# **Guarding Our Critical Infrastructure**

Prepared for the Whole of State Critical Infrastructure Sub – Committee meeting



#### UNCLASSIFIED – FOR OFFICIAL USE ONLY

#### **CRITICAL INFRASTRUCTURE PROBLEM & APPROACH**



## Kevin Klein – Director Colorado Division of Homeland Security

## Col Thomas Banker - Director of Military Support (CO National Guard)



# Situational Awareness



#### **CI Prompt:**

With the Russian invasion of Ukraine and their subsequent attacks on Ukrainian Critical Infrastructure multiple agencies reached out in February, 2022, requesting an update on state critical infrastructure, and resources templated to provide security for it.

A meeting between CONG, DHSEM, CISA, and the CIAC identified significant gaps in Critical Infrastructure awareness and response plans that led to an initial working group.

## Describing Our Problem

## **Current State:**

- Lack of shared understanding of what is CI
- FSLT maintain multiple discrete systems for tracking CI
- Lack of easily accessible, consolidated list enabling FSLT to secure CI
- Lack of Whole of State method of tying incidents to nearby Critical Infrastructure
- Lack of shared understanding of Response Plans across public and private agencies

## **Problem Statement**

The State of Colorado does not possess a comprehensive (Federal, State, Local, Tribal) Critical Infrastructure protection plan that effectively identifies systems and assets, whether physical or virtual, to support cohesive interagency efforts toward programmatic strategy, resource allocation, nor informed emergency response.

Absent a comprehensive plan, FSLT CI protection programs are fragmented; scarce grants and security resources are allocated without the benefit of understanding dependencies and supply chain impacts; and criticality and significance of critical systems and assets



#### **Desired State:**

An enduring <u>Whole of State</u> <u>Critical Infrastructure</u> <u>Protection Plan</u> that establishes a comprehensive database of both public and private infrastructure which is critical to the physical and economic security of Colorado; identifies the ways and means to protect critical infrastructure from disasters; and codifies the plan in a funded statewide program.

## Critical Infrastructure Working Group Glidepath



\* Coordination across all stakeholders is anticipated to require a monthly meeting to maintain progress, assessments during establishment and existing products may reduce this requirement.

## Core Group and Partnerships



## Academia Practitioner Partnership

Systems Theory: Understanding how different components of a system interact and affect the whole scheme





# Representation of adaptation and interdependent failure



Fig. 1. An example of cascading failure in interdependent simplified infrastructure networks using a percolation theory approach

Fig. 3. An example of cascading failure in interdependent networks using our developed hierarchical theory approach



WALTER SCOTT, JR. COLLEGE OF ENGINEERING COLORADO STATE UNIVERSITY Dunn, Sarah, and Matthew Holmes. "Development of a hierarchical approach to analyse interdependent infrastructure system failures." Reliability Engineering & System Safety 191 (2019): 106530



# **Questions?**

Prepared for the Whole of State Critical Infrastructure Sub – Committee meeting



#### UNCLASSIFIED – FOR OFFICIAL USE ONLY

#### **CRITICAL INFRASTRUCTURE PROBLEM & APPROACH**