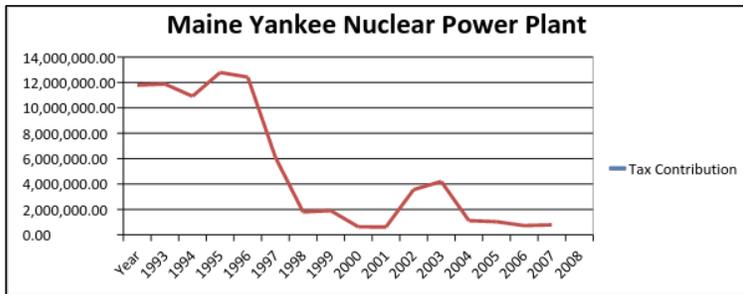


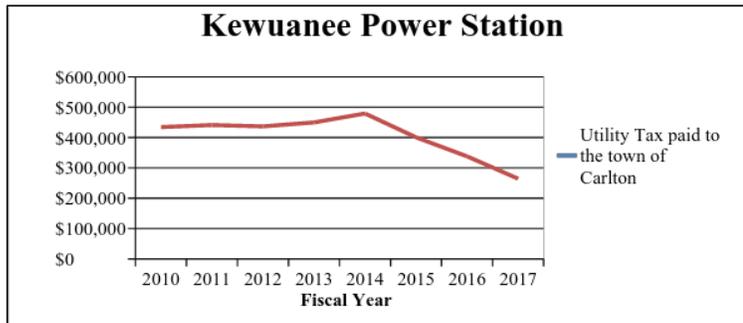
Appendix F – Case Study Handout

Maine Yankee Power Plant

Built in 1972 on the southern coast of Maine, the Maine Yankee was the pride of Wiscasset. Like many other nuclear power plants, it was forced to shut its doors very early due to economic infeasibility. Following a lengthy investigation by the NRC, the deficiencies of the 24-year-old plant were deemed too expensive to fix. More than 15 years later, the community is struggling to recover from the prosperous era where the plant paid for 96% of the town’s budget. Wiscasset is currently sitting as the fourth poorest county in Maine, with its residents suffering the impacts of the closure. Basic utilities in the town are no longer available such as garbage pickup and subsidized lunches for school students. Reflecting upon the era of the Maine Yankee compared to the present, “It was like living in a fairyland. Everything you wanted, you got” said John Chester, one of the freelance writers for the Community Advisory Panel.



Unlike many other plants across the United States, and similar to the Kewaunee Nuclear Power Plant, Maine Yankee opted to pay out their tax contributions over a period of 5 years in order to lessen the financial drop off of the closure of the plant. Above and below are graphs showing the similarities.



“It wasn’t what anyone wanted, but it was a pretty good process in helping people to get a soft landing. It was the best we could do” said Eric Howes, Director of Public and Governmental Affairs when describing the creation of a Community Advisory Panel for the Maine Yankee. This panel was composed of a wide variety of community stakeholders, such as residents of Wiscasset, ME, a governor liaison, a Maine Yankee representative, and others. The goal was to have complete transparency and honesty in the process of mitigating efforts by including every possible stakeholder which Eric Howes believes the Community Panel accomplished fully.



Figure 1: Dry cask storage outside of the Maine Yankee

Community Advisory Panel

In 1994, the Maine Yankee Atomic Power Company made the decision to establish the Maine Yankee Community Advisory Panel on decommissioning, less than two years before the official closure of the power plant. This panel was formed in order to compose an advisory group that was balanced, transparent, and reflected the various points of view held by the public. After the panel was formed, an “evolution of the relationship between the utility company and the community occurred” according to longtime panel member Marge Kilkelly, who is currently an advisor to Senator King of Maine. People in Wiscasset were more willing to listen during the meetings with the CAP. The panel is still operating today, 20 years after the decommissioning. In an interview, Kilkelly harped on the importance of the panel, stating that it felt “like a wonderful expression of a place where people were able to weigh in to the very complicated decisions in a sensible way...it’s all about relationship.”

