**GEORGIA POWER COMPANY**

**LEAD/LAG STUDY SUPPORTING**

**CASH WORKING CAPITAL**

**Overview**

A lead-lag study was performed to determine the Company’s estimated cash working capital requirement for the test period. For the purpose of this study, a “lag” is defined as the estimated time period between the rendering of electric service and the receipt of payment from customers for such service. Offsetting the “lag” is the period of time between which suppliers, employees, and others provide goods and services to the Company and the date the Company renders payment, which is defined as a “lead”.

For the test period, the lead and lag days were determined by a study which analyzed actual transactions for the twelve months ended June 30, 2018. Consideration was given to any changes in the Company’s payment policies or procedures which would affect operations during the test year.

The Company continues to calculate working capital applicable to municipal franchise fees separately from the rest of the Company’s cash working capital calculation. This separate treatment complies with the collection methodology Order in Docket No. 21112.

With the exception of the aforementioned items, there were no other significant unusual conditions or prospective changes identified. All other transactions that occurred during the study period are representative of the test period and no adjustments were made. The development of the lead-lag days is discussed in detail below.

**LAG DAYS**

**Operating Revenue Lag**

The Operating Revenue Lag was determined based on a weighted average calculation for Retail Revenue lag and Other Operating Revenue lag. Retail Revenue lag was determined by first measuring the average period of service. The Company reads its meters once a month on a cycle basis. Therefore, the average service period is 30.42 days (365 / 12). Since it is reasonable to assume that service is rendered evenly during this average service period, the midpoint of the period can be used as a proxy for the date that service was rendered. Thus, the average period of time from receipt of service until the meter is read is 15.21 days.

Second, the period from the meter reading date to the billing date was measured. This period averaged a lag of 0.40 days. This lag was calculated based on information obtained from the Company’s monthly meter reading and data processing schedules for each billing cycle.

Finally, the average lag from the billing date to the collection date was determined based on a calculation of the average revenue days in accounts receivable. This calculation indicates that this portion of the revenue lag is 19.09 days. Adding the three components together provides a lag day of 34.70 in the collection of revenues for services rendered to retail customers.

Other Operating Revenues represent revenues for services and charges billed to customers which are not specifically provided for in the retail revenue accounts. These revenues include rents received for the use of company facilities and equipment, account establishment charges, late payment fees and other revenues derived from electric operations. Other Operating Revenue lag was determined by calculating the days from the midpoint of the service period to the date the customer payment was received for the respective service accounts. A review of all Other Operating Revenue accounts was impractical due to the large volume of transactions. Instead, Other Operating Revenue accounts were analyzed that represented over 98% of total Other Operating Revenue. The overall weighted lag for Other Operating Revenue was 111.03 days. The overall weighted lag for Total Revenues (including Retail Revenues and Other Operating Revenues) is 37.08 days.

**LEAD DAYS**

**Fuels Other Than Nuclear**

This lead was measured by analyzing the major components of this expense (i.e., coal, oil, gas, freight, and fuel handling costs). Due to the volume of invoices during the study period, detailed tests for coal, oil, and freight were performed for a selected month to determine the average lead. The month selected was representative of normal levels of activity that the Company had experienced and anticipates experiencing in the future. In addition, a review was made of selected transactions from the other representative months during the year, which supported the reasonableness of the sample lead for these components. For gas and gas hedge gains and losses, the Company calculated the lead day for all the months due to the limited number of invoices.

The lead for coal was calculated from the shipment date (which is the date the Company takes ownership of the coal) to the date of payment to vendors. The lead for oil, gas, and freight was calculated from the date of receipt by the Company to the date of payment to the vendors. Since inventories are included in rate base, the lead calculation assumed that all fuel received was immediately consumed and ignored the period of time these items may have resided in inventories.

The lead days for gas hedges were calculated by the hedge month (which corresponds to the month the amounts were booked to fuel expenses) to the date payment was made or received.

The lead for fuel handling was determined by separating the costs for the study period by the source of the expense (i.e., labor and accounts payable). These costs were then weighted by the applicable lead for each source to determine the weighted average lead.

