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CYSE 200T

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Write up: SCADA and Critical Infrastructure

What is SCADA?

SCADA, or Supervisory Control and Data Acquisition, is “an industrial control system (ICS) that monitors and controls infrastructure processes”. (*What Is SCADA And SCADA System? 2025*). It’s used to control large industrial systems and infrastructure processes such as the oil, traffic, and gas industry by processing large amounts of data and controlling systems from a remote location for convenience. Without SCADA, we would need to have people physically present in designated locations at all times, which would be highly impractical in practice. It would be impossible to gather data from each location and make decisions in a timely manner should an issue arise, and even hazardous for workers to be physically present in certain locations. If a pipe bursts or a fire starts, this could potentially put the workers lives at risk.

Traffic Systems

Elaborating further on one of our most important critical infrastructure, we’re able to monitor multiple traffic stops and remotely control them to avoid collisions. There isn’t a practical way to monitor and control every single traffic light manually, so having a host system controlling and monitoring the process makes it more convenient and safe for everyone.

Conclusion

SCADA works best for critical infrastructures because of its ease of access to multiple locations at once. Critical infrastructure is best described as systems or networks that are essential to a country, that disruption or destruction of these systems could have catastrophic effects on the functioning of a society. (*“Critical Infrastructure Sectors. 2025.”*) SCADA provides an easy way to access data quickly and maintain control of multiple systems from a single location.

References

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