Listed to the right are some of the accomplishments of the CAP in the first few years of decommissioning, where communication among a large amount of stakeholders was paramount.

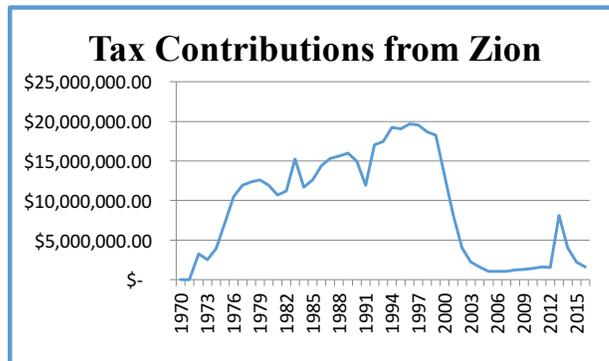
	CAP Accomplishments
<p>1997 - 1998</p>	<p>CAP provided forum for public dialogue about how decommissioning would be approached – how the site would be characterized, how material would be released from the site (including batch discharges to bay from RCS Loop decon/disposition of hazardous and radwaste materials), what risks would remain with the plant in a defueled condition and how those risks would be addressed, and what the estimated decommissioning costs would be</p> <p>Amid community concerns about removal of on-site NRC inspectors, CAP brought NRC presence and state regulatory presence to the community on a regular basis</p> <p>CAP provided forum for residents to voice concerns directly to company and regulators about noise of spent fuel pool island cooling fans and alleged free release of radioactive materials to Wiscasset landfill</p> <p>CAP included in decision about spent fuel storage; CAP members given access to tours of other facilities, construction of multi-purpose storage canisters; CAP concerns about perceived security of dry fuel storage facility directly responsible for installation of ISFSI berm</p>
<p>1999</p>	<p>CAP forum required company and regulators to explain to lay public methodologies and science behind approaches to meeting release criteria for the site (LTP, pathways analysis, dose assessment methods, rubblization, 25 mrem plus ALARA vs. 10/4). CAP summoned NRC and EPA to local community to provide insight as to how public might gain confidence about ultimate safety of site given differing site release criteria at the federal regulatory level</p> <p>Provided forum for local residents to express concerns/opinions on donation of Eaton Farm to non-profit</p>

Zion Nuclear Power Plant

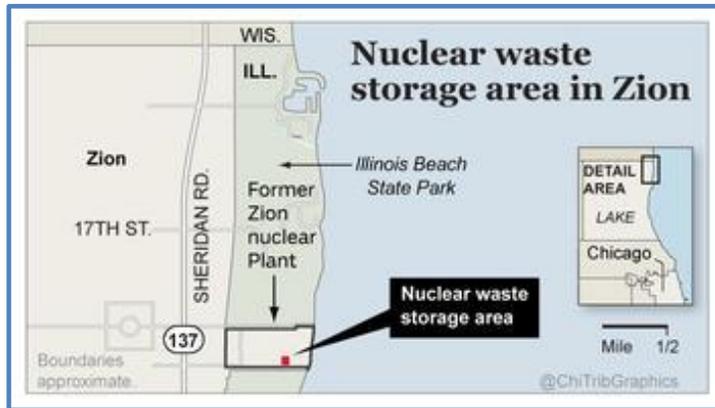
25 years after being built on the shore of Lake Michigan, the Zion Power Plant was forced to retire in 1998 following a sudden shutdown due to operator error, far earlier than the NRC-given license anticipated. Questions soon arose about where the spent nuclear fuel would be transferred to and who would pay for it. Currently, the residents of Zion are footing the bill, causing property taxes and concerns about nuclear waste to rise dramatically. This has prompted many local officials to branch out for help from federal representatives.

