Employees are likely to be offered very significant incentives to stay working at the plant through the closure. They are then likely to be offered similar positions at a different location within the company, or to stay within the industry, but with a different company and at a new location. This is obviously good news for the employee, but the plant owner's interests in retaining its skilled workforce may confound efforts to retain these highly-skilled STEM (science, technology, engineering, mathematics) workers in the area. A region planning to replace the lost jobs should consider planning for more jobs than

those being lost with the plant closure due to the much higher than average wages of plant workers. To replace the lost wages will likely require more jobs at a lower wage level. Workers may also be eligible for Trade Adjustment funding for job retraining through the Department of Labor. These funds often carry a requirement that the training be for jobs paying at least 80% of the wages of the job lost.

The host region has a unique role and responsibility: engagement in decommissioning.

Most of the lessons presented here relate to the Tri-Region's collective understanding of and response to the socioeconomic impacts of the closure of VY. But while the other two regions and the BDCC have an interest in what happens to the plant and the plant site, it is the WRC which has the unique responsibility of engaging in issues related to the decommissioning of the plant, restoration of the plant site, and other land use and orderly redevelopment matters in community advisory and state and federal regulatory forums. This results in capacity issues for the WRC with which its partners do not have to contend. It is much easier to find resources to fund economic development and closure mitigation efforts than it is to find resources to fund activities related to public engagement in closure, decommissioning and site restoration (i.e. orderly redevelopment of the site). We should note, however, that this is the second nuclear plant closure to take place within the Tri-Region area. Yankee Rowe was a pressurized water reactor in Rowe, Massachusetts, which permanently shut down in 1992. Some workers employed at Rowe went on to work at VY. Decommissioning of the plant was completed in 2007. The WRC has benefitted greatly from the experience of FRCOG and through its connections with Massachusetts state agency employees who participated in oversight of the decommissioning. That prior experience has informed questions to ask, expectations of regulatory agencies, and the importance of local engagement in decommissioning.

Understand the role of the plant in the local community and culture, and what the implications of the loss of that employer means.

There is a need to look beyond employment and income and related effects to also understand the role of employees, spouses and children in the community and civic life; financial and in-kind contributions to charitable organizations; and the role of the employer in organizing civic activities (fairs, parades, community picnics, etc.). To what extent was the employer responsible for organizing and convening civic activities that might otherwise be the purview of local civic organizations? To what extent is the employer tied to the way the community identifies itself? Underlying the numbers of employees, spouses and children are relationships. These employees and their families are neighbors, family and friends. They are children in schools, coaches on soccer and baseball fields, volunteers in fire departments, customers in stores, contributors to

causes, and households in neighborhoods. Closure mitigation planning will seek to minimize disruption to these relationships or the effects of the loss of these relationships throughout the social fabric of communities.

Develop a basic understanding of the industry, the financial well-being of the plant within the marketplace and within its family of companies, and any regulatory issues it might be facing.

Fourteen reactor units have been closed at 11 plant sites since October, 2012, and many of these had already obtained 20-year license extensions from the U.S. Nuclear Regulatory Commission (POWER “U.S. Nuclear Plant Closures” June 25, 2016 <http://www.powermag.com/u-s-nuclear-power-plant-closures-slideshow/>). Regional planning agencies with nuclear power plants in their service region should research the economic performance of these plants relative to other power generators, as well as any regulatory issues that may contribute to a decision to close a reactor prior to the expiration of its license, to understand what the risks of closure might be. It’s not too soon to begin discussions with appropriate state agencies and/or legislative delegation now to develop special funding sources for the host region to be actively engaged in decommissioning activities. WRC estimates that they spent more than \$125,000 in staff time on critical decommissioning-related work and regional plan policy advocacy between 2009 and 2016 with no dedicated funding source, which has significantly impacted the resources of the organization.

If you have already developed a comprehensive economic development strategy (CEDS), or other economic development plan in which you have confidence, pursue it.

