

Modification No. 13
Contract No.
NRC-04-83-168
RP2399-1

CONTRACT AMONG
THE BABCOCK & WILCOX COMPANY
AND
ELECTRIC POWER RESEARCH INSTITUTE
AND
THE U.S. NUCLEAR REGULATORY COMMISSION

THIS AGREEMENT, effective the 6th day of June 1983, as modified and superseded by this Modification No. 13, effective August 28, 1986, among the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), as represented by the UNITED STATES NUCLEAR REGULATORY COMMISSION (hereinafter referred to as the "Commission"), and THE BABCOCK & WILCOX COMPANY, a corporation duly organized and existing under the laws of the State of Delaware with a principal office in Alliance, Ohio (hereinafter referred to as the "Contractor"), and ELECTRIC POWER RESEARCH INSTITUTE, a not-for-profit corporation duly organized and existing under the laws of the District of Columbia, with principal offices in the city of Palo Alto, California (hereinafter referred to as the "Institute").

WITNESSETH THAT:

WHEREAS, this Agreement is authorized by law, including the Energy Reorganization Act of 1974, as amended, and Section 302(c)(10) of the Federal Property and Administrative Services Act of 1949, as amended, and the Atomic Energy Act of 1954, as amended.

WHEREAS, the Commission, the Institute, the Contractor, and the Babcock & Wilcox Owners Group (hereinafter referred to as the "Owners"), wish to participate jointly in a research project entitled "Integral System Test (IST) Program Once-Through Integral System (OTIS) and Multiloop Integral System Test (MIST) Components," the total estimated cost of which is \$31,588,706.00, and WHEREAS, the IST Program costs are to be jointly funded by the Commission, the Institute, the Contractor, and Owners Group, both through direct reimbursement of program costs and in-kind contributions composed of items such as fee waiver, provision of building, facilities, and equipment by the Contractor, and provision of the GERDA data and IST benchmark analysis by the Owners.

The division of \$31,588,706.00 IST Program costs are as follows:

Commission	42.3%	
Institute	3.8%	
Owners	26.8%	(Representing in-kind contributions and cash contributions)
Contractor	27.1%	(Representing in-kind contributions and fee waiver, cash contribution); and

WHEREAS, the Contractor has been performing work under Contract No. NRC-04-83-168;

WHEREAS, the parties desire to modify Contract No. NRC-04-83-168 as hereinafter provided, and this supplemental agreement is authorized by law, including the Federal Property and Administrative Services Act of 1949, as amended, the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended;

WHEREAS, this supplemental agreement reflects the agreements of the parties regarding finalization of the MIST facility specification and establishment of revised Cost Control Group Ceilings:

NOW, THEREFORE, the parties agree to revise the Contract as follows:

ARTICLE I - STATEMENT OF WORK is revised to read as follows:

ARTICLE I - STATEMENT OF WORK

The Contractor shall provide the necessary personnel, facilities, and materials to perform the effort under the technical direction of the Program Management Group (PMG) in accordance with Appendix B, B&W Proposal No. R&D 82-291, entitled, "Integral System Test Program - Once-Through Integral System (OTIS) and Multi-loop Integral System Test (MIST) Components", R&D 82-291, Rev 5 dated June 17, 1986 and Multi-loop Integral System Test (MIST) Facility Specification, RDD:84:4091-01-01:01 date October 28, 1983.

ARTICLE III - TOTAL ESTIMATED COST, OBLIGATION OF FUNDS AND LIMITATIONS is revised as shown in Modification No. 12 to read as follows:

ARTICLE III - TOTAL ESTIMATED COST, OBLIGATION OF FUNDS AND LIMITATIONS

A. Estimate of Cost. The total estimated cost of the work specified in Appendix B to be performed under this contract is \$19,641,676.00 and is apportioned as follows:

Commission	-	\$13,372,493.00
Institute	-	1,206,512.00
Owners	-	4,945,929.00
Contractor	-	116,742.00

The presently estimated cost of the work specified in Appendix B of this contract may be increased or decreased by written agreement of the parties.

B. Obligation of Funds.

1. Obligations

The total amount of funds presently obligated by the participants for the work specified in Appendix B is \$19,588,164.00 and is apportioned as follows:

Commission	-	\$13,372,493.00
Institute	-	1,153,000.00
Owners	-	4,945,929.00
Contractor	-	116,742.00

Sufficient funds are not presently available to cover the totality of work over the entire period of performance under this contract. Additional funds will be allotted from time to time by contract modification up to the full estimated amount of the contract.