Tax Hits

From the time of closure in 1998, the tax contribution from the Zion Nuclear Power Plant have dropped drastically to the less than 10% of what it had been at its peak in 1997. This burden has been shifted to the residents of the city of Zion, with city documents citing a 143% increase in property tax. David Knabel, the city's finance director has noted that it will be tough for the city to attract new investors and businesses with tax rates "going through the roof."



Zion Nuclear Power Plant in 1997



A Nuclear Waste of Time

The residents of Zion are currently fighting the prospect of having spent nuclear fuel sitting on their lakefront for years. The upset city believes they should be compensated for

becoming a storage area for this fuel that is hindering the redevelopment of the 257 acres of lakefront property where the plant was built. Currently, the firm handling decommissioning has removed the last of the large components of the plant for transport to a waste disposal facility. However, the casks containing spent fuel remain for an indefinite period. The community of Zion along with their mayor, Al Hill, believed the government would accept the waste and ship it to Yucca Mountain in Nevada. They are now leading the push for legislation that would give compensation for communities like their own that have turned into “de facto storage facilities.” The compensation would allow for communities to make up for land that could not be redeveloped and the lowered property value of the nuclear power plant area.

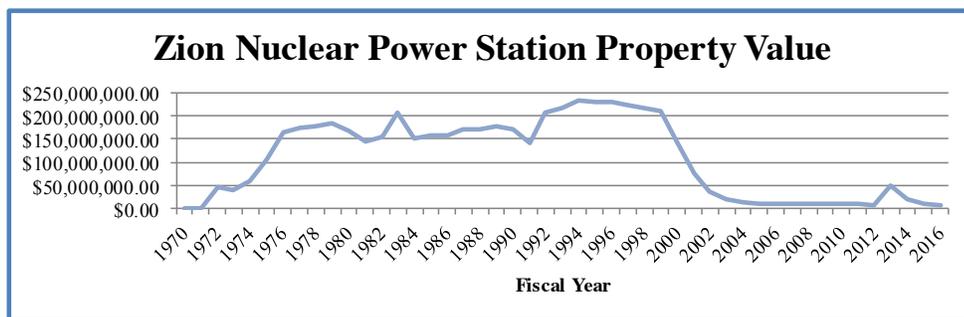


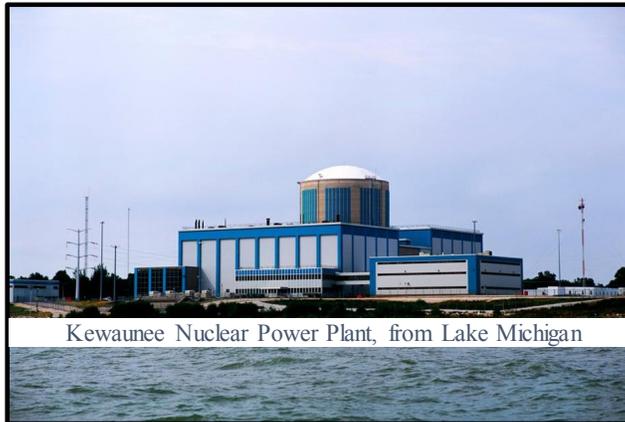
Table: 1 showing drop in property value

Kewaunee Power Plant

October 22nd, 2012 marked a historic day for the small town of Carlton, WI when Dominion Resources abruptly stated the energy market was poor and shut down the plant far sooner than anyone, including the NRC, had expected. Similar to other areas, the power plant provided roughly 600 jobs and a large portion of the tax base, close to 70%. Unfortunately for Kewaunee, the closure of the plant was abrupt and could not have been predicted. Many members of the community and the utility company worry about how jobs and energy infrastructure will be replaced, with the possibility of financial aftershocks being created. Dominion aims to aid the community by agreeing to restore lost revenue to Carlton and the county in the short term by paying decreasing amounts each year until the decommissioning is finished.

