## **ATTACHMENT A-1 – NETL INTRODUCTION**

**INTRODUCTION TO THE**

**NATIONAL ENERGY TECHNOLOGY LABORATORY**

**Overview**

The National Energy Technology Laboratory (NETL) is a U.S. Department of Energy (DOE) national laboratory owned and operated by DOE’s Office of Fossil Energy. The laboratory’s mission is to discover, integrate, and mature technology solutions to enhance the nation’s energy foundation and protect the environment for future generations. All of NETL’s activities support the DOE mission to promote the national, economic, and energy security of the United States.

NETL is the only national laboratory that is both owned and operated by DOE. The innovations NETL and its research partners develop address a range of fossil energy challenges, including—

* Carbon capture and storage.
* Gasification systems.
* Advanced combustion.
* Coal and coal-biomass to liquids.
* Sensor development.
* Solid oxide fuel cells.
* Natural gas resources and infrastructure.
* Deep-water oil recovery technologies.
* Enhanced oil recovery.
* Methane hydrates.

NETL also manages projects that tackle emerging issues in clean energy and ways to improve the efficiency and reliability of existing and future power plants as well as electricity-delivery systems.

NETL’s scientists and engineers conduct and manage research and technology development at sites in Pittsburgh, Pennsylvania; Morgantown, West Virginia; and Albany, Oregon. NETL also maintains an office in Anchorage, Alaska. About one quarter of NETL’s 1,350 federal and contractor employees engage in onsite research, solving problems that would otherwise become barriers to commercializing advanced power systems, fuels, and environmental and waste-management technologies. NETL research includes collaboration with many types of research organizations.

Using its extensive project-management capabilities, NETL shapes, funds, and manages off-site research throughout the United States and in more than 40 foreign countries. NETL’s research portfolio includes nearly 1,400 projects and activities, with a total award value of more than $15 billion and private-sector cost sharing of nearly $10 billion. To secure these projects and activities, NETL uses a variety of financial arrangements with corporations, small businesses, universities, non-profit organizations, and other national laboratories and government agencies.

In addition to conducting and managing research and technology development, NETL also provides strategic information and analyses to the policymakers responsible for setting direction and establishing research funds focused on clean, affordable energy. NETL provides (1) expert scientific and engineering analyses of technology options, developmental pathways, energy scenarios, and technical advancements; (2) programmatic and socio-economic impact analyses and benefits appraisals; (3) expert simulation and modeling, using state-of-the-art systems; and (4) analyses of energy systems infrastructure interdependencies, including policy implications.

NETL transfers many of its energy solutions into the commercial and educational arenas. Licensing agreements with large and small companies bring viable solutions to market, while internships and other educational programs bring renowned researchers together with students and faculty. In addition, NETL-authored and ‑sponsored papers, presentations, publications, and conferences ensure that laboratory breakthroughs are shared openly with decision-makers, stakeholders, and other researchers around the world.

**Organization**

NETL is organized to provide flexible, dynamic expertise and capabilities to its public and private sector customers through the work of six offices or centers:

1. The **Office of the Director** maintains full control and authority, including delegated authority, over the complete NETL complex, including delivery and execution of NETL’s mission to discover, integrate, and mature technology solutions to enhance the Nation’s energy foundation and protect the environment for future generations.
2. The **Science and Technology Strategic Plans and Programs** unit develops strategic direction for NETL programs by identifying future competency requirements, ways to best utilize existing capabilities, and investments required for new capabilities to sustain and grow the laboratory. Strategic planning is centered on NETL’s three enduring mission elements: effective resource development, efficient energy conversion, and environmental sustainability.
3. The **Research and Innovation Center** nurtures and exercises core technical competencies which combine world-class expertise with mission-relevant laboratory facilities and enable NETL to be an international resource for fossil energy technology discovery, development, and deployment:
* Computational Engineering
* Energy Conversion Engineering
* Geological and Environmental Systems
* Materials and Manufacturing Engineering
* Systems Analysis and Engineering
1. The **Technology Development and Integration Center** implements DOE programs to reach key technology goals through integrated technical and business teams that define, solicit, negotiate, award, manage, and deliver federally sponsored research and development benefit to the nation. The center’s work, performed in conjunction with industry, universities, and national laboratories, is focused in three organization element areas: oil and gas, coal, and energy technology development.
2. The **Laboratory Operations Center** manages a comprehensive, fully integrated suite of laboratory support services consistent with the NETL mission. The center develops, implements, integrates, monitors, and continuously improves the products and services that support NETL business and laboratory operations. The center’s responsibilities include facility operations, information technology and strategic support for internal audits, environmental safety and health, security and counterintelligence, records management and cyber security, and human resources.
3. The **Finance and Acquisition Center** directs and coordinates NETL’s Chief Financial Office, procurement and financial assistance awards, and grant functions, ensuring effective oversight and stewardship of all matters related to the laboratory’s financial resources, procurement, and financial assistance activities. The Finance and Acquisition Center provides expert oversight, regulatory compliance knowledge, and operational experience to: 1) ensure the financial integrity of the Laboratory’s books and records; 2) manage and monitor the funds control process; 3) provide business and financial expertise procurement and business management; 4) implement and coordinate Federal acquisition and assistance policies and procedures; 5) perform internal audits and compliance reviews; and 6) provide strategic analysis, best practices and improved synchronization functions.

**Budget**

NETL’s fiscal year 2016 is shown below:

