MODIFICATION NO. M048
SUPPLEMENTAL AGREEMENT TO
CONTRACT NO. DE-AC02-98CH10886

MODIFICATION NO. M048

CONTRACTOR AND ADDRESS:	Brookhaven Science Associates, LLC Brookhaven National Laboratory Upton, NY 11973
MODIFICATION FOR:	Recognition of previous obligation increases; modifies Article 31, Obligation of Funds; modifies Article 32, Alllowable Costs and Fixed Fee (Management and Operating Contracts); Revision to Appendix B – Critical Outcome Performance Measures and replaces Appendix I - DOE Directives
PRIOR OBLIGATION:	$1,145,811,735.50
INCREASE IN MODS. A044 THROUGH A047:	$14,319,286.76
INCREASE IN THIS MODIFICATION:	-0-
CURRENT TOTAL OBLIGATION:	$1,160,131,022.26

THIS MODIFICATION, effective the 2nd day of August 2000, by and between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), as represented by the UNITED STATES DEPARTMENT OF ENERGY (hereinafter referred to as "DOE"), and BROOKHAVEN SCIENCE ASSOCIATES, LLC (hereinafter referred to as the "Contractor"),

WITNESSETH THAT:

WHEREAS, the Government and the Contractor entered into Contract No. DE-AC02-98CH10886) on the 5th day of January 1998, for the operation of the Brookhaven National Laboratory; and

WHEREAS, said contract has been modified previously, and the parties desire to modify said contract further, as hereinafter provided; and

WHEREAS, this modification is authorized by law, including 41 U.S.C. 252(c)(15), P.L. 95-91 and other applicable law;

NOW, THEREFORE, said contract, as modified previously, is hereby further modified as follows:

1. The first sentence of paragraph (a) of Article 31, OBLIGATION OF FUNDS, is revised to read as follows: "The amount presently obligated by the Government with respect to this contract is $1,160,131,022.26."

2. ARTICLE 32, ALLOWABLE COSTS AND FIXED FEE (MANAGEMENT AND OPERATING CONTRACTS) (JUN 1997) (DEVIATION) is modified as follows:

   a. The first sentence of paragraph (b) Fee(s) is modified by adding the following phrase to the end of the sentence, "for the period October 1, 1999 through and including September 30, 2000," and by deleting the phrase "for the period October 1, 1998, through and including September 30, 1999." The phrase "the maximum fee earnable is $7,000,000.00 as determined by the procedures outlined in Appendix L - Computation of Fee," remains the same.

   b. The third sentence of paragraph (b) Fee(s) is modified by deleting the phrase "October 1, 1999, to and including September 30, 2000."

3. APPENDIX B, CRITICLE OUTCOME PERFORMANCE MEASURES:

   a. Critical Outcome Performance Measure – 4.0 Leadership and Management, 4.1.2.3 Quality Review Board, is revised by deleting page 25 of Attachment I, Appendix B in its entirety, and replaced with the attached revised page 25 identified as Modification M048, Appendix B.

   b. Critical Outcome Performance Measure – 4.3.4 Disposition of Site-Wide Excess Materials is revised by deleting pages 37 and 39 Attachment I, Appendix B in their entirety, and replaced with the attached revised pages 37 and 38 identified as Modification M048, Appendix B.

4. APPENDIX I, DOE DIRECTIVES: DOE Directives identified as Modification M043 is deleted in its entirety and replaced with the attached revised Appendix I, Modification M048.

IN WITNESS WHEREOF, the parties have executed this document.

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY

BY: _____

Robert P. Gordon
Contracting Officer
(Title)

DATE: 8-2-00

BROOKHAVEN SCIENCE ASSOCIATES, LLC

BY: _____

Brian P. Sack
Chief Financial Officer
(Title)

DATE: 7/28/00

>90% Succession Plans complete by 12/31/99 - Excellent
>90% Succession Plans complete by 3/31/00 - Good
>90% Succession Plans complete by 6/30/00 - Marginal
<90% Succession Plans complete by 6/30/00 - Unsat

4.1.2.2.2 Implement Job-Training-Analysis-based Training for Managers and Supervisors over the three-year period, 2000 through 2002.

The weight of this sub-element is 40%.

Measure: Percent of required courses completed by Level 1 and 2 Managers.

Metric:
40% Completed by 9/30/00 -Outstanding
33% Completed by 9/30/00 -Excellent
25% Completed by 9/3/0/00 -Good
18% Completed by 9/30/00 -Marginal
<18% Completed by 9/30/00 -Unsatisfactory

4.1.2.2.3 Develop Action Plans based on 360° Leadership Feedback Process results.

The weight of this sub-element is 30%.

