

# BLUE VALLEY POWER PLANT REPURPOSING REPORT

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## Executive Summary

The City of Independence currently owns and operates a power plant known as the Blue Valley Municipal Power Generating Plant. The plant has three turbines, which have been operating for over 50 years. While the Blue Valley plant satisfies the Southwest Power Pool (SPP) capacity requirements, the City has determined that there are less expensive alternatives for satisfying the SPP capacity requirement.

In 2018, the City commissioned an extensive Energy Master Plan which was presented to and endorsed by both the Public Utilities Advisory Board and the City Council. This report recommended retiring the Blue Valley plant and replacing the plant's generating capacity with less expensive alternatives. Specifically, the Public Utilities Advisory Board and the City Council have both voted in favor of replacing Blue Valley's capacity with a power purchase agreement with Oneta. This agreement will take effect on June 1, 2020. The retirement of the plant will reduce production labor costs by approximately \$3.6 million annually.

The timely retirement of the Blue Valley plant can save the City significant monies on an annual basis and help provide more competitive utility rates. While many decisions are needed surrounding the retirement of the Blue Valley plant, this report focuses on the future reuse of the physical plant and associated assets. The idea of redeveloping former power plants is catching on nationally, as the new electrification economy develops. More than 300 plants have been shut down nationally since 2010, with more to come, leaving behind sites that can be repurposed in numerous ways to support local and regional economic diversification.

This report will provide options to consider by discussing the strengths, economic impact, and suitability for each option. The report is not intended to provide every option available, nor is it intended to provide every nuance of each option. Rather, the report serves to inform City leaders of general options and associated nuances with each option.

This report is made with the assumption that the City will formally elect to retire the Blue Valley plant and that the Southwest Power Pool will accept the City's plan to replace the generation capacity. At the time this report was issued, the City was still awaiting formal acceptance by the Southwest Power Pool, and a resolution had been introduced to the City Council to announce closure of the plant by June 2020. Included in that resolution is a directive to the City Manager to issue a Request for Proposals (RFP) for possible repurposing of the Blue Valley plant. Any deviation from these assumptions would in turn modify the report's conclusions.

## Current Site Status

The site is located in the northeastern portion of the city. The site is adjacent to the Little Blue Valley, which is a developing, strategic growth area for the City. At full buildout, the City envisions a diverse mix of residential, commercial, office, and industrial development. The surrounding area is lightly populated, but improvement in access to I-70 has driven some development in the area.

Menards, QuikTrip, and several casual dining companies are currently serving the area. The New Town Harmony housing development may be an anchor for future development in the area, and conversations are actively underway about a proposed business park. The Lake City Army Ammunition Plant sits nearby and employs over 2,000 individuals.

The site is serviced by Truman Road, Missouri Highway 78, and the nearby Little Blue Parkway. Recent conversations between the City and area developers has indicated that the distance to Interstate 70 will limit some repurposing options. There currently is no rail service to the site, but the right-of-way is still in existence; the City has the right to restore service. However, this may be a costly endeavor as there are three bridges that would need to be inspected before resuming rail service. Other issues may need to be identified and mitigated as well.

The Blue Valley site consist of both brownfield and greenfield sites. The grounds include the site of the former coal ash ponds. The City has expended significant financial resources to cap the ponds in compliance with State and Federal

regulations, and any development of this area will be difficult. Extensive environmental assessment will need to be undertaken for Blue Valley site given the utilization of the facility over its lifespan.

The Blue Valley Power Plant at 21500 E. Truman Road opened in 1958. In addition to the three steam turbines, generators, and related equipment, the all brick main structure houses the plant control room and Production Division personnel. The structures on site include two metal building utilized by Independence Power and Light (IPL) to house generator-maintenance equipment. The maintenance department supports both the Blue Valley Plant and remote combustion turbines.