The Company pays the use tax on its fuel purchases directly to the State. Since the lead period for use tax is longer than for fuel invoices, an adjustment is factored into the fuel lead to reflect this fact. The total number of lead days applicable to fuel (other than nuclear) was determined to be 27.19 days.

**Nuclear Fuel Disposal Costs**

Ordinarily, the lead for nuclear fuel disposal cost of 72.5 days is based on the requirements of the Nuclear Waste Policy Act of 1982. The Act requires that the payment for the disposal of spent nuclear fuel be made by the last business day of the month following the end of the quarter. The lead was determined from the midpoint of the quarter until the payment date.

However, in 2014, the Commission ordered the Company to cease paying nuclear fuel disposal costs into the fund since the federal government had failed to complete a nuclear fuel disposal site (Yucca Mountain). Subsequent federal court orders called for the cessation of payments until such time as a disposal site could be named. Therefore, this section is not applicable to this study.

**Nuclear Decommissioning**

The lead for externally funded nuclear decommissioning expenses of 252 days was measured from the midpoint of the calendar year to March 9, 2018, the date the Company made the related contribution to the external fund, as ordered by the Commission.

**Purchased Power**

An analysis of all purchased power transactions by contracts was performed for the study period to determine the leads and lags pertaining to the purchase and sale of power. The leads on net purchases were measured from the midpoints of the service periods to the dates paid. Similarly, the lags on net sales of power by the Company were measured from the midpoints of the service periods to the receipt of payments. For the study period, this analysis resulted in a lead day of 32.63 for net affiliated purchased power transactions and a lead day of 35.20 for net non-affiliated purchased power transactions.

**Other Operating and Maintenance Expenses**

The different payment processing procedures for other operating and maintenance expenses were analyzed to determine the lead days for these expenses. Among the payment procedures analyzed were ordinary vendor payments, payments to Southern Company Services (SCS) and Southern Nuclear Operating Company (SNC), recurring payments, payroll, expense statements, procurement card purchases, employee pensions and benefit payments, bad debt expenses, and prepaid risk insurance and miscellaneous expenses. A weighted average calculation of the number of lead days was made using the number of days applicable to each payment procedure.

A review of all payments to vendors was impractical due to the large volume of transactions. Instead, a sample of vendor payments pertaining to other operating and maintenance expense accounts were selected from July 2017 - June 2018. Vendor invoices and supporting documents (i.e., payment vouchers and receiving reports) were analyzed. Based on our sample, it was concluded that the average lead for vendor payments during the study period was 11.74 days. In a manner similar to the calculation of the lead days for fuel purchases discussed earlier, the lead day for payments to vendors were adjusted for the longer lead days associated with use tax payments.

An analysis of all expense statements was performed for the study period. The overall weighted lead for expense statements was 7.38 days which was measured from the mid-point to the payroll date, since expense statements are reimbursed through the employee’s payroll check.

An analysis of all payments to SCS and SNC was performed for the study period. SCS defers 3.5% of its total billings and are paid by the Company as requested. Therefore, they were assigned a zero-lead day for those payments. Likewise, other post-retirement benefits and pension billings from SNC were also assigned a zero-lead day since they are deferred and paid by the Company when requested. The overall weighted lead for SCS and SNC billings was 9.97 days which was measured from the invoice date to the payment date.

An analysis of recurring payments on other operations and maintenance expenses was performed for the study period. Recurring payments were analyzed from vendors pertaining to retainers, rent and various other payments, which were grouped based on monthly, quarterly, or annual recurring payments. The overall weighted days for recurring payments was a lag of 18.39 days since these payments are made prior to the service period.

An analysis of Integrated Transmission System (ITS) parity payments was performed for the study period. On a monthly basis, the Company either receives or makes a payment from or to other ITS participants based on their parity positions. The overall weighted lead for parity payments was 56.22 days which was measured from the mid-point of each month to payment date.

The lead day for payroll was determined from the midpoint of the biweekly pay period, and in the case of payments under the Performance Pay Plan, from the midpoint of the calendar year, until the employee was paid. Also factored in the overall payroll lead days are leads for the various employee withholdings. The Company has use of these withholdings until they are paid, and therefore, the withholdings are used to reduce working capital. The lead days for withholdings followed the calculation of lead days for payroll. The overall weighted average lead of all components of gross payroll was 50.50 days.