Measure: Number of Level 1 and 2 manager with completed Action Plans.

Metric:
95% Action Plans complete by 1/31/00 - Outstanding
90% Action Plans complete by 3/31/00 - Excellent
75% Action Plans complete by 3/31/00 - Good
50% Action Plans complete by 6/30/00 - Marginal
<50% Action Plans complete by 6/30/00 - Unsatisfactory

4.1.2.3 Measure: Quality Review Board - ***Revised by MOD M048***

a. *Establish a Quality Review Board (QRB) which samples the Lab-wide Appraisal process,evaluates the relevance and quality of assigned goals to R2A2s and Lab Criticle Outcomes, and recommends management corrective actions as appropriate to correct trends detected by this evaluation.*

b. *Develop a prioritized FY 01 improvement action plan based on the QRB evaluation results.*

Metric: ***Revised***

The evaluation score will be based on a self-asssessment of the quality of the Board's review methodology and implementation and appropriateness of the proposed improvement action plan, confirmed by the Laboratory Director ***and validated by*** *the BHG manager.*

4.3.4 Disposition of Site-Wide Excess Materials – *Revised by MOD M048*

The weight of this Measure is 5%.

Excess Material inventories are completely identified, characterization plans are approved, treatment/disposal options are considered, priorities are established, funding is allocated, and inventories are reduced or eliminated. Contractor and its employees display ownership and leadership toward eliminating excess materials at the site. Contractor is a driving force and a willing partner in resolving funding matters with DOE.

Performance Measure:

Contractor reduces or eliminates high priority excess materials inventories during FY 2000. For purposes of this measure "reduction" is recognized to include the reuse, recycle, or disposal of such materials. Waste inventories on 09/30/99 are compared to inventories on 09/30/00. Performance is assessed against the target reductions shown immediately below:

Site Wide Excess Material Disposition Goals - ***Revised***

Excess Material Inventories	**Targeted Reductions**
Scrap Metal including lead	*230 tons*
Elimination of excess chemicals	*Disposition all chemicals identified in the Site Wide Material Inventor and Disposition Report.*

Assumptions:

- DOE recognizes that the funding to support the disposition of excess materials has historically been scarce.
- To further promote DOE's environmental stewardship at the BNL site, the Environmental Management program authorizes that up to 50% of all annual cost savings generated by BSA in redefining the EM clean-up program may be applied to the disposition of excess materials. Such expenditure of EM funds shall only be available in a matching manner with funds identified by BSA from indirect cost allocations (i.e. BNL site risk prioritization system).

$$\text{Target Reduction Ratio} = \frac{\text{Actual Reduction}}{\text{Target Reduction}} \times 100$$

Performance Level	Target Reduction Ratio
Outstanding	Greater than 105%
Excellent	95 – 105 %
Good	85 – 95%
Marginal	75 – 85%
Unsatisfactory	Less than 75%

Note - ***Revised***: BSA's performance rating is based upon a ratio for each excess item, which recognizes actual results in comparison to targeted results, as shown above. An overall weighted ratio for the entire measure will be computed using weights of *Chemicals (35%), and Metals (65%)* multiplied by the reduction ratio of the individual excess material categories.

4.4 Business Operations

BNL will conduct its business operations with distinction, fully integrated with and supportive of the science, technology and cleanup missions, while being fully responsive to the business management needs and expectations of DOE.

The weight of this Objective is 20% of total.

4.4.1 Business Management/Information Systems

Improve enterprise-wide business management systems in support of world-class research at Brookhaven National Laboratory to provide consistent, cost-effective, and efficient means of managing the business functions of the Laboratory and provide records of the Laboratory's business/financial transactions for use as a basis for decisions regarding the improvement and enhancement of business operations.

The weight of this Measure is 25%.

Measure: Install Enterprise Resource Planning (ERP) System (PeopleSoft)

1. **Accounts Receivable** – This module is utilized to generate monthly billings, age receivables, provide information to facilitate collections, smoothly integrate with the General Ledger/Project Costing Modules, and provide greater flexibility to comply with DOE and other funding agency (e.g. NRC) reporting requirements. The legacy Accounts Receivable does not meet the Laboratory's current or projected needs.

   The milestone dates for this module are as follows:
   New system implementation - **October 1999** for the start of the new fiscal year.
   Initiate a feedback/change control process to further enhance effectiveness and meet customer needs – **January 2000**.