Pursuant to Clause 5.2 of the General Provisions entitled, "Limitation of Funds (Cost Sharing)," the Commission may unilaterally increase its obligation by written notice to the Contractor and all amounts obligated may be increased or decreased by written agreement of all the parties. Such revised amounts shall be deemed substituted in this subparagraph B.1.

The amount of \$13,372,493.00 presently allocated and obligated by the Commission includes the \$243,000.00 authorized under Letter Contract NRC-04-83-168. The amount of \$243,000.00, in turn, includes precontract costs, beginning with February 1983 authorized pursuant to 1-15.205-30 of the Federal Procurement Regulations, in the amount of \$150,000 by a letter dated May 18, 1983, from the NRC Contract Officer to the Contractor.

2. NRC Accounting and Appropriation Data

FIN No.	B8909
B&R No.	60190103
Obligated:	\$13,372,493.00

3. Monthly Billing

Contract participants shall be billed on a monthly basis for work performed hereunder and the billing shall be prorated on the same basis as indicated in Paragraph A above.

C. Limitations

1. Payment Limitations

Payment of \$13,372,493.00, \$1,206,512.00, \$4,945,929.00 and \$116,742.00 shall constitute full and complete compensation by the Commission, the Institute, the Owners, and B&W (Contractor) respectively, for the performance of work as delineated in Appendix B under this contract. The Commission, the Institute, and the Owners shall not be obligated in excess of the ceiling amounts established for each Cost Control Group by this contract, unless the ceiling is changed by further contract modification, the Contractor shall not be required to continue work and continuation of work by the Contractor beyond the established ceiling amount for each Cost Control Group shall be at the Contractor's own risk.

2. Cost Control Groups - Cost Ceilings

- a. For cost control purposes, the Cost Control Groups and Control Group cost ceilings listed below are hereby established. None of these ceilings shall be exceeded without prior written approval of the parties. Such approval, if granted, shall be effected by a contract modification changing the Control Group cost ceiling. In the absence of such approval, the Contractor shall not be requested to continue work related to that Cost Control Group.

b. The IST program is divided into three phases:

Phase I - OTIS facility modifications, testing and analysis

Phase II - MIST facility specification

Phase III- MIST facility construction, testing and analysis

<u>Cost Control</u> <u>Group</u>	<u>Phase, Tasks or</u> <u>Subtasks</u>	<u>Control Group</u> <u>Cost Ceiling</u>
A	PHASE I TOTAL	<u>\$1,097,805</u>
B	PHASE II TOTAL	<u>489,313</u>
	PHASE III PROGRAM	
C	1.0 Program Management	<u>1,960,675</u>
D	Facilities	<u>834,493</u>
	2.1 Building Modifications	
	2.2 Control Room Enclosure	
E	Reactor Coolant System	<u>1,387,000</u>
	Pumps	
	2.3 Reactor Coolant Pumps	
F	Reactor Coolant System	<u>3,096,855</u>
	Components	
	2.3 Balance of Loop	
	Components	
G	Balance of RCS	<u>984,979</u>
	2.4 New Steam Generator	
	and Enhanced Hot Leg	
	2.5 Secondary Loop	
H	Auxiliary Equipment	<u>524,244</u>
	2.6 Auxiliary Plant	
	Equipment	
	2.7 Auxiliary Text	
	Equipment	
I	DAS, Electrical and Hydro	<u>3,593,599</u>
	2.8 Data Acquisition	
	System Hardware and	
	Software	
	2.9 General Electrical	
	and Supervision	
	2.10 Loop Hydro and	
	Insulation	

J	Advanced Instrumentation, Guard Heater Power Measure- ment and Guard Heater Trip	<u>319,633</u>
	2.11 Gamma Densitometers	
	2.12 RCP Characterization Instrumentation	
	2.13 Guard Heater Power Measurement	
	2.14 DELETED IN ENTIRETY	
	2.15 Leak Quality Measurement	
K	3.0 Design Verification	<u>252,036</u>
L	4.0 Test Planning	<u>642,048</u>
M	5.0 Testing	<u>2,105,936</u>
N	6.0 Data Analysis	<u>1,158,319</u>
O	7.0 Reporting	<u>266,353</u>
P	8.0 Facility Hold	<u>39,007</u>
Q	9.0 PMG Designated Task Of the total amount provided under Cost Control Group Q, \$332,370K is reserved for unanticipated problems associated with the shakedown and/or testing phases of Cost Control Group M. Use of these funds shall require prior approval of the PMG.	<u>462,570</u>
R	10.0 Underrun Holding Account	<u>426,811</u>
	PHASE III TOTAL	<u>18,054,558</u>
	IST PROGRAM TOTAL	<u>\$19,641,676</u>

