UTRS®
THINKING FORWARD

TRANSIT&CATHODIC PROTECTION

ENGINEERING & INSTALLATION

With security and the need for reliable, fully operational servers critical to their business, technology firms prudently protect their data servers from malware, hacks, viruses, and breaches; however, they often overlook the threat of catastrophic failure. These large data servers require substantial cooling systems to prevent systemwide failure due to heat generation, and failure of the cooling system piping may render entire data servers inoperable. Buried cooler lines are subject to corrosion. Piping failure frequently takes the cooling system offline until repairs can be made, until the next leak occurs on the already damaged piping. UTRS has assisted with this situation firsthand. A leading technology firm discovered extensive corrosion damage on the existing 24" buried chiller lines that cooled a 5.6-megawatt data center. Failure of the chiller line for more than 15-20 minutes would require shutting down the data center, which would affect the company's stock prices worldwide. To allow emergency replacement of the existing 24" line, temporary truck-mounted cooling towers and rubber chiller lines were utilized at a rental cost of $100,000 per month. The cost of the emergency design-build to replace the 24" chiller lines was over $2 million. Both of these situations could have been averted.

UTRS's NACE Certified Cathodic Protection Specialist, Maurice DeLisle, was requested to review the design-build replacement project midstream for corrosion control considerations. Corrosion of metal structures is 100% preventable. UTRS subsequently designed a galvanic cathodic protection system for the exterior of the buried steel 24" chiller lines under the limitations of the accelerated project parameters. A properly designed and maintained corrosion control system extends the life of buried and submerged infrastructure indefinitely. The new system is now installed and verified as providing protection in accordance with NACE (formerly the National Association of Corrosion Engineers) International SP0169, Control of External Corrosion on Underground or Submerged Metallic Piping Systems. The technology firm is now secure in knowing the threat of failure due to corroding piping will not disable the core infrastructure of its business. Future chiller lines will include cathodic protection in the design stage. Existing systems may also be protected through retrofit designs; however, once metal is lost due to corrosion, it cannot be restored. Further deterioration will cease with a properly designed, installed, and maintained system. UTRS personnel commissioned the cathodic protection system, thereby providing the technology firm with peace of mind as well as preventing companywide economic hardships.

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