

Working for Systems Engineering & Integration

SE&I is looking to hire both recent graduates and dedicated professionals who take a big-picture view of things while at the same time enjoy digging into the details. If you have training in systems, communications, or network engineering; if you have a background in data science, digital modeling, or cybersecurity; or if you have prior work or military experience with NC3-related systems, then SE&I might be the right place for you. Feel free to contact us to start a conversation about a possible career with SE&I.



SE&I Contact Information

Rebecca Tocknell
301-225-1415
rebecca.m.tocknell.civ@mail.mil

Zulmarie Rayford
301-225-2156
zulmarie.rayford.civ@mail.mil

Yosira Jamison
301-225-7943
yosira.jamison.civ@mail.mil

"We apply systems engineering best practices, while remaining agile as we translate mission and operational requirements into technical specifications and solutions."

Systems Engineering &
Integration

Nuclear Command Control
& Communication
Enterprise Center (NEC)

What does SE&I do?

The Systems Engineering & Integration (SE&I) Division of the Nuclear Command, Control, and Communications Enterprise Center (NEC) within U.S. Strategic Command is responsible for ensuring the proper functioning of our nation's most important communications networks in the most extreme moments of national crisis.

Based in the National Capital Region, SE&I is charged with designing and maintaining the communications system architecture that connects the president with senior military and government leaders in times of national emergency. SE&I's objective is to ensure that this critical communications infrastructure is able to function effectively in the face of conventional, nuclear, and space-based attacks as well as cyberattacks.

The purpose of SE&I is to ensure reliable and resilient nuclear command, control, and communications (NC3) in support of nuclear deterrence. SE&I is pursuing this goal by prioritizing the use of cutting-edge technology and methodologies in the areas of digital engineering, data and analytics, mission engineering, and cyber resiliency.

DETERRENCE

The U.S. Government views nuclear deterrence as "the highest priority of the United States."ⁱ As the systems engineer responsible for U.S. NC3 infrastructure, SE&I plays a critical role in enabling the U.S. policy of nuclear deterrence, which seeks to convince potential adversaries that "aggression against the United States, allies, and partners will fail and result in intolerable costs for them."ⁱⁱ The 2018 Nuclear Posture Review states that the NC3 architecture, which SE&I is responsible for designing, is "essential for deterrence and enables a response if deterrence fails."

DIGITAL ENGINEERING

SE&I has been chosen to lead NEC's digital engineering initiatives. SE&I's digital engineering efforts focus on the use of model-based systems engineering (MBSE) tools and methodologies, including the creation of a digital engineering environment. MBSE is an emerging discipline that is revolutionizing the field of systems engineering, and SE&I is leveraging MBSE to accelerate and improve the systems design process.

DATA & ANALYTICS

SE&I seeks to implement cutting-edge data analysis tools to support NC3. From the field of artificial intelligence, SE&I is using tools such as machine learning and natural language processing to automate the processing and analysis of both structured and unstructured data. SE&I is also working with the larger NC3 community to develop an NC3 ontology, taxonomy, and lexicon.

MISSION ENGINEERING

In order to optimize planning, analysis, organization, and integration, SE&I employs mission engineering tools and methodologies across its portfolio. Mission engineering aims to assess the effectiveness of new and existing processes as well as to provide strategies for sustainment. One of the essential roles that mission engineering plays in SE&I is identifying and analyzing potential capability gaps.

CYBER RESILIENCE

SE&I is responsible for identifying the potential risks of cyberattacks to the U.S. nuclear mission and for creating cybersecurity requirements and standards for the NC3 Enterprise. SE&I works with other U.S. Government agencies to ensure that the NC3 infrastructure is hardened against such attacks.