At the risk of stating the obvious, if you have a federally approved economic development strategy in place before the closure, or other well thought out economic development plan, you’ve already got a path to follow. Ideally, it should contain planning to mitigate the economic and decommissioning impacts expected after the closure. If it doesn’t, the economic development plan or strategy should still provide a preliminary foundation for action assuming it reflects other economic development assets to be built upon. While the announcement of a closure may create a greater sense of urgency, it may not necessitate a need for a change in the direction of an established strategy unless that strategy is dependent upon the continued operation and existence of the plant. Economic development strategies should not be overly focused upon one business, industry or sector but should instead focus on the development of a broad economic base. The Windham Region developed its CEDS with the assumption that VY would, at some point, close. This assumption was largely based on myriad possible regulatory decisions, but also knowledge that maintenance issues could impact continued operation decisions. The fortunes of nuclear energy changed dramatically over a very brief period of time (since 2013) when the availability of cheap natural gas made the continued operation of older

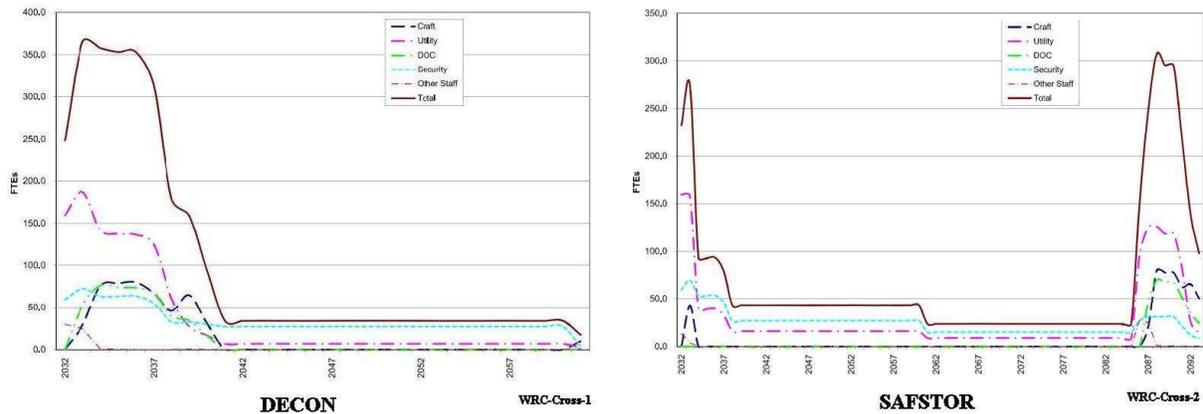
nuclear plants in deregulated power markets economically less-viable. This is within the 5 year update cycle of a CEDS. The energy sector is particularly volatile at this time for a variety of reasons (economic output and energy demand, fuel surpluses, exploration technologies, regulations and incentives, etc.). Would the Windham Region CEDS have assumed the possible closure of VY in the absence of regulatory uncertainty? Perhaps not, but it is our suggestion that communities which host power/fuel stations of any sort consider the place of that facility in the local economy, and how the potential closure of that facility could inform the economic development strategy for the area. The articulation of the closure impacts and the inclusion of mitigation strategies in the Windham CEDS have given us an advantage in reaction time as well as a clear path forward.

Planning for the eventual closure of a plant may be viewed by some, including the employer, as not supporting or otherwise being “against” the employer.

While planning for the eventual closure of a major employer would seem to be a prudent element of economic resilience and impact mitigation planning, what seems objectively rational to the planning and economic development organization may be viewed as a somewhat pessimistic if not hostile act by others. This is most likely to be the case when there is sentiment that the community would be somehow better off without the employer or, more to the point, an organized effort geared towards shutting the employer down. The employer and its supporters may view the effort as being in support of the opposition; that the planning assumes weakness or vulnerability. Conversely, those opposed to the employer may look at the effort to quantify economic impacts from a closure as an attempt to justify or bolster its continued operation and existence. Having an objective conversation about the role of the employer in the economy and what might happen should the employer cease to exist may require trust building, outreach and diplomacy to all sides. In the development of its Windham County Post-Vermont Yankee Economic Mitigation and Growth study, the BDCC was able to convene both supporters and opponents to assess the economic impacts of its closure (<http://seveds.com/wp-content/uploads/2012/03/PostVY.pdf>).

When it comes to a nuclear plant, how it chooses to decommission will have a major impact on the rate of change.

The graphs below demonstrate changes in employment under two different decommissioning scenarios. These are graphs provided by Entergy Vermont Yankee in a Vermont Public Service Board docket which show the employment profiles under DECON and SAFSTOR. DECON refers to prompt decommissioning while SAFSTOR refers to deferred decommissioning. The NRC allows decommissioning to be deferred up to 60 years.



