

LIGHTNING ROUND

April 2020

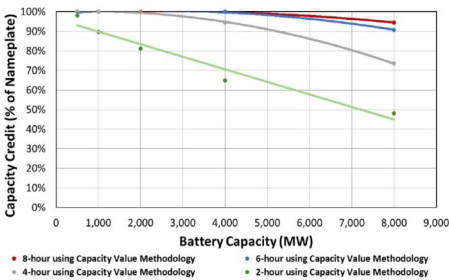
KPP Explores Battery Storage

KPP Partner, Kelson Energy, Presents to the Board

In this issue:

- KPP Explores Battery Storage
- KPP Receives 2019 Annual Audit
- KPP Conducts Cyber Security Webinar
- Distribution of Energy Resources
- KPP Launches COVID-19 Response Listserv

The April 16th meeting of the KPP Board of Directors featured lengthy discussions on the subject of battery storage. The initial presentation by Assistant General Manager, Larry Holloway, explained that for some time KPP Staff has discussed the potential for an ideal battery storage demonstration project. He noted that many industry participants are now showing interest in the technology from the standpoints of both microgrid and participation in the market. KPP Staff's intention has been to find such a project that can be offered into the SPP Integrated Market as well as provide a helpful resource solution within the KPP footprint.



As shown, the longest duration discharge (red) retains more than 90% of its capacity value than the shortest (green)

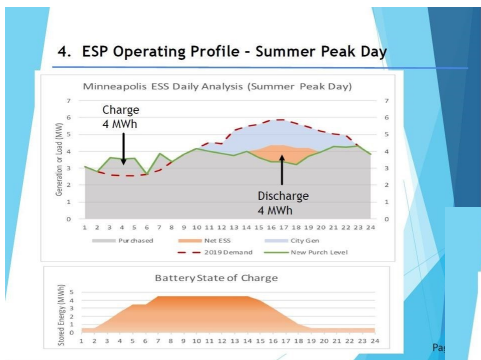
In his presentation, Larry noted substantial increases related to battery storage in the SPP generator interconnection queue. He reinforced predictions that even though an increased use of batteries may flatten future load curves, it can also be seen that each additional battery installation will likely have a lower capacity value. In fact, retaining reliability as the most urgent need in the SPP, each addition of an intermittent resource implies that its value incrementally is less than the previous installation. For that reason, appropriately sizing the discharge capability of an asset will be critical.

KPP Staff proposed to the Board the installation of a 4 mWh project to be located in Minneapolis. This would allow KPP to gain technology experience while offering a new resource into the Integrated Market. The location of a project in Minneapolis would address a critical problem resulting from the City's location at the end of a long 34.5 kV Westar transmission line. For years, Minneapolis has had to generate frequently in the summer to overcome the effects of voltage sag.

Noting KPP's long history of partnership in the Dogwood plant, Larry called upon Mike Chapman, of Kelson Energy, to provide a potential project management overview.

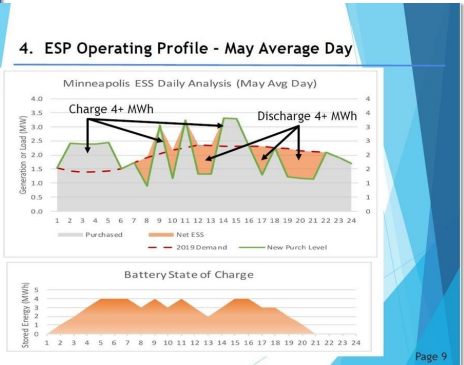
Chapman first addressed issues of optimal project sizing, lithium ion chemistry, project life of 25 years and predicted asset degradation. He followed with an analysis showing increasing price volatility in the SPP. A storage project will capture value during short term price spikes.

Using an illustration from a July 2019 day in Minneapolis, Chapman's presentation showed how the charging of the asset would occur off-peak during a low price period before discharging during a price spike. The result is a radically different energy purchase profile during the 24-hour period examined. Another, more active, example of a potential operational strategy is seen where actual market prices for energy moved up and down during a sample day in May of the same year in Minneapolis. After charging the asset in early morning hours, sales opportunities would be cap-



tured in both late morning and afternoon peak hours. Here again, the result is a new energy purchase level quite different than what would have been realized without the asset.

Not to be confused with peak shaving benefitting only the City, the resource would receive the same billing treatment as with any City's internal combustion engines pooled for the benefit of all KPP members.