The Blue Valley plant currently houses three generating ~~plants~~ units. The Blue Valley plant is currently generating electricity using natural gas as fuel. Blue Valley generating capacity is rated at 98 MW for all three units, but units 1 and 2 are currently out of service. The City has elected not to repair those units due to the cost of the repairs, which exceed \$100,000. Unit 3, however, is rated at 54 megawatts, which is enough to satisfy generation capacity required for participation in the Southwest Power Pool (SPP). As a member of SPP, the City purchases energy from the pool, and occasionally sells energy to the pool when called upon by SPP.

IPL has mitigated many environmental concerns, i.e., asbestos in many parts of the building. The building has access to five or six remotely located wells. The wells meet the needs of the BV Plant for generation and cooling. Water treatment equipment is housed in the building, and should meet the needs to produce 100 Megs of power. If the facility is closed, the abandoned wells will have to meet State and Federal regulations. The Blue Valley Plant still contains the abandoned coal handling equipment attached to the building. The conveyors and other equipment will likely need to be removed to repurpose the building.

The site area is utilized for many purposes and some may remain active on the site. For example, IPL utilizes the site for many functions, primarily associated with its Support Services Division. IPL also has an electrical hub for transmission and distribution onsite. The existing substation is a switching facility and connects

the City to the regional and national electrical grids. Relocating the substation would be very expensive and disruptive to electrical service.

## Review of City Goals and Objectives

Though the City Council has not as of this writing formally voted to close the Blue Valley plant, a resolution has been introduced and endorsed by the Public Utilities Advisory Board to close the plant by June 1, 2020. Furthermore, the resolution directs the City Manager to issue a Request for Proposals (RFP) for possible repurposing of the Blue Valley plant. The resolution does not provide any specific parameters or guidelines for future repurposing, but conversations with the City Manager and the Assistant City Manager for Public Utilities indicate the following general desires:

- The City would prefer not to expend any funds to repurpose the site
- The City would like to return the site to a revenue proposing area. Both sales and property tax contribution should be considered in an effort to benefit all taxing jurisdictions
- The City has no appetite to demolish the Blue Valley plant. A report from Segal Engineering in July 2015 regarding the Missouri City Power Plant indicated an estimated cost of over \$17 million to dismantle that facility. The City eventually expended nearly \$10 million in pursuit of that outcome. Inflationary costs would likely see that cost exceed previous expenditures. Moreover, the City feels there is value in the facilities and equipment.
- The City seeks to mitigate its exposure to environmental regulations, risk and restoration costs.

- The City seeks to limit financial participation. Any such participation, including economic incentives, would be subject to the adopted Economic Development Policy.
- The City will require any redevelopment project to be consistent with adopted plans and policies, including the City's Comprehensive Development Plan.

## Summary of Repurposing Options

Not all generation plant sites are candidates for redevelopment. Though it is not always possible to reuse a site, it is prudent to know reuse options early in the process to avoid costly mistakes. Clear vision for reuse is a must, as is identifying associated costs and risks. The repurposing options provided below are not intended to be comprehensive. Instead, this report seeks to identify repurposing options that satisfy as many of the City's goals as possible.

### ➤ **Abandonment**

While there may be a lower financial cost associated with this option, the risk here is obvious: An abandoned site becomes blighted and an attractive nuisance for crime and disorder. Since the City will continue to use a portion of the site for support services, the site needs to be maintained, and abandonment should not be considered.

### ➤ **Convert to a Different Kind of Energy Facility**

The adjacent substation and transmission lines suggest the site could be suitable for development as a new type of energy facility which would be much different than the existing plant. Among the possibilities would be an Energy Storage Facility. Batteries placed at the site could use the adjacent infrastructure and allow the City to engage in price-shaving, and/or increase the value of existing solar assets which are only intermittent sources of energy.

The site could also be converted to serve as the location for a large Reciprocating Engine to replace some of the aging combustion turbines located off-site.

There has also been considerable interest in recent years in Bio-Fuel and Waste-To-Energy facilities which convert agricultural waste or produce into Bio-Fuel either for distribution or as fuel for electric generation. Plant based plastics have also been developed using this and related technologies. Electrical infrastructure on site could be used to provide the energy needed for production or to distribute energy produced. Possibly the existing generation equipment could be converted for use in a facility of this kind.