What the graphs show are assumptions by Entergy that when the station shuts down the workforce would shrink from roughly 620 to about 250 over a 9-12 month period. With SAFSTOR, after a brief ramp up to button up the plant, the workforce would quickly drop further to about 50 people. VY is currently transitioning into SAFSTOR and as was mentioned previously, the number of employees will ramp down to approximately 24 staff, primarily to provide security. With DECON or prompt decommissioning, the station initially employs a larger workforce of approximately 300, which then dissipates more slowly over approximately ten years. Economic impact studies provided by Entergy in the docket suggested that DECON provides a stronger buffer against overall job loss than SAFSTOR.

The more gradual falloff of economic activity associated with DECON offers the region social, economic and fiscal benefits that SAFSTOR does not. Previously, when nuclear power stations operated by public utilities would cease operations, they would go the DECON route as it was less expensive and costs could be passed along to ratepayers. Most of the plants that have closed or have announced their intent to close over the last 4 years are merchant plants, and they are choosing the SAFSTOR option to defer decommissioning until their decommissioning trusts are sufficient to cover the radiological decommissioning costs. Merchant plants do not have the ability to pass on decommissioning costs to ratepayers once they cease operation.

Understand the regulatory context that governs the plant while it is operational and after operations cease.

Who governs the employer? What happens when it ceases operations? What, if any, opportunities do regulators provide for local input into post-closure decision-making. In the case of a nuclear power station, the NRC requires public involvement at specific points in the decommissioning planning process. A public meeting is to be held in the vicinity of the facility after submittal of a post-shutdown decommissioning activities report (PSDAR) to the NRC.

Another public meeting is to be held when the NRC receives the license termination plan (LTP) which could literally be decades after a plant ceases operations. An opportunity for a public hearing is provided prior to issuance of a license amendment approving the LTP or any other license amendment request. In addition, when the NRC holds a meeting with the licensee, members of the public may observe the meeting (except when the discussion involves information that is proprietary, sensitive, safeguarded, or classified). There is no public engagement required beyond these meetings.

The community may want to organize itself to better engage with regulatory authorities at the state and federal levels. When engaging with federal authorities, the local communities may want to explore opportunities for coordination and collaboration with state agencies. Local and state interests may be the same or complementary in many respects but anticipate there will be some differences. In all cases the local communities should communicate their needs and expectations to local, state and federal elected officials and their staffs.

Community Advisory Panels can be very effective, but should operate independent of the plant and should have autonomy from any state entities which it will advise.

The Vermont Nuclear Citizens Advisory Panel was created through a settlement agreement arrived at between the State of Vermont and Entergy Vermont Yankee. It has played an essential role in providing a forum for public engagement in the decommissioning of the VY plant. The panel has allowed for the dissemination of information from all parties involved; allowed the public to express its views and concerns; provided a forum for open and transparent discussion; and has established a working relationship between parties who might not otherwise have worked together. However, it is imperfect. The panel was created to advise the governor, the state legislature and state agencies, but its voting membership includes those it was created to advise. It also has no dedicated funding stream to support its operation. That being said, it remains a good venue for public engagement as well as a means through which the public, stakeholder governments and agencies, and the plant can communicate with one another and work towards areas of common agreement – or agreements to disagree – in an open forum. The panel also includes representatives from the adjoining states, which permits input from other affected communities not in Vermont. The imperfections noted above can be worked out as the panel continues to evolve.

We do suggest that community advisory panels be formed by all communities that host a nuclear power plant, and suggest the formation of such while the plant is still operating and ideally long before a licensee ever announces the intent to cease plant operations. It should, however, operate independent of the plant operators and the state. Our experience has demonstrated

the value of having a panel that certainly includes licensee representatives, but which operates independent of the licensee. And while panels can certainly be organized by states and enabled through state statute, they should function independent of state government. State and local interests often converge, but there must be room for open discussion and divergence. We also suggest that representatives from adjoining regions be given the opportunity to have representation on the panel.

Local entities should have access to their own experts to make sense of information provided by the plant, public agencies, and advocacy organizations.

As might be expected, every party to a discussion will provide its own information and, more likely than not, its own experts. Local economic development and planning entities can be placed at a serious disadvantage as they try to make sense of what is presented. To this end local entities should have resources to access their own experts to process information in a way that allows them to arrive at their own conclusions. Our experience has been marked by the general absence of such resources with the major exceptions being the BDCC's CEDS planning funds and the FRCOG-funded UMDI economic impact study referenced above. The types of discussion that might warrant experts include those dealing with economic impacts and possible impact mitigation funding, site decommissioning and restoration (including spent fuel management and storage, demolition, and high-level nuclear waste disposal), site monitoring (for both radiological and non-radiological contaminants in both soil and water), taxation and assessment, and emergency preparedness and response. And, as stated earlier, advocating in advance for dedicated funding for this type of work is wise as the technical issues to be considered are above and beyond what would normally be expected of a region or community and its capacity to do so.