Project payback projections were also discussed. Larry then wrapped up by referencing the belief that the Pool would have access to a streamlined generation interconnection queue for an installation of this type.

A next step to present to the Board for consideration is the possibility of a participation agreement with Kelson. Discussion on that is anticipated for the May Board meeting.

KPP Receives 2019 Annual Audit

BKD CPAs and Advisors Present “Clean” Audit

Auditors noted no adjustments required on reportable matters when presenting the 2019 KPP audit to the Board of Directors in April. Each April, KPP invites its auditing firm to present a comprehensive report to the KPP Board. That report becomes the basis of KPP’s Annual Report typically published and released in May.

After outlining the scope and audit results, James Gripka, of the independent auditing firm, BKD CPAs, summarized the financial condition of KPP. Review of operations included auditor reports on KPP’s contracts, resources, debt profile, budget process and value-added services among other discussion points. A detailed quantitative review of KPP financial statements and results were also part of the comprehensive report.

Taking care to reflect the detailed examination of KPP’s operations, James also explained the purpose and scope of KPP’s Emergency Stabilization Fund. He noted that withdrawals from the fund, which have never occurred, would be authorized by the Board on the basis of extraordinary circumstances for which regular, rate-making would be unable to address. Hearing the highlights of the KPP financial statements as presented, Board members voted unanimously to receive the audit report.



KPP Conducts Cyber Security Webinar

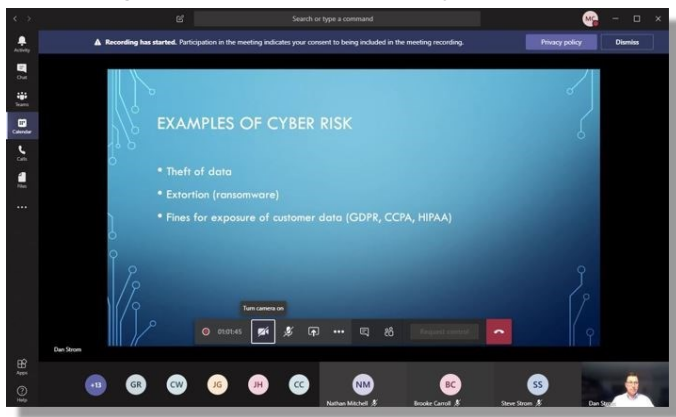
Microsoft Teams Platform Makes for Successful Event

After postponing from March 31st due to the COVID-19 onset, KPP Members finally gathered electronically on April 15th in the latest round of KPP cyber security workshops. Participants joined using the Microsoft Teams platform for electronic meetings.

This was the first “virtual” event for KPP’s cyber workgroup. The creation of the group grew out of the Cyber Academy launched in 2019. Reaching more cities virtually – 11 cities this time with 15-20 total participants – the event was recorded for subsequent access where several individuals have since sat in on the presentations.

Dan Strom, Senior Director of Technology with Kansas Farm Bureau, was the featured speaker. Cyber insurance was the central focus of his presentation. As many organizations and individuals have steadily deepened their understanding of the pervasive threats of cyber intrusions, the requirements of insurance have now emerged as a necessity in doing business. But having insurance, he stressed, does not take the place of utilizing best practices. The introduction of malware, ransomware or nefarious players cause problems in an entire communication chain.

Custom Internet’s, Steve Strom, also presented on both the benefits and cautions of working from home. Dovetailing to the cyber insurance topic, Steve also instructed on the topic of disaster recovery. Elaborating on the major elements, Steve differentiated between an incident response plan and a recovery plan.