Note: The following two paragraphs, inadvertently omitted from Modification No. 9, are hereby reinstated, following the Cost Control Groups, as follows:

c. When 75% of a Cost Control Group ceiling limit has been expended, the Contractor shall provide a separate letter of notification to the Contracting Officer, the Authorized Representative of the Institute, and the representatives of the PMG, of the amount expended and the status of the Cost Control Group (i.e., whether the Cost Control Group is projected to be within ceiling or a cost growth is projected.)

d. In the event it appears that a Cost Control Group ceiling will be "underrun," all or any part of the amount of the "underrun," subject to PMG direction and subsequent contract modification issued by the Contracting Officer, may be applied to a Cost Control Group ceiling that may be exceeded. In the event the PMG does not wish to apply an underrun amount to any Cost Control Group, the amount shall be held in an "Underrun Holding Account," at the prevailing cost share ratios, as set forth in Article I.II, paragraph A, for future use as may be designated by the PMG and subsequent contract modification. Application of such an "underrun" amount to another Cost Control Group will be accomplished by contract modification to adjust the affected Cost Control Group ceilings.

IN WITNESS WHEREOF, the parties have executed this supplemental agreement.

U.S. NUCLEAR REGULATORY COMMISSION

By: Elvis J. Wiggins 10/27/86
Contracting Officer date
Contract Administration Branch

ELECTRIC POWER RESEARCH INSTITUTE

By: As Tamer 10/14/86
date

THE BABCOCK & WILCOX COMPANY

By: N. Smith 10/17/86
date

DETAILED ACCOUNTING OF MOVEMENT OF FUNDING
BETWEEN COST CONTROL GROUPS

1. CCG A is increased from \$1,078,805.00 by \$19,000.00 to \$1,097,805.00 to provide for expanded DTIS Final Report work pursuant to PMG Notice No. 483.
(The \$19,000.00 is taken from CCG E)
2. CCG B is increased from \$488,313.00 by \$1,000.00 to \$489,313.00 to account for past rounding to thousands, pursuant to PMG Notice No. 483. (The \$1,000.00 is taken from CCG E)
3. CCG C remains unchanged.
4. CCG D remains unchanged.
5. CCG E is reduced from \$1,447,000.00 by \$60,000.00 to \$1,387,000.00. The \$60,000.00 from CCG E is moved to CCG's as follows: \$19,000.00 to CCG A; \$1,000.00 to CCG B; \$40,000.00 to CCG R pursuant to PMG Notice No. 483.
6. CCG F is reduced from \$3,176,855.00 by \$80,000.00 to \$3,096,855.00. The \$80,000.00 from CCG F is moved to CCG M pursuant to PMG Notice No. 483.
7. CCG G is reduced from \$1,084,979.00 by \$100,000.00 to \$984,979.00. The \$100,000.00 from CCG G is moved to CCG M pursuant to PMG Notice No. 483.
8. CCG H is reduced from \$579,244.00 by \$55,000.00 to \$524,244.00. The \$55,000.00 from CCG H is moved to CCG R pursuant to PMG Notice No. 483.
9. CCG I is reduced from \$3,752,599.00 by \$159,000.00 to \$3,593,599.00. The \$159,000.00 from CCG I is moved to CCG R pursuant to PMG Notice No. 483.
10. CCG J remains unchanged.
11. CCG K remains unchanged.

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12. CCG L remains unchanged.
13. CCG M is increased from \$1,824,936.00 by \$281,000.00 to \$2,105,936.00. The \$281,000.00 is taken from CCG's as follows:
 - CCG F \$80,000.00 (PMG Notice No. 483)
 - CCG G \$100,000.00 (PMG Notice No. 483)
 - CCG Q \$101,000.00 (PMG Notice No. 407, 447, 512)
14. CCG N remains unchanged.
15. CCG D remains unchanged.
16. CCG P remains unchanged.
17. CCG Q is decreased from \$563,570.00 by \$101,000.00 to \$462,570.00. The \$101,000.00 from CCG Q is moved to CCG M pursuant to PMG Notice No. 407, 447, and 512.
18. CCG R is increased from \$172,811.00 by \$254,000.00 to \$426,811.00. The \$254,000.00 is taken from CCG's as follows:
 - CCG E \$40,000.00 (PMG Notice No. 483)
 - CCG H \$55,000.00 (PMG Notice No. 483)
 - CCG I \$159,000.00 (PMG Notice No. 483)