1. INTRODUCTION

1.1 GOALS OF THE EVALUATION

Since the inception of the Energy-Related Inventions Program (ERIP), the U.S. Department of Energy (DOE) has systematically monitored the progress of the inventions it has supported. Case studies of ERIP inventions have been completed (Rorke and Livesay, 1986), and the economic impacts of the Program have been assessed (Brown, et al., 1987; Brown and Snell, 1988; Brown and Wilson, 1990). Past evaluations have also examined characteristics of the inventions, inventors, markets, and business strategies that contribute to success. This report presents the results of the most recent evaluation of the Energy-Related Inventions Program.

The evaluation was undertaken primarily to obtain up-to-date information on the economic, energy, and environmental impacts of ERIP-supported inventions. In addition, the evaluation seeks to answer a wide array of questions relevant to the mission and operation of the Program, such as:

- How successful has licensing been as a strategy for commercializing ERIP's technologies?
- How much does it cost for ERIP inventors to commercialize their technologies, and which sources of funding provide the greatest financial support?
- Which types of ERIP assistance are valued most by program participants?

These and many more questions are addressed within this report.

1.2 OVERVIEW OF THE PROGRAM

Established in 1974 under the Federal Nonnuclear Energy Research and Development Act (P.L. 93-577), the Energy-Related Inventions Program is directed to assist the development of nonnuclear energy-related inventions with outstanding potential for saving or producing energy, "particularly those submitted by individual inventors and small companies." The goal is to help individual and small company inventors with promising technologies develop their inventions to a stage of development that would attract the investment necessary for private sector commercialization. Many of these technologies face significant market and industry barriers that reduce their ability to attract early funding and intensify the difficulties of product development. Individual and small business inventors often lack the business experience needed to surmount these hurdles.

Anyone can submit an invention at any stage of development to the program for a free, confidential evaluation. The legislation provides for the National Institute of Standards and Technology (NIST), previously called the National Bureau of Standards (NBS), to evaluate the inventions submitted, assessing them for technical feasibility, energy conservation or supply potential, and commercial possibilities. The most promising inventions are recommended to DOE for consideration of support.