

**U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
ENERGY TECHNOLOGY INNOVATION PROJECT (ETIP)  
NOVEMBER 1992**

**1.0 NIS.** The Republic of Armenia requested a loan from the European Bank for Reconstruction and Development (EBRD) to complete the partially built Hrazdan Unit NO. 5, a 300 MWe gas/oil-fired power plant. This is the Ministry of Energy and Fuel's (MEF) first power project to consider international financing. MEF, recognizing EBRD loan

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requirements, and EBRD requested assistance from the NIS/TF to perform a pre-loan assessment. The objectives include an assessment of the current design, procurement, and construction status; and, an assessment of the design efficiency with recommendations for improvement. Two teams of specialists, in-country and energy efficiency (based in U.S.), worked in parallel and mobilized within one week after the buy-in was approved to meet the MEF's and EBRD's schedule. The in-country effort was completed in November. The energy efficiency assessment will be completed in December. The final report is expected to be issued in December.

Results of the assessment were reviewed with the MEF and AID/Yerevan prior to leaving Armenia. ETIP also met with EBRD management in London before and after the in-country assessment. Major issues of EBRD were satisfactorily addressed and loan approval to continue construction of this power plant is anticipated to be made in the first quarter of 1993. The assessment required close communication and cooperation with EBRD and MEF involving twenty personweeks in Armenia.

Recommendations with suggestions for implementing include: organizational changes within the MEF to allow better use of personnel; retaining existing equipment and installation contracts rather than international competitive bidding, better inventory and storage practices,



proactive approach for obtaining remaining equipment and consumables (price, schedule, transportation, and quality), evaluating capacity of existing municipal sanitary waste treatment facility, improving health and safety regulations, and requesting EBRD to include funding provisions within the loan for past expenditures. A significant conclusion reached during the in-country effort is that the estimated cost to complete Hrazdan Unit No. 5 is approximately one-fourth of the cost for a comparable power plant in the West.

ETIP also helped ETP to organize the Russian Energy Commodities Exchanges Training Organizational Mission to brief exchanges on energy futures trading and, in particular, gas and oil trading. Fifteen (15) commodities exchanges are expected at the December 9, 1992 briefing in Moscow. Actual training by EI and NYMEX will consist of courses in Moscow and at NYMEX in New York.

ETIP has coordinated and participated in a series of meetings with Russia's Ministry of Energy and Fuel and Transneft -- the main Russian crude oil pipeline organization. The meetings are a part of Russian study tours to the U.S. that involve meeting with a wide range of government officials and U.S. private industry. Special seminars relevant to concepts such as privatization training, management improvement, accounting principles and operating a company in a market-based economy. The project study tours are in cooperation with the World Bank.

**2.0 ASIA.** ETIP released the draft for Electric Power Generation Markets in India and Pakistan. The publication is part of USAID's *Business Focus Series* which includes reports on promising energy and environmental markets and business opportunities in developing countries. Eighty (80) advanced copies of the report were distributed to participants of the USAID/World Bank sponsored **Private Sector Power in Asia** conference in Kuala Lumpur October 27-29, 1992.

ETIP has also begun evaluating the cost and environmental advantages of power plant rehabilitation/repowering programs in ASEAN. Rehabilitation/repowering can be a low-cost solution to quickly providing needed capacity by reducing system losses and/or increasing plant availability and efficiency. A successful program would enhance U.S. exports as U.S. industry is a world leader in the field of power plant rehabilitation/repowering.



**3.0 OTHER.** The promotion program for the EPDF has been successful as more than 10 applications have been received for the private sector portion of the Fund. The first public sector applications are scheduled for December 1992. In addition, a draft List of Technical Experts is being developed. DOE will be submitting additional names during December.

**4.0 FINANCIAL.**

**CORE CONTRACT**

Budget	\$2,843,000
Invoiced to date (as of 9/24/92)	<u>\$1,391,611</u>
Balance	\$1,451,389