2. **Guest Tracking** - Capture and track Guest and Users for major facilities (RHIC, AGS, etc.) Scheduled implementation date - **January 2000**. Initiate a feedback/change control process to further enhance effectiveness and meet customer needs – **April 2000**

3. **Inventory** – The current Inventory system is outdated and like other parts of BNL's legacy system IPAP, in need of upgrading. The planned implementation date is scheduled for **April 2000.** Initiate a feedback / change control process to further enhance effectiveness and meet customer needs – **June 2000.**

APPENDIX I

DOE DIRECTIVES

There is no List A to this Appendix.

List B to this Appendix contains two parts as follows:

Part I: " Directives List"

This section contains a list of Directives that are considered by DOE as applicable to the BNL contract.

Part II: "Partial Deletions of Directives"

This section contains a list of Directives that were accepted and implemented by the previous contractor but have subsequently been revised by DOE to remove certain sections.

CRD=Contract Requirements Document

DIRECTIVES LIST		
DATE	**DOE DIRECTIVE NUMBER**	**SUBJECT TITLE**
7/14/99	N 142.1	UNCLASSIFIED FOREIGN VISITS AND ASSIGNMENTS
7/26/99	N 205.1	CRD - UNCLASSIFIED CYBER SECURITY PROGRAM
11/1/99	N 205.2	CRD - FOREIGN NATIONAL ACCESS TO DOE CYBER SYSTEMS
11/23/99	N 205.3	CRD - PASSWORD GENERATION, PROTECTION, AND USE
4/15/99	N 350.5	CRD - USE OF FACILITY CONTRACTING EMPLOYEES FOR SERVICES TO DOE IN THE WASHINGTON, D.C., AREA
7/15/97	N 440.1	CRD - INTERIM CHRONIC BERYLLIUM DISEASE PREVENTION PROGRAM
9/30/95	N 441.1	RADIOLOGICAL PROTECTION FOR DOE ACTIVITIES (using ORNL/TM-11497 in lieu of Attachment 1)(Extended until 6/30/00 by DOE N 441.4 dated 11/20/98)
3/2/00	N.473.2	CRD - STANDARDIZATION OF FIREARMS
11/3/99	O 110.3	CRD - CONFERENCE MANAGEMENT
9/29/95	O 130.1	CRD - BUDGET FORMULATION PROCESS
9/30/95	O.135.1	BUDGET EXECUTION-FUNDS DISTRIBUTION AND CONTROL (Extended until 9/30/00 by DOE N 135.1 dated 11/29/99)
9/25/95 10/26/95 8/21/96	O 151.1 Change 1 Change 2	CRD - COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM
9/30/96	O 200.1	CRD - INFORMATION MANAGEMENT SYSTEM
9/27/95 10/26/95 5/1/95	O 210.1 Change 1 Change 2	CRD - PERFORMANCE INDICATORS AND ANALYSIS OF OPERATIONS INFORMATION
12/8/97	O 224.1	CRD - CONTRACTOR PERFORMANCE-BASED BUSINESS MANAGEMENT PROCESS
11/26/97	O 225.1A	CRD - TYPE A AND B ACCIDENT INVESTIGATIONS
9/30/95 10/26/95 11/7/96	O 231.1 Change 1 Change 2	CRD - ENVIRONMENT, SAFETY & HEALTH REPORTING CANCELLATION - ES&H Reporting, dated 11/7/96, Paragraph 5b(2).
9/30/95 11/7/96 01/28/00	DOE M 231.1-1 Change 1 Change 2	ENVIRONMENT, SAFETY, AND HEALTH REPORTING MANUAL CANCELLATION - ES&H Reporting Manual, dated 11/7/96, Chapter IV.
8/1/97	O 232.1A	CRD - OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION (As modified by letter Grahn/Gordon, dated 4/10/98, effective 5/5/98)
7/21/97	M 232.1-1A	OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION (As modified by letter Grahn/Gordon, dated 4/10/98, effective 5/5/98)