Support for and opposition to the plant does not go away with its closure.

Positions of opposition to or support for the plant do not evaporate with its closure. If anything positions may harden. Zenia Kotval and John Mullin explore this in their study of the impacts of the closure of Yankee Rowe (https://works.bepress.com/john_mullin/18/). Economic development and planning entities will want to transcend these differences by providing the most objective and defensible information possible and, hopefully, guide the community towards actions that will mitigate or buffer impacts and build up the community and its economic resilience.

There is no national model for economic impact mitigation.

There are currently no consistent models for negotiating financing for the mitigation of the economic impacts of the closure of nuclear power plants. It is important that the host community or region is able to understand and articulate how it will be impacted by using historical data, community input, and impact modeling, and to develop strategies to address those impacts, and to communicate all of the above publicly. It is very important to share that information early and often with the plant, the public and with policymakers, even if they may not be particularly receptive of that information at first. All three audiences will have an equally important role in ensuring balanced economic mitigation and recovery planning.

There is no dedicated funding stream to assist communities with the economic impact mitigation of nuclear plant closures. You'll need to piece together other federal, state and local resources.

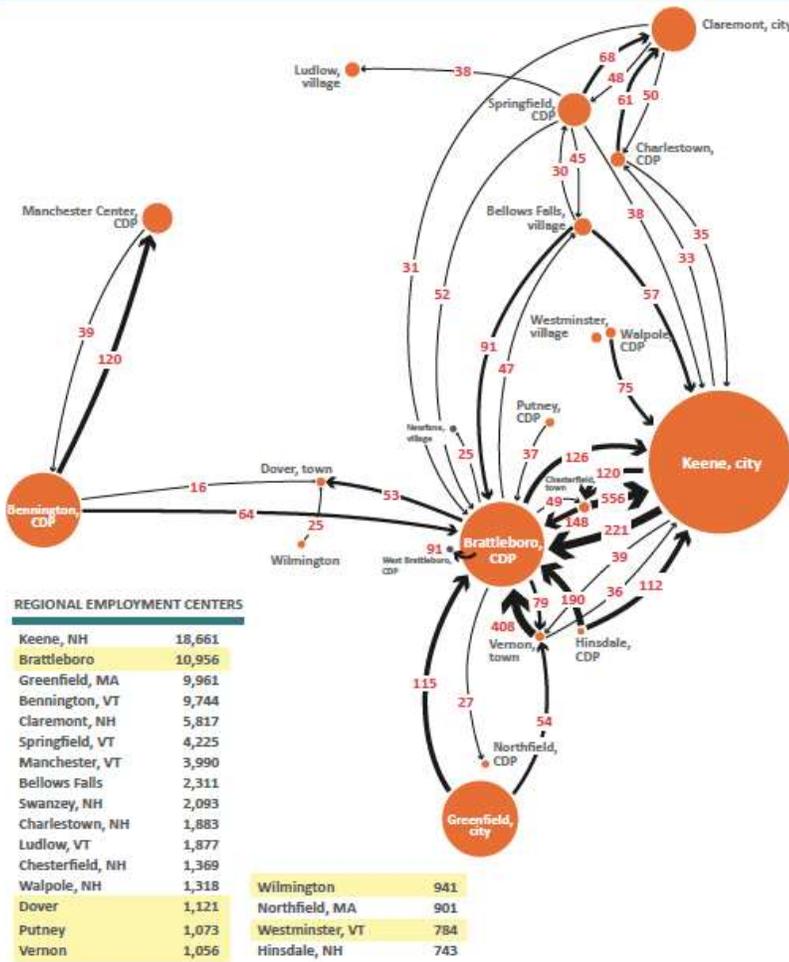
In 2011, the State of Vermont provided seed funding to BDCC to begin to develop strategies to mitigate the economic impacts associated with the closure of the nuclear plant due to the possibility that the plant would not receive approvals from the state to operate beyond 2012.² BDCC leveraged those funds to secure additional planning dollars from the U.S. Economic Development Administration which were used to develop the Windham Region's first CEDS. The strategies and projects developed in the CEDS were provided to the State of Vermont when they began to negotiate the settlement of several lawsuits and open issues after the closure date was announced. The State of Vermont negotiated \$10 million in economic development funding for the region as part of their eventual settlement agreement with Entergy to bring a conclusion to outstanding legal actions. The Governor of the State of Vermont publicly announced he would be the final arbiter in deciding how the funds were spent, meaning the final decision on the use of the funds would not be made within the affected region. Further negotiations between the Administration and the regional organizations settled upon an agreement to fund an additional business development staff person at BDCC and to allow the region to weigh in on funding applications to the state, but the final decision making remains at the state-level. This settlement agreement applies only to the State of Vermont and has no benefit or applicability to the adjacent states impacted by the closure.