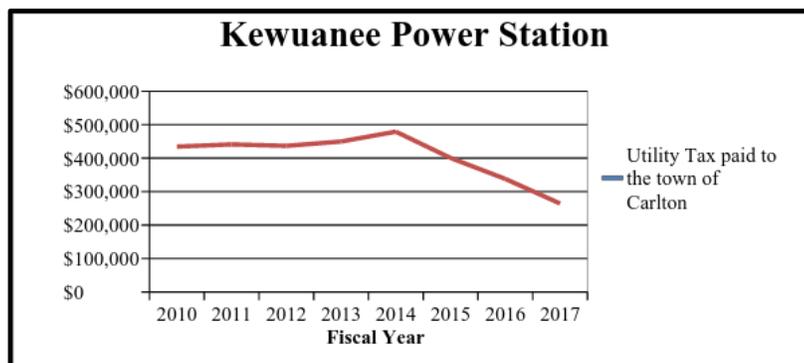
Quick Hits

- Utility company distributed on average \$750,000 annually to Kewaunee County and \$400,000 annually to Carlton
- 70% of Carlton's budget came from the power plant in 2012
- Jobs at the power plant were some of the highest paying in the county and are extremely difficult to replace
- For every 10 jobs in the nuclear industry in Kewaunee, there are an additional 7 jobs generated elsewhere in the local economy.
- The loss in utility taxes paid by Dominion Resources hurts Carlton's expenses for services such as road repair, snow removal, and emergency services.



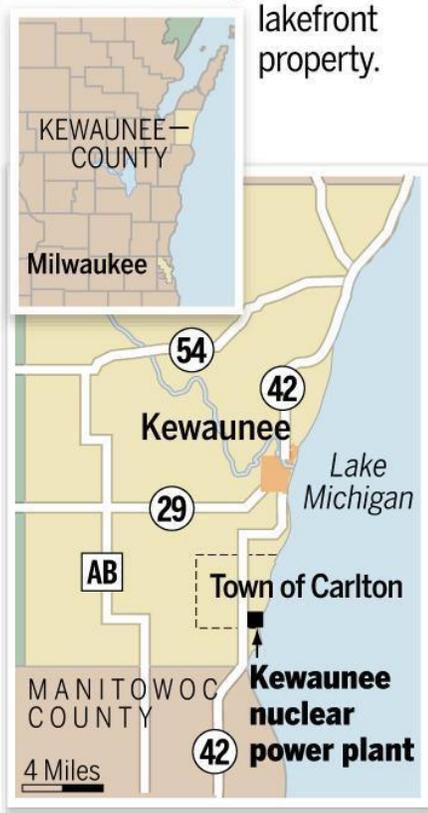
Five Year Plan

To help stabilize the economy in the town of Carlton, Dominion Resources chose to gradually decrease their contribution to the town over five years from 2014 to 2019, decreasing at 20% from the original amount annually.



Power play

Kewaunee County officials and Dominion Resources Inc., owner of the former nuclear power plant, are at odds over the value of the plant and its lakefront property.



Journal Sentinel

A dispute over property valuation in Carlton, Wisconsin

Despite the prospect of the closure of Kewaunee being a devastating blow to the local economy, the residents of Carlton have a much bigger problem. A problem that could affect a county of 20,000 by approximately half a billion dollars. The utility company in charge of Kewaunee, Dominion Resources, believes their defunct power plant is worth nothing and that they've paid as much as they should have. The town of Carlton sees the power plant and land worth \$250 million with an additional \$210 million worth of personal property of Dominion at the site. This difference of opinion has spiraled into a drawn out legal suit. Dominion seeks a refund for the "excessive" taxes it expects to be collected yearly. The result of the suit is entirely dependent on the town's valuation of the nuclear power plant. If Carlton should win the legal battle, taxpayers will reap the rewards of having a heavier wallet via tax relief. Should Dominion convince the courts that Kewaunee is now worth nothing, any tax relief would be reversed and the residents would experience drastic tax hikes. Ron Heuer, the chairman of the Kewaunee County Board states that the board is "working hard to find a path through this dilemma that is less painful than it currently appears to be." For the small town of Carlton and Kewaunee County, only time will tell how this suit plays out in the courts.