DIRECTIVES LIST		
DATE	**DOE DIRECTIVE NUMBER**	**SUBJECT TITLE**
8/17/98	O 241.1	CRD - SCIENTIFIC AND TECHNICAL INFORMATION (STI) MGMT.
1/30/98	O 251.1A	CRD - DIRECTIVES SYSTEM
11/19/99	O.252.1	CRD - TECHNICAL STANDARDS PROGRAM
12/30/96	O 311.1A	CRD - EQUAL EMPLOYMENT OPPORTUNITY AND DIVERSITY PROGRAM
9/30/96 5/8/98	O 350.1 Change 1	CRD - CONTRACTOR HUMAN RESOURCE MANAGEMENT PROGRAMS CRD - EMPLOYEE BENEFITS
12/6/95	O 413.1	CRD - MANAGEMENT CONTROL PROGRAM (Extended until 12/6/00 by DOE N 413.1 dated 12/10/99)
3/5/97	O 413.2	CRD - LABORATORY DIRECTED RESEARCH AND DEVELOPMENT
11/24/98	O 414.1	CRD - QUALITY ASSURANCE
10/13/95 11/16/95 10/24/96	O 420.1 Change 1 Change 2	CRD - FACILITY SAFETY
11/5/98 5/26/99	O 420.2 Change 1	CRD - DOE O 420.2, SAFETY OF ACCELERATOR FACILITIES
12/28/98	O 425.1A	CRD - DOE O 425.1A, STARTUP AND RESTART OF NUCLEAR FACILITIES, DATED 12/28/98
10/14/98	O 430.1A	CRD - LIFE CYCLE ASSET MANAGEMENT
6/13/96	O 430.2	IN HOUSE ENERGY MANAGEMENT (NO CONTRACTS REQUIREMENT DOCUMENT)
7/9/99	O 435.1	CRD - RADIOACTIVE WASTE MANAGEMENT (Cancels D0E 5820.2A)
7/9/99	M 435.1-1	RADIOACTIVE WASTE MANAGEMENT MANUAL
3/27/98	O 440.1A	CRD - WORKER PROTECTION MANAGEMENT FOR DOE CONTRACTOR EMPLOYEES
9/25/95 10/13/95 10/26/95	O 440.2 Change 1 Change 2	CRD - AVIATION
2/1/99	O 442.1	CRD - DEPARTMENT OF ENERGY EMPLOYEE CONCERNS PRG.
10/2/96	O 460.1A	CRD - PACKAGING AND TRANSPORTATION SAFETY
9/27/95 10/26/95	O 460.2 Change 1	CRD - DEPARTMENTAL MATERIALS TRANSPORTATION AND PACKAGING MANAGEMENT
9/28/95 6/21/95	O 470.1 Change 1	CRD - CONTRACTOR SAFEGUARDS AND SECURITY PROGRAM REQUIREMENTS (Extended until 9/29/00 by DOE N 470-1 dated 9/23/99)

DIRECTIVES LIST		
DATE	**DOE DIRECTIVE NUMBER**	**SUBJECT TITLE**
03/01/00	O 470.2A	CRD - SECURITY AND EMERGENCY MANAGEMENT INDEPENDENT OVERSIGHT AND PERFORMANCE ASSURANCE PROGRAM
9/25/95	O 471.1	CRD - IDENTIFICATION AND PROTECTION OF UNCLASSIFIED CONTROL NUCLEAR INFORMATION (Extended until 9/25/00 by DOE N 471.1 dated.9/2/99)
3/27/97	O 471.2A	CRD - INFORMATION SECURITY PROGRAM (Extended until 9/26/00 by DOE N 471.2, dated 9/23/99)
1/6/99	M 471.2-1B	CRD - PROTECTION AND CONTROL OF CLASSIFIED MATTE
8/3/99	M 471.2-2	CRD - CLASSIFIED INFORMATION SYSTEMS SECURITY MANUAL (DOE N 205.3, dated 11/23/99 cancel Paragraphs 4j(2) and 4j(6) of Chapter VI, and Paragraph 12a(2)(a) of Chapter VII.)
3/24/97	O 472.1B	CRD - PERSONNEL SECURITY ACTIVITIES
5/22/98	M 472.1-1	PERSONNEL SECURITY PROGRAM MANUAL (See CRD for DOE O 472.1B)
8/11/99	O 474.1	CRD - CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS
8/11/99	M 474.1-1	CRD - MANUAL FOR CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS
5/8/98	M 475.1-1	CRD - IDENTIFYING CLASSIFIED INFORMATION
9/30/96	O 481.1	CRD - WORK FOR OTHERS (NON DOE FUNDED WORK)
9/29/95	O 534.1	CRD - ACCOUNTING (Extended until 9/29/00 by DOE N 534.1 dated 9/29/99)
6/23/92	1270.2B	SAFEGUARDS AGREEMENT WITH THE INTERNATIONAL ATOMIC ENERGY AGENCY
8/23/90	1300.3	POLICY ON THE PROTECTION OF HUMAN SUBJECTS
11/10/86 2/5/87 6/17/87 12/22/87 3/30/89 5/18/90 2/28/92 7/6/94	1500.3 Change 1 Change 2 Change 3 Change 4 Change 5 Change 6 Change 7	FOREIGN TRAVEL AUTHORIZATION
5/18/92	2030.4B	REPORTING FRAUD, WASTE, AND ABUSE TO THE OFFICE OF INSPECTOR GENERAL
1/27/93	2100.8A	COST ACCOUNTING, COST RECOVERY, & INTERAGENCY SHARING OF INFORMATION TECHNOLOGY FACILITIES
7/14/88 10/5/88 5/18/92	2110.1A Change 1 Change 2	PRICING OF DEPARTMENTAL MATERIALS AND SERVICES

