SCOPE OF WORK

ELECTRICAL, INSTRUMENTATION AND
CONTROL SYSTEMS SUPPORT

TASK 1: Electrical Bypass of Safety Actuation Signals to Containment Purge Valves

Scope

The objective of this task is to provide followup action of a recent abnormal occurrence involving the inadvertent blocking of the automatic safety injection actuation signal from closing containment purge isolation valves during a postulated LOCA. Blocking of the signal was caused by design deficiencies of the manual override circuitry, which was operated during a "high" radiation condition inside containment. The scope of the task for the contractor is to provide technical assistance for the review of ESF actuation signal circuits which have manual override (bypass) capability. The acceptance criteria are given in IEEE Std. 279 and in the DOR generic letter to all licensees dated November 28, 1978. Written technical evaluations by the contractor will be required. This task involves the licensing action review of over 50 operating reactors. This effort will be started in FY 1979, with completion in FY 1980. A number of plant visits by NRC and contractor personnel are planned.

Lead Engineer: J. T. Beard (NRC)

TASK 2: End-of-Cycle Recirculation Pump Trip Circuitry

Scope

BWR licensees have requested safety credit for a recirculation pump trip (RPT) feature needed to recover a loss of thermal margin (and operating power level) which occurs at the end of fuel cycles. Due to certain turbine-generator transients a core-wide pressurization event can at end-of-cycle add positive reactivity to the reactor system at a rate faster than the control rods can insert negative scram reactivity. As an essential supplement to the scram system, the RPT feature provides the additional negative reactivity. The scope of the task for the contractor is to assist the staff and to provide technical assistance in the review of the proposed RPT circuit designs based on the criteria in IEEE Std. 279. Written technical evaluations are required and involve licensing actions for all BWR's (25 units). This effort will be started in FY 1979, with completion in FY 1980.

Lead Engineer: J. T. Beard (NRC)

NRC FORM 173 (2-78) U.S. NUCLEAR REGULATORY COMMISSION

STANDARD ORDER FOR DOE WORK

ORDER NUMBER: 20-79-117

DATE: June 14, 1979

ISSUED TO: (DOE Office)	ISSUED BY: (NRC Office)
San Francisco Operations Office	Office of Nuclear Reactor Regulation

PERFORMING ORGANIZATION AND LOCATION: Lawrence Livermore Lab

FIN TITLE: Electrical, Instrumentation and Control Systems Support

ACCOUNTING CITATION

APPROPRIATION SYMBOL: 31X0200.209

B&R NUMBER: 20-19-04-03-1

FIN NUMBER: A0231-9

WORK PERIOD - THIS ORDER

FIXED ☐ ESTIMATED ☐

FROM: 10/1/78 TO: 9/30/79

OBLIGATION AVAILABILITY PROVIDED BY:

A. THIS ORDER	$ 60,000
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	$ 1,522,000
C. TOTAL ORDERS TO DATE (TOTAL A & B)	$ 1,582,000
D. AMOUNT INCLUDED IN "C" APPLICABLE TO THE "FIN NUMBER" CITED IN THIS ORDER.	$ 497,000

FINANCIAL FLEXIBILITY:

☒ FUNDS WILL NOT BE REPROGRAMMED BETWEEN FINS. LINE D CONSTITUTES A LIMITATION ON OBLIGATIONS AUTHORIZED.

☐ 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:

☑ STATEMENT OF WORK
☐ ADDITIONAL TERMS AND CONDITIONS
☒ OTHER

SECURITY:

☑ WORK ON THIS ORDER IS NOT CLASSIFIED.
☐ WORK ON THIS ORDER INVOLVES CLASSIFIED INFORMATION. NRC FORM 187 IS ATTACHED.

REMARKS:

After signature, please send a copy of this order to M. Paulette Triplett, NRR P-428

ISSUING AUTHORITY	ACCEPTING ORGANIZATION
SIGNATURE: P. Triplett M Paulette-Triplett	SIGNATURE:
TITLE: Fiscal Assistant 6/20/79	TITLE:
	DATE:

NRC FORM 173 (2-78)

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