

NRC FORM 173 (2-78)		U.S. NUCLEAR REGULATORY COMMISSION		ORDER NUMBER 60-81-018
STANDARD ORDER FOR DOE WORK				DATE OCT 16 1980
				ISSUED TO: (DOE Office) Idaho Operations Office
PERFORMING ORGANIZATION AND LOCATION Idaho National Engineering Laboratory				ACCOUNTING CITATION APPROPRIATION SYMBOL 31X0200.601
FIN TITLE Source Term Measurements				B&R NUMBER 60190230
				FIN NUMBER A6075-1
				WORK PERIOD - THIS ORDER
				FIXED <input type="checkbox"/> ESTIMATED <input checked="" type="checkbox"/>
				FROM: 10/01/80 TO: 09/30/81
OBLIGATION AVAILABILITY PROVIDED BY:				
A. THIS ORDER			\$	317,000
B. TOTAL OF ORDERS PLACED PRIOR TO THIS DATE WITH THE PERFORMING ORGANIZATION UNDER THE SAME "APPROPRIATION SYMBOL" AND THE FIRST FOUR DIGITS OF THE "B&R NUMBER" CITED ABOVE			\$	70,483,000
C. TOTAL ORDERS TO DATE (TOTAL A & B)			\$	70,800,000
D. AMOUNT INCLUDED IN "C" APPLICABLE TO THE "FIN NUMBER" CITED IN THIS ORDER.			\$	317,000
FINANCIAL FLEXIBILITY:				
<input type="checkbox"/> FUNDS WILL NOT BE REPROGRAMMED BETWEEN FINs. LINE D CONSTITUTES A LIMITATION ON OBLIGATIONS AUTHORIZED.				
<input checked="" type="checkbox"/> FUNDS MAY BE REPROGRAMMED NOT TO EXCEED ± 10% OF FIN LEVEL UP TO \$50K. LINE C CONSTITUTES A LIMITATION ON OBLIGATIONS AUTHORIZED.				
STANDARD TERMS AND CONDITIONS PROVIDED DOE ARE CONSIDERED PART OF THIS ORDER UNLESS OTHERWISE NOTED.				
ATTACHMENTS: THE FOLLOWING ATTACHMENTS ARE HEREBY MADE A PART OF THIS ORDER: <input checked="" type="checkbox"/> STATEMENT OF WORK <input type="checkbox"/> ADDITIONAL TERMS AND CONDITIONS <input type="checkbox"/> OTHER			SECURITY: <input checked="" type="checkbox"/> WORK ON THIS ORDER IS NOT CLASSIFIED. <input type="checkbox"/> WORK ON THIS ORDER INVOLVES CLASSIFIED INFORMATION. NRC FORM 187 IS ATTACHED.	
REMARKS: Final work packages (189a's) reflecting approved FY 1981 resources and scope should be furnished within 60 days. Five copies should be sent to the Office of Nuclear Regulatory Research and one copy to the NRC Controller.				
ISSUING AUTHORITY			ACCEPTING ORGANIZATION	
SIGNATURE <i>Frank J. Arsenault</i> Frank J. Arsenault, Director			SIGNATURE	
TITLE Division of Safeguards, Fuel Cycle and Environmental Research			TITLE	
			DATE	

NRC FORM 173 (2-78)

8011100 232

SAFIR PROJECT BRIEF

TITLE: Source Term Measurements

RES LEAD BRANCH: Systems Performance Research Branch

RES PROJECT MANAGER: D. E. Solberg

PERIOD OF WORK: 9/1/80 - 9/30/81

FY 1981 OBLIG: \$317K

OBJECTIVES:

FIN NO.: A6075
CONTRACTOR: INEL
SITE: INEL
STATE: Idaho

PRINCIPAL INVESTIGATOR:
J. W. Mandler

BUDGET ACTIVITY: 60190230

The principal objective of the project is to obtain radionuclide source term data at operating PWRs. Specific objectives are:

- (1) Obtain radionuclide source term data for improvement of gaseous and liquid effluent models for LWRs.
- (2) Evaluate the source term data on the basis of known plant design and operational information.
- (3) Provide a data base for evaluating system design improvements for new plants.
- (4) Develop and test improved source term measurement techniques.
- (5) Provide technical support to NRC.

SCOPE:

Perform radionuclide measurements in liquid, gaseous and solid systems in six operating commercial PWRs to be selected by the NRC. Evaluate the data obtained using information about plant design and operation and knowledge of the sampling and measurement uncertainties.

GUIDANCE FOR FY 1981:

Conduct research described in 189a dated May, 1980 and as summarized below:

Prepare a measurement plan for the Prairie Island Plant based on plant design, available measurement locations, conclusions of the interim report of measurements at the four prior plants and the expressed needs of NRC. Move the mobile laboratory to the Prairie Island Plant, complete measurements agreeable to NRC, INEL and Northern States Power and perform data evaluation. Initiate preparation of a draft report on measurement results from Prairie Island. Measurement data should generally be in the following areas:

- (1) Radioisotope concentration in all plant systems from the primary coolant systems to release points to the environment.

- (2) Performance of the radwaste, process gas and containment systems.
- (3) Characterization of waste solidification system input.
- (4) Characterization of primary to secondary system leakage and transport of the fission products through the system.
- (5) As available, measurement and characterization of crud in primary coolant samples, particularly associated with transient reactor operation.

Complete the interim report, the Rancho Seco measurements report and a topical report on radionuclide buildup and transport in LWRs.

Submit monthly progress letters summarizing (1) the significant project activities and accomplishments, (2) providing the spending level for this current month, cumulative spending level for the fiscal year and funds remaining and (3) identifying and expected changes in future milestones.