SCST 3383 Module 1 Introduction
Critical Infrastructure & Energy Sector Overview

[Graphic] Module 1 Introduction

[B-Roll of electric power plants, substations, power lines, oil & gas, wind & solar]

Script: Welcome to Module 1 of the course in Energy Security. This module will cover U.S. critical infrastructure protection, homeland security policy, the government agencies that are entrusted to protect our vital infrastructure, and the energy specific plans designed to guide security professionals charged with the protection of our nation's vital energy assets.

We will set the foundation for a better understanding of the technologies and terminology used in the energy sector. From SCADA and other industrial control systems to electric substation components, we will explore the basics to create a knowledge base for the rest of the course.

This module will examine the differences between energy security in a geopolitical framework and energy security as the protection of infrastructure.

[B-roll and/or still photos of OPEC, middle east oil images, Russia, China, grid controls rooms, oil derricks, and electric substations]

Script: In part one of the module, we will analyze the National Infrastructure Protection Plan and the Energy Sector-Specific Plan. These two documents represent the foundation of America's approach to protecting our energy infrastructure and its citizens from the results of damage to our energy systems. We'll investigate the history of these documents, the evolution of critical infrastrure protection policy, and the presidential directives that define its genesis.

[B-roll and/or still photos of the NIPP, homeland security images, Presidents Obama, Bush & Clinton, terrorism, natural disasters, and government agency logos]

Script: In part two of the module, we will explore the world of industrial control systems. The technologies and terminology that form the foundation of energy infrastructure are discussed in some detail. As energy security professionals, we cannot protect systems we don't understand. This module will establish a foundation of knowledge that will be critical for a better understanding of energy infrastructure and the remainder of this course. Part two will include concepts like Supervisory Control and Data Acquisition—SCADA systems (pronounced "skayduh"), industrial controls, operational technology vs. information technology, and electric substation operations.

This part of the module will examine the National Institute of Standards and Technology (NIST) standards, computer networks, and industrial components that control pipelines, electric circuits, and substations.

[B-roll and/or still photos of the computer networks and sever, grid control centers, industrial equipment, pipeline facilities, and electric substations]

Script: Part three of the module contrasts the infrastructure protection and the geopolitical views of energy security. The geopolitical view focuses on the availability, affordability, accessibility, and acceptability of energy resources; this is the global perspective. The infrastructure protection view is more domestically focused on deterring attacks, defending and protecting infrastructure, detecting intrusions and cyberattacks, analyzing potential threats, mitigating consequences, and rapid recovery from attacks or natural disasters.

This part of the module explores a working definition of energy security that is synthesized from the literature and balanced in tone.

The module concludes with a collection of examples of global energy producers vs. energy consumers and the economic implications of these differences. This includes geopolitical conflict related to competition over energy resources.

[B-roll and/or still photos of the Russian – Ukraine conflict, pipeline facilities, China energy crisis, middle eastern oil footage, coal mines & production, oil & gas tankers]

Script: Module one sets the stage for the rest of the course by creating a working knowledge of critical infrastructure policy, energy security, industrial systems, and an understanding of the geopolitical implications of energy.