An analysis of all procurement card payments was performed for the study period. The overall weighted lead day for procurement card payments was 29.59 which was measured from the invoice date to the payment date.

An analysis of pension and benefits was performed for the study period. Qualified pension payments are made out of a separate trust, and therefore, no payments are made directly from the Company to the employees. Nonqualified pension plans pay against the accrued liability and are paid as recorded. Therefore, the lead days are assigned zero for pension expenses. Insurance payments lead was 8.23 days which was measured from the invoice date to the payment date. Severance expense was not considered in the study as the Company does not budget for severances. The employee savings plan benefit is provided to the employees when they are paid. Therefore, it was assigned the same lead day as payroll of 14 days. Other items in the benefit category are related to benefits such as service awards, educational assistance, subscriptions, etc., which are expensed as paid. Therefore, it was assigned a lead day of zero. The overall weighted lead day for pension and benefits was 16.44 days.

The total expense for other operating and maintenance expenses also included expenses for uncollectible accounts and risk insurance and miscellaneous expenses. The uncollectible accounts represent revenues never received and therefore, do not have a finite receipt date of payments needed to calculate lead/lag days. The risk insurance and miscellaneous expenses represent amortization of prepayments by the Company, which is included in rate base. Therefore, these expenses were assigned a zero lead day for this study.

The overall 21.70-day lead for other operating and maintenance expenses represents a weighted average of the leads measured for each payment procedure.

**Taxes Other Than Income Taxes**

Separate analyses were performed to determine the lead days for ad valorem taxes, payroll taxes, federal and state unemployment taxes, and other miscellaneous taxes other than income taxes. The lead days were computed from the midpoint of the tax year to the payment dates of the taxes, except payroll taxes. The lead days for payroll taxes followed the calculation of lead days for payroll. The overall weighted average lead was 165.52 days. As discussed previously, municipal franchise fees are not included in this calculation.

**Current Income Taxes**

The lead for both Federal and State income taxes of 38 days was based on the statutory requirements of the Internal Revenue Code and the State of Georgia Revenue Code. The requirements call for estimated tax payments of 25% of total taxes on April 15, June 15, September 15, and December 15 of the current year.

**Adjustment for Average Sales and Energy Excise Tax Collections**

The Company collects and remits to the State of Georgia the sales and energy excise tax included in customer billings. On average, the Company remits sales tax 27.73 days and energy excise tax 35.39 days after the mid-point of the service period. Since it takes the Company 19.09 days to the collect the sales and energy excise tax from customers, there is a net lead day adjustment.

**Interest Expense on Long Term Debt**

Interest on Senior Notes are paid by the Company either monthly, quarterly, or semi-annually. Interest on Bank Notes are paid in the middle of the month. Interest on variable rate Pollution Control Bonds (PCBs) are paid by the Company based on the type of auction (7-day, 28-day, 35-day, quarterly, etc.) and interest on fixed rate PCBs are paid semi-annually at the end of the period. Interest on DOE loans are paid quarterly in the middle of the month, and interest on Junior Subordinated Notes are paid quarterly on the first of the month. The overall weighted average lead days for these issuances were 79.44 days.

**Preferred and Preference Dividends**

Prior to 2017, the Company paid dividends quarterly; therefore, the lead for Preferred and Preference Dividends was 45 days. During 2017, the Company redeemed all preferred and preference stock and no longer distributed any preferred and preference dividends. Therefore, this section is not applicable to this study.

**GEORGIA POWER COMPANY**

**CASH WORKING CAPITAL**

**SUMMARY OF LEAD/(LAG) DAYS**

Operating Revenue (37.08)

Fuels Other Than Nuclear 27.19

Nuclear Decommissioning 252

Purchased Power

Affiliate PPAs – (Net) 32.63

Non-Affiliate PPAs – (Net) 35.20

Other Operating and Maintenance Expenses 21.07

Taxes Other Than Income Taxes 165.52

Federal Income Taxes 38

State Income Taxes 38

Interest Expense – Long-Term Debt 79.44

Adjustment for Average Sales Tax Collections 8.64

Adjustment for Average Excise Tax Collections 16.30