



# RIVERSIDE PUBLIC UTILITIES

## Board Memorandum

**BOARD OF PUBLIC UTILITIES**

**DATE: January 25, 2021**

**SUBJECT: EXPENDITURE WITH GE PACKAGED POWER, LLC OF HOUSTON, TEXAS FOR ETHERNET SWITCHES IN THE AMOUNT OF \$270,151**

**ISSUE:**

Consider approval of the expenditure with GE Packaged Power, LLC of Houston, Texas for ethernet switches in the amount of \$270,151.

**RECOMMENDATION:**

That the Board of Public Utilities approve the expenditure with GE Packaged Power, LLC of Houston, Texas for ethernet switches in the amount of \$270,151.

**BACKGROUND:**

The Riverside Energy Resource Center (RERC) is comprised of four fast start gas turbine generators that were manufactured by GE Packaged Power, LLC (GE). The facility produces a maximum output of 195 megawatts of electricity in less than ten minutes and serves a critical role in meeting customer energy demands.

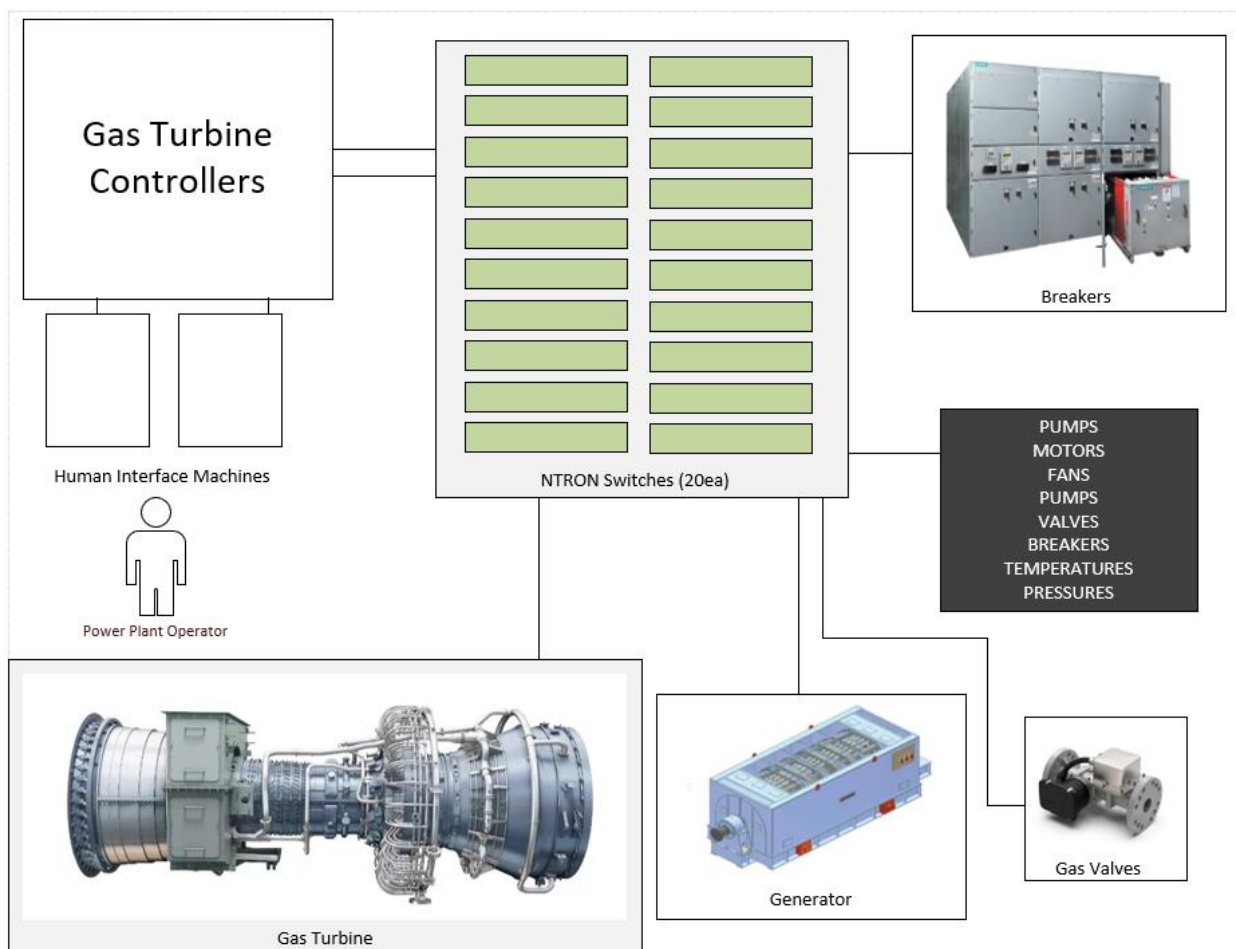
Integral to the plant's design are numerous control systems and electronic components. These complex systems and components process specific commands given from the operator to control devices essential for power plant operations. During any undesired conditions, the control systems prohibit plant operations until the specific issue is addressed.

Ethernet switches (NTRON) are commonly used in GE's control systems at RERC. Each unit at RERC incorporates 20 ethernet switches for a total of 80 switches used throughout the four units. Over the last six years, staff experienced frequent failures with NTRON switches. These issues are inherent to the design of GE's system and not isolated to just the equipment at RERC. Failure of these switches usually results in an unplanned shutdown or an outage at one or more of the generation units. Identifying the faulty NTRON switch is an extensive, time consuming process and can take a several days to resolve.