Crystal River Power Plant

In the small retiree community of Crystal River, the 2013 decision to close the economic powerhouse¹ was sudden. The announcement was made prematurely, following discoveries of tears in containment walls for hazardous materials, with repair costs estimated between \$1.5 and \$3.4 billion. The closure created a harsh economic shortfall, as the plant was the county's largest employer and was responsible for 25% of the tax base.² For the past few years, life has been depressing without CR-3, as school budgets are tightened, small businesses are suffering, and cutbacks are beginning to occur.³ To county administrator Brad Thorpe, "It changes everything. We're in a new era. It's a wake up call to everyone who wants quality of life."

Quick Facts



- Tax contribution goes from \$35m → \$13m
- Property taxes increased by 31%
- \$8 million has been carved from school budgets and municipal repairs
- Citrus County GDP dropped by 7.5% in 2014
- Multiple libraries and community centers have closed
- Duke Energy has opted not to create a community advisory panel based on their formal and informal research done on how the community would prefer to receive information

Figure 1: Crystal River 3

"When you thought of Crystal River, you thought of the nuclear plant. It's hard not to be depressed." – Andy Houstin, Crystal River City Manager



The Future of Crystal River

Following the closure of the power plant, many residents and lifelong employees of Crystal River were asking themselves the question, ‘what’s next?’ By the time the decommissioning is fully complete, 600 of these worried employees could be released from Duke Energy, potentially having to relocate their families. Fortunately, Duke has worked tirelessly to provide alternative options for these people. Already, 400 have been re-employed within Duke Energy, who services large areas in Florida, the Carolinas, and Indiana. This is in part due to the emphasis Duke placed on it’s employees during the beginning of decommissioning. According to Crystal River Communications Manager Heather Danenhower, “Our number 1 priority was safety and after the employees were taken care of, we focused 24/7 on meeting 1-on-1 with them to discuss clear preferences.”

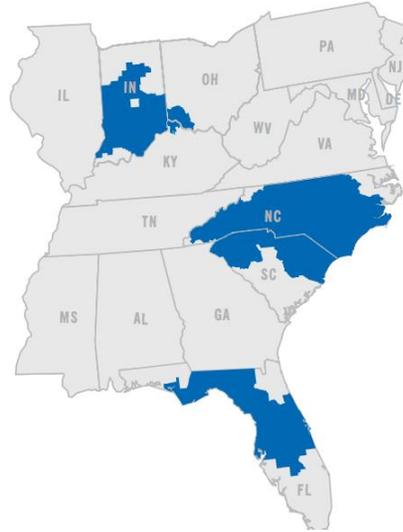


Figure 2: Serviced areas by Duke Energy

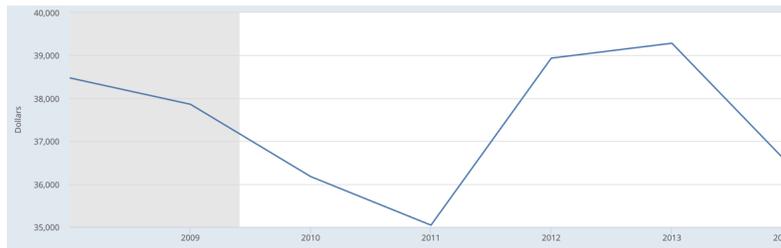


Figure 3: Median household income of Citrus County since 2008.

As seen in the graph above, the household income in Citrus County had been declining for years before the closure, and heavily decreased. Since the closure in 2013, the median had fallen by 10%, down to \$10000 below the Florida state average. Although Crystal River is primarily a retirement community in demographic, the declining income combined with the exit of “small armies of laborers that kept small businesses alive” has the potential to slowly ripple out and create serious issues.