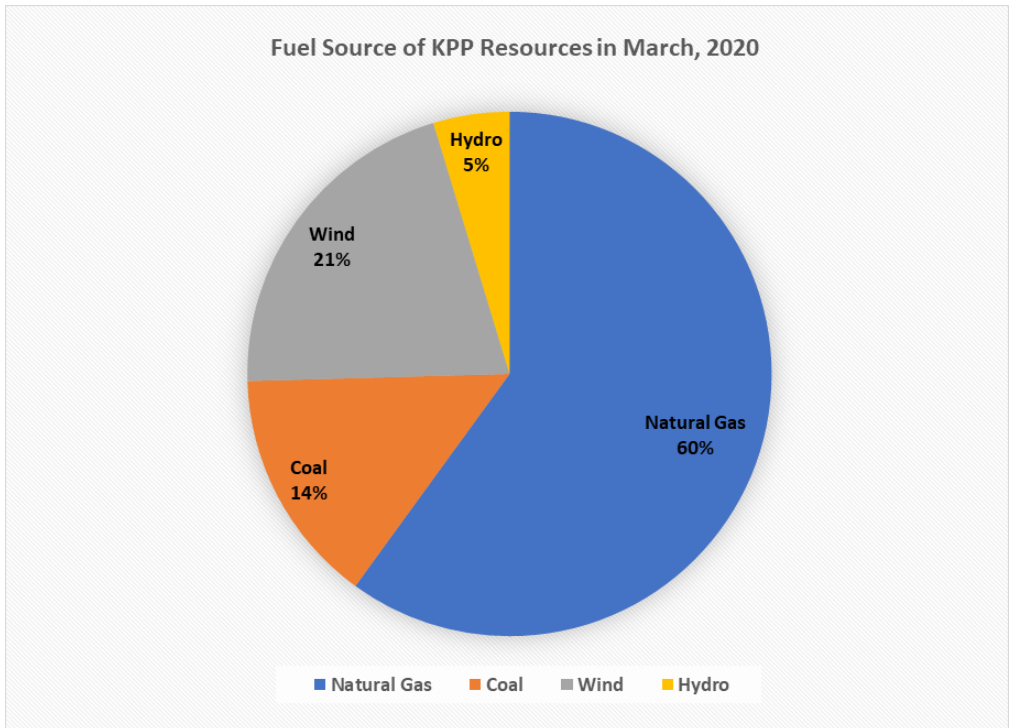
Nearly all KPP Members have become acquainted with Gavin Rose, also of Custom Internet Services and who serves as KPP’s Cyber Analyst. Gavin presented on cyber activity in the workplace. His presentation was an excellent encouragement toward achieving MIL 1 program status. Reminding that KPP can contribute toward a City’s success, his work has now involved 87% of the KPP membership. This statistic is important in showing support for a possible continuation of the APPA/DOE grant funding used to advance cyber security practices among KPP members.

The next scheduled quarterly cyber workshop is in June. More details are forthcoming.

KPP STAFF SAYS HI FROM HOME



March 2020 Distribution of Energy Resources

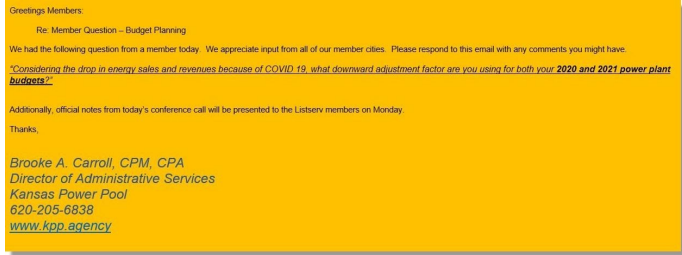


KPP Launches COVID-19 Response Listserv

Legislation, work practices and bill payment are focus of first two teleconferences

Marked with an easily identifiable “yellow” background, KPP launched a COVID-19 response listserv. For email use in posing Member-driven questions and answers, the listserv was also used in April to invite Members to two teleconferences. Most recently, the listserv was used to provide an exchange among Members for best work practices including the possible adjusting or altering of power plant budgets.

In the initial teleconference, KPP Staff provided updates on federal legislation and read questions posed concerning Cities’ intentions for response to non-payment of retail billings. More input on that subject was provided during the second teleconference conducted on April 17th.



Members were reminded that the American Public Power Association (APPA) continues to be a strong advocate on federal legislation in the hope of providing ample resources to small communities in managing the effects of this COVID-19 emergency. Also, APPA has worked hard to highlight the essential nature of electric workers.

The various Cities’ approaches to handling disconnect suspensions and non-payments have generated much interest. Current (pre-COVID) policies of allowing customers to re-pay one delinquent bill over three months is thought now to be inadequate. Hesitation to extend such re-payments to twelve months is also felt. Some Cities appear to be waiting for direction by the Governor but one KPP City has an active proposal before its governing body to allow for a six-month re-payment period following the signing of an agreement within fourteen days after the rescission of the State’s disconnect suspension Executive Order. It is expected that late fees and administration fees will also be waived.

To be sure your email is noted in KPP’s COVID-19 listserv database, contact Brooke Carroll at bc Carroll@kpp.agency.

