PROPOSAL FOR COOPERATIVE AIR QUALITY MONITORING BETWEEN THE UNIVERSITY OF IDAHO AND THE IDAHO NUCLEAR ENGINEERING LABORATORY AT THE TAYLOR RANCH, WILDERNESS RESEARCH CENTER

Response to EG&G RFP for **Task Order No. 18** to subcontract No. C85-110544 for University of Idaho for Trace Element Monitoring - AR-09-88

7 March, 1988

Rationale

The University of Idaho Wilderness Research Center (WRC) operates the Taylor Ranch Field Station as a focal point for interdisciplinary wilderness-related research by the University and cooperating institutions. This proposed work will initiate a cooperative effort between the Wilderness Research Center and the Idaho National Engineering Laboratory (INEL) to conduct research to develop a background monitoring site as part of an integrated global environmental monitoring network.

The 65-acre Taylor Ranch field station, located on the Big Creek Drainage in the heart of the 2.3 million acre Frank Church River-of-No-Return Wilderness in central Idaho, is ideally suited for the location of such research. It is staffed year-round; has basic laboratory facilities, residence cabins, pack stock and an airstrip; four pristine mountain streams crossing the property; and it is the focal point for an on-going environmental research program. Because Taylor Ranch is located in the center of the largest contiguous acreage of designated Wilderness in the lower 48 states, it could serve as an excellent background site for a regional atmospheric monitoring program in the central and northern Rockies.

Environmental monitoring is becoming a major field of applied science with rapidly developing methodologies, instrumentation, and accumulating data bases. Internationally,environmental monitoring will become increasingly important with the industrialization of less developed nations. The INEL has taken a leadership role in developing the concept and methodology for an integrated global background monitoring network. A logical step is the inception of a monitoring network site at the Taylor Ranch as part of the network now operated by the INEL.

Research Plan

We are proposing installation and operation of the a remote, automated, instrumentation package, a low-volume air monitor from which multi-media trace element samples may be obtained.

The low-volume air monitor will be similar to that described by Wiersma (1985, INEL Rept EGG-PBS-6721), namely, a solar-powered automated sampler capable of remote, unattended air sampling for periods up to 30 days. We could sample as often as weekly during some months, but the frequency will be

determined by the laboratory analytical costs incurred by INEL. Air samples will be sent to INEL for multi-media trace analyses for comparison to other stations in their atmospheric monitoring network.

In this cooperative program, the Taylor Ranch personnel will perform routine collection of samples and service on the instrument package. Detailed service of electronic components would be performed by INEL personnel. The following budget is for first year startup costs...subsequent year budgets would approximate annually $2,000 for this work.

PROJECT BUDGET - TASK ORDER NO. 18

Salaries		
Taylor Ranch personnel (on-site monitoring)	$	729
Staff Benefits (25%)		182
Operating Expenses		
Sample shipment		400
Travel		
Idaho Falls for training		200
Capital Outlay		0
Contracts		
To INEL for construction of air monitor		6,000
To INEL for chemical analyses		2,000
University of Idaho Overhead		
.277 x $1,571		419
Contract Total =		$9,930