➤ **Decommission, “Mothball” and maintain the site**

Decommissioning includes disconnecting high voltage lines, de-energizing equipment, cleanout and securing the units to render the site safe. This is the minimal level of effort required to retire the plant from service, but it carries the possibility of future environmental cleanup costs and other liabilities. Annual maintenance includes security walk downs, mowing, snow removal, and confirming proper site drainage. The July 2015 Missouri City Decommissioning Report produced by Sega Engineering contained an estimated cost of \$926,733 plus annual maintenance costs of \$34,200 for this option at Missouri City. A variation of this option would be to essentially mothball the plant, preserving its equipment for possible future activation. This would also preserve its status as a permitted energy generating facility. Permits of this kind are difficult and expensive to obtain, and there is potential value in a permitted site capable of activation.

➤ **Dismantle the site**

Dismantling is the orderly demolition of the units in a controlled and safe manner to retain the scrap value of reclaimed materials. It also includes remediation steps to eliminate future liability for environmental cleanup. In July 2015, a report produced by Sega Engineering to evaluate various alternatives for disposing of the Missouri City Power Plant projected a cost of \$17,186,022 to dismantle that site. The City pursued this option and expended nearly \$10 million. The City, as stated earlier, lacks desire to dismantle the site for a number

of reasons, not the least of which is the associated costs. The City currently has not, nor does it plan, to budget for the funds necessary to achieve this option.

Consideration of this option must evaluate all risks, environmental, small habitat, flood plain effects and all regulations involved from State and Federal Regulators.

This option clearly does not meet City goals of having a revenue-producing site.

### ➤ **Partial Demolition**

For this purpose, partial demolition is defined as removing facilities as needed for redevelopment. According to Mr. Martin Barker, Production Manager at Independence Power & Light, the maintenance facilities could be segregated to utilize space for other facilities and uses. Any proposal to include this option should have clarity of vision for the total site, and clear understanding of environmental cost, mitigation risk and who will pay these costs. While a possibility, this option seems to contain a multiplicity of unresolved issues and therefore ranks as a lower priority.

### ➤ **Solar Power**

The City has made substantial investments in the solar power arena. The Blue Valley Plant offers an area with both greenfield and brownfield sites that could potentially be utilized for a solar farm. In fact, preliminary conversations were had internally as recently as 2018 about adding a third community solar farm at the Blue Valley site. However, those plans were never fully pursued, and it is not recommend to do so at this time.

While the fact that the grid connections at the facility would be readily available and the additional generation capacity would be pluses, the cost to prepare the site and construct a solar farm far exceeds the benefit. The ash pond area cannot host a solar farm in its current condition. Moreover, the market for community solar may be saturated at this time, as evidenced by the fact the City and it's partner, MC Power, have not yet sold the remaining capacity at the Rockwood Solar Farm. Even excepting this fact, the general financial assessment raises



concerns about the viability of this option: as it takes approximately 5 acres of ground space to generate 1 megawatt of power, a solar farm at this site will likely not prove out financially.

### ➤ **Wind Energy**

There has been a proliferation of wind energy farms across the nation in recent years. In fact, the City has Power Purchase Agreements with two wind farms: Marshall Wind and Smoky Hills II. However, this site will not support wind generation. First, the construction of wind farm would likely create blight that conflicts with the City's planned growth and development in the Little Blue Valley. Second, these type of facilities require ground space housing for generation equipment that cannot be provided in a cost-effective manner at this site.

### ➤ **Industrial Development**

The Blue Valley Plant lends itself perfectly for use as an industrial site. The City, by concentrating on the right developer, can find a development partner to repurpose the site from power generation to an industrial use. Under this option, the City will be able to share, or avoid altogether, remediation costs at the site. The City will be able to share or be reimbursed for infrastructure improvements including rail, water, sewer, roads and assets.

An industrial user would meet the City's objective of revenue generation at the Blue Valley Plant by providing a customer to the electric, water, and wastewater utilities. An industrial user would also remit other applicable taxes and fees, the most noteworthy of which would be the City's 9.08% Payment in Lieu of Taxes, a revenue source which helps support General Fund operations.