Since the announcement of the closure, the Tri-Region team has been fortunate to find support from the U.S. Economic Development Administration (EDA) for immediately acting on implementing established priority projects outlined in the Windham Region CEDS. The EDA

² [This context may be somewhat unique to Vermont as the state claimed it was not preempted by federal regulations in its ability to approve the continued operation of the plant. Other states may not claim such authority. The state's ability to approve the continued operation of the plant was challenged in federal court.](#)

strongly encouraged Windham Region partners to work to ensure implementation of the priority projects was inclusive of the entire impacted laborshed and that the Tri-Region partners explore

FIGURE 2-28: COMMUTING LINKS BETWEEN THE MAJOR EMPLOYMENT CENTERS IN AND AROUND THE WINDHAM REGION, 2010



opportunities for additional future collaborative ways to mitigate the economic impacts of the closure of VY. The graphic to the left is from the Windham Regional Profile and shows the commuting patterns, and household income connections, among the three regions.

Timing has been important in our ability to fund immediate action as there are presently no federal funds dedicated to mitigating the impacts of nuclear plant closure. There is some evidence that Congressional earmarks had been used by host communities in the past to support mitigation strategies, but the era of earmarks is over. Unless and until a closure mitigation fund is created, economic development planners will need to rely upon existing programs. These include those offered through the U.S. Economic Development Administration, the

U.S. Department of Agriculture (Rural Development), and the U.S. Department of Housing and Urban Development (HUD).

There may be a tendency to look for a solution at the plant site.

It is not uncommon for any community to assume that the solution that will help mitigate the impacts of the closure of a major employer and tax generator lies within the site of the business that is closing. This may be a logical approach when the business in question occupies a site and facility that is easily and quickly transferable and adaptable to another use. This is not the case with a nuclear plant. Assume the site will not be available for redevelopment within a time

horizon that will mitigate closure impacts. A possible exception could be a situation where the plant site is extraordinarily large. Precedent indicates that spent fuel storage on the site of the dismantled plant will preclude redevelopment. At a minimum, assume that the site will not be available for redevelopment for a period of at least 10 years after the intent to cease operations is announced. It will take at least this long to complete the dismantlement of the facility. And as was mentioned above, NRC decommissioning rules allow a plant to remain in SAFSTOR for 60 years. There's also the practical reality that the community likely does not own and does not control the site.

There may be a tendency and temptation to look for a single big solution to replace what is lost (e.g., employees, income, tax revenue) that can stymie progress to be had through a series of smaller solutions.

Whether the goal is to replace employees, population, taxes, or all of the above, the community may be inclined to pursue a single big solution that fills the holes left by the closure. This can divert essential energy and effort away from solutions that are more likely to be realized. Particularly in rural areas, the likelihood of replacing the plant with an employer that would hire a similar number of employees at similar wages and which might be assessed at a similar value is low. *This is not to say a community shouldn't have big aspirations.* But it should be conscious of the extent to which it might avoid pursuit of the improbable perfect in lieu of the achievable good. Perhaps a more effective approach is to identify other important economic clusters and find ways to strengthen them. Especially with the closure of a nuclear power plant, it is unlikely that the region will find relevant replacement positions for nuclear scientists and engineers. These employees will probably leave the region and take their incomes and spending with them. Finding ways to enhance and strengthen other clusters can help to stem the loss of dollars from the overall regional economy.

There currently exists no Federal nuclear power plant decommissioning policy, but the NRC is in the process of decommissioning rulemaking. Please get involved!

At present the NRC has rules by which nuclear power stations may decommission, but there is no decommissioning policy. The current process is summarized by the NRC here: <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html>. Host communities are strongly encouraged to participate in what will likely be a multi-year federal decommissioning rulemaking process. It is essential that federal decommissioning policy take into account and be responsive to the communities that are most directly impacted by nuclear plant closures. Information about the decommissioning rulemaking is available here: <https://www.regulations.gov/document?D=NRC-2015-0070-0001>

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