A recent NTRON related outage on RERC Unit No. 2 resulted in an expenditure of \$20,000 for GE's technical assistance and an unplanned outage that lasted 8 days. During this event, staff revisited the NTRON switch issue with GE and identified a more sustainable solution. GE recently released a more reliable switch design that addresses the common failures of existing NTRON

switch. These switches are already installed in other GE generation units and achieving favorable results.

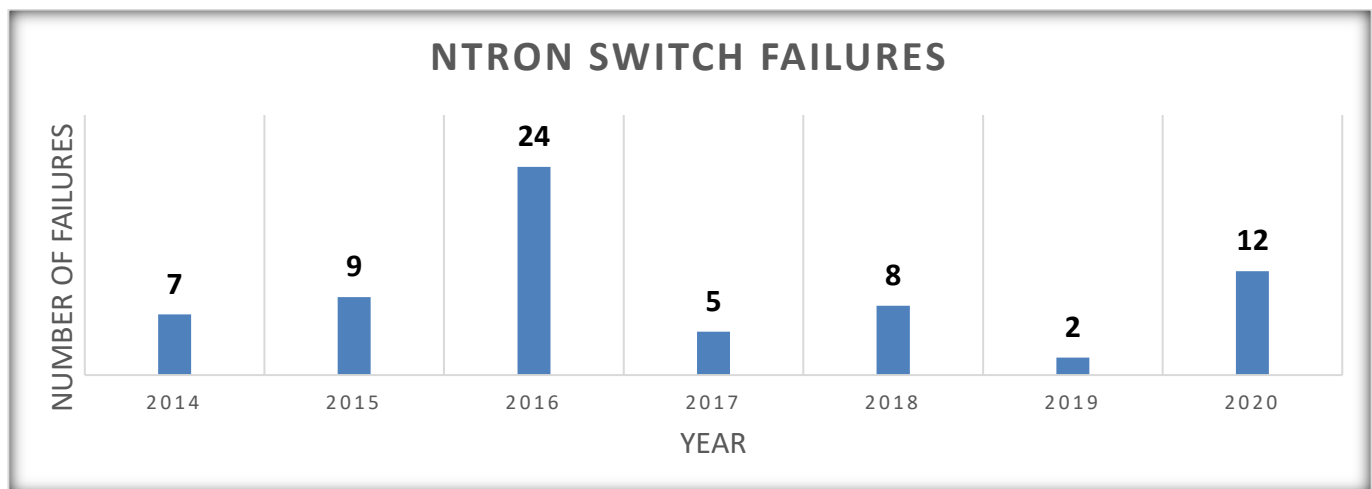
Based on the current trend of NTRON failures and the availability of better switch, staff recommends replacing all the existing ethernet NTRON switches at RERC. Staff will install the new switches during scheduled outages.



**Figure 1** Function layout of NTRON switches



**Figure 2** Existing NTRON Switch with internal view



**Figure 3 Chart of NTRON switch failures at RERC**

### **DISCUSSION:**

The City's Purchasing Resolution No. 23256 offers the option to conduct informal procurement. Under Section 404. Utilities Exception, the Water, Electric and Sewer Utilities have a need for compatibility within their respective systems for uniform operation, maintenance and replacement, and this need can be met by procuring certain supplies, equipment, and materials supplies through Informal Procurement or Negotiated Procurement.

The NTRON ethernet switches are considered to be specialized components necessary for compatibility at the RERC generation units. As such, this equipment purchase met the requirements for an informal procurement process under the Purchasing Resolution. Staff conducted the informal procurement by contacting and requesting bids from six credible companies and received six quotes for the replacement NTRON ethernet switches as follows:

### **Summary of Quotes (sorted lowest to highest):**

| Company                 | Location           | Quotation    |
|-------------------------|--------------------|--------------|
| GE Packaged Power       | Houston, TX        | \$270,151.30 |
| Starfish PPS            | Tyler, TX          | \$288,831.13 |
| GTC Control Systems     | Hawthorne, NY      | \$294,104.58 |
| IC Spares               | Los Angeles, CA    | \$301,700.60 |
| Maximum Turbine Support | San Bernardino, CA | \$337,299.96 |
| Insight                 | Tempe, AZ          | \$414,342.65 |

All companies provided pricing for the same NTRON ethernet switches. Staff recommends the lowest bidder, GE Packaged Power.

The Purchasing Manager concurs that the recommended actions comply with Purchasing Resolution No. 23256.

### **FISCAL IMPACT:**

The total fiscal impact for the ethernet switches is \$270,151. Sufficient funds are available in the

RERC Maintenance-Generating Plants Account No. 6120130-424131.

Prepared by: Daniel E. Garcia, Utilities Deputy General Manager/Power Resources  
Approved by: Todd M. Corbin, Utilities General Manager  
Approved by: Al Zelinka, FAICP, City Manager  
Approved as to form: Kristi Smith, Interim City Attorney

Certifies availability of funds: Edward Enriquez, Chief Financial Officer/City Treasurer

Attachments:

1. GE quotation for upgraded switches
2. Presentation