Under this scenario, the ideal industrial partner may also absorb some of the inherent risks previously identified. For example, redevelopment by an industrial user may require the partial demolition of some facilities, a cost that would be avoided by the City in this case. Moreover, the City could seek to monetize any value from equipment sales, whether they be sold to the identified partner or

sold as surplus property. By limiting or avoiding remediation costs and placing an industrial customer on this site, the City should be able to meet its risk-reward goals. This option should be seriously pursued by issuing a Request for Proposals to solicit a redevelopment partner.

➤ **Warehousing**

This option is similar to the outcome of identifying an industrial use for the site. However, this option would contemplate simply using the existing facilities for warehouse storage rather than an active industrial/manufacturing site. The Blue Valley Plant structure housing the generation plants would be suitable for warehousing development. Road infrastructure to the facility may need to be improved, with the costs borne by the City or the developer. The height of ceiling in the building would be a plus, as modern warehousing requires the ability to stack products. The mezzanine level may be an issue for this type of development as removal may be required.

It has been previously stated in the report that the building space required by the City can be adequately walled off from other tenants to allow City use to continue, if needed. This type of use could be considered as part of a larger Request for Proposals as mentioned with the industrial reuse option.

➤ **Agricultural Use**

While the area is adjacent to parcels of the land that are currently zoned and utilized as agricultural, the Blue Valley Plant site does not provide enough acreage to make a large commercial agricultural venture profitable. In addition, the City would still be vulnerable to all environmental risks on the site. There is little utility to pursuing this option.

➤ **Educational Facility/ Museum/Recreational Center**

Many Municipalities have repurposed generation facilities into a combination of museums and educational centers. For example, the Seaholm Power Plant is a

historic former power station located in Austin, Texas. The facility and site were redeveloped into a mixed-use district after the plant closed. Alternatively, the historic Fort Collins (Colorado) Municipal Power Plant has been revitalized into the Powerhouse Energy Campus, a venture of the Colorado State University.

That said, the remote location of the site, combined with the City's current need to utilize part of the site for IPL/City use does not lend itself to this type of development. Combining these limitations cited with the fact that the City would likely assume some responsibility for remediation costs makes this type of repurposing economically unfeasible at this time.

#### ➤ **Retail**

With future growth anticipated in the nearby Little Blue Valley, initial thought could be given to redeveloping this site into a retail sales hub. That said, this site would be extremely expensive to repurpose as a retail center, and the rise in e-commerce has negated the demand for these types of uses. Moreover, access would need to be improved, and extremely costly remediation would need to be completed. The changing nature of retail sales, coupled with the high costs of remediation, negate this as a viable redevelopment option. Little to no energy should be expended in pursuit of this option.

#### ➤ **Housing**

Given the City's planned residential growth in the surrounding Little Blue Valley and the somewhat substantial amount of greenfield space available at the Blue Valley Plant, redevelopment for housing was briefly considered. Significant land disturbance, however, would be necessary to provide needed infrastructure to support a housing development project. Such a project would likely trigger a series of environmental remediation issues, both known and unknown, at the site and induce risk factors that the City should not take on. This is not seen as a viable option.

## Recommendations

As stated above, it is important for the City to have “clarity of vision” regarding the Blue Valley Plant site. Though no formal redevelopment guidelines have been adopted, City executives defined general goals and objectives for the repurposing of the site. The report utilized those goals, objectives and restrictions as a guide to developing recommendations.

This report recommends that the City issue a Request for Proposals to seek a developer to repurpose the Blue Valley Plant site. Doing so meets the general City objectives of minimizing financial exposure while seeking to return the site to a revenue-generating outcome. The RFP should be carefully constructed to clearly articulate project goals in order to achieve certainty of outcome. Moreover, the RFP should make clear that development proposals will be required to meet all City codes, economic development guidelines and meet future development goals for the area. The City will need to carefully consider what, if any, economic incentives or financial participation it is willing to invest in a redevelopment project. Collaboration between the City and the development partner at the site is essential. Environmental risks must be identified and responsibility for mitigation clearly defined.