AUDITOR GENERAL
Halifax Regional Municipality

HRM IT: Management of Cybersecurity Audit – Public

August 16, 2023

Audit Overview

- Lack of appropriate oversight to manage cybersecurity risks
  - Identifies cybersecurity risks
  - But limited policies and processes to document and manage

- Need to develop policies that cover cybersecurity risk areas

- Physical access to network infrastructure
  - Not appropriately limited or monitored

Oversight

- Strategic plan includes cybersecurity practice review and security risk management governance
  - Plans lacking

- Cybersecurity roadmap prepared based on internal controls assessment
  - No detailed plans and timelines
  - Need to assess resource requirements

- Management expressed resourcing concerns
  - Has not assessed needs
  - Or requested additional resources

- Briefed Regional Council on cybersecurity in 2022 and 2023
  - Nothing to indicate resource concerns

Oversight

- Cybersecurity risk register
  - Not adequate
  - One risk evaluated
  - Three issues identified
  - No timelines for completion
- Some cybersecurity risks identified but not captured centrally
- No exercise to identify organization's critical systems

Oversight

- Security assessments in 2018, 2022, and 2023
  - By external consultants
  - Need to monitor recommendations to ensure concerns addressed

- Some cybersecurity risk area policies and procedures
  - Improvements needed

Physical Access

- Datacentres have physical access and environmental controls
  - Protect critical infrastructure
  - Emergency power supplies

Physical Access

- Lack policies to manage physical access

- No documented procedures for visitor access

- Swipe card access
  - Some employees had access who did not require it for their jobs
  - Management removed during audit

- Physical keys
  - 12 keys assigned to IT staff
    - Management said keys were returned when swipe card access was introduced
    - But thrown out
    - We recommended locks be changed immediately
      - Management told us this was completed

Network Access

- No documented access management policy

System Protection

- Process to manage changes to IT assets
- Reviewed sample of 60 change management tickets
  - Changes mostly documented
  - Approved as required

System Protection

- Patch management
  - Needs to improve documentation
- No list of approved software

System Protection

- Cybersecurity awareness training
    - Organization-wide program rolled out October 2022
    - Completion rates need improvement
    - Including among elected officials

System Availability

- Improvements needed to ensure HRM's network remains available

- Some documented procedures for restoring from backup
  - Improvements needed

- Does not have an accurate inventory of IT assets

- Server inventory not up-to-date

- Network device inventory not complete

- Computer inventory not accurate
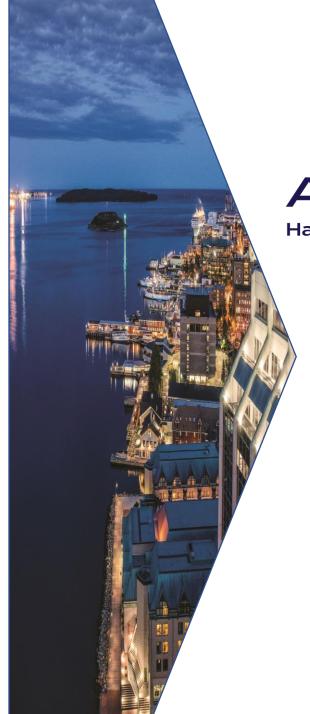 - 451 computers are noted as missing on IT's list

Wrap Up

16 Recommendations

All accepted by management

HRM IT to implement recommendations

Follow up in 18 months

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Questions?