DIRECTIVES LIST		
DATE	**DOE DIRECTIVE NUMBER**	**SUBJECT TITLE**
6/8/92	2300.1B	AUDIT RESOLUTION AND FOLLOWUP
5/18/92	2320.1C	COOPERATION WITH THE OFFICE OF INSPECTOR GENERAL
2/10/94	4330.4B	MAINTENANCE MANAGEMENT PROGRAM (Nuclear Facilities Portion Only)
11/9/88 6/29/90	5400.1* Change 1	GENERAL ENVIRONMENTAL PROTECTION PROGRAM
2/8/90 6/5/90 1/7/93	5400.5* Change 1 Change 2	RADIATION PROTECTION OF THE PUBLIC AND THE ENVIRONMENT
5/15/84 5/16/88 5/16/89 9/20/91	5480.4* Change 1 Change 2 Change 3	ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION STANDARDS
7/9/90 5/18/92	5480.19 Change 1	CONDUCT OF OPERATIONS REQUIREMENTS FOR DOE FACILITIES
11/15/94	5480.20A	PERSONNEL SELECTION, QUALIFICATION AND TRAINING REQUIREMENTS FOR DOE NUCLEAR FACILITIES
12/24/91	5480.21	UNREVIEWED SAFETY QUESTIONS
2/25/92 9/15/92 1/23/96	5480.22 Change 1 Change 2	TECHNICAL SAFETY REQUIREMENTS
4/10/92 3/10/94	5480.23 Change 1	NUCLEAR SAFETY ANALYSIS REPORTS
1/19/93	5480.30	NUCLEAR REACTOR SAFETY DESIGN CRITERIA
9/20/91	5530.1A	ACCIDENT RESPONSE GROUP
1/14/92 4/10/92	5530.3 Change 1	RADIOLOGICAL ASSISTANCE PROGRAM
5/8/85	5560.1A	PRIORITIES AND ALLOCATIONS PROGRAM
8/1/80	5610.2	CONTROL OF WEAPON DATA
7/15/94	5632.1C*	PROTECTION AND CONTROL OF SAFEGUARDS AND SECURITY INTERESTS
4/13/94	5632.7A	PROTECTIVE FORCE PROGRAM
5/26/94	5660.1B	MANAGEMENT OF NUCLEAR MATERIALS
9/4/92	5670.3	COUNTERINTELLIGENCE PROGRAM
5/18/92	5700.7	WORK AUTHORIZATION SYSTEM

ACCOUNTING PRACTICES AND PROCEDURES HANDBOOK		
5/2/83	Chapter V	INVENTORIES
6/30/80	Chapter X	PRODUCT COST ACCOUNTING

Appendix I - Part II

PARTIAL DELETIONS OF DIRECTIVES				
DATE	DOE DIRECTIVE NUMBER	SUBJECT TITLE	DELETION DIRECTIVE DATE	SECTIONS DELETED
11/9/88 6/29/90	5400.1 Change 1	GENERAL ENVIRONMENTAL PROTECTION PROGRAM	O 231.1 9/30/95 Change 1 10/26/95 Change 2 11/7/96	Paras. 2d, 2b, 4b & 4c of Chap II; Paras 2d & 3b of Chap III; Para 10(c) of Chap IV
2/8/90 6/5/90 1/7/93	5400.5 Change 1 Change 2	RADIATION PROTECTION OF THE PUBLIC AND THE ENVIRONMENT	O 231.1 9/30/95 Change 1 10/26/95	Chapter II: Para 1a(3) (a)
5/15/84 5/16/88 5/16/89 9/20/91	5480.4 Change 1 Change 2 Change 3	ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION STANDARDS	O 440.1 9/30/95 Change 1 10/26/95	Attachment 2: Paras 2c, 2d(2) - (3), 2e(1) - (8); and Attach. 3: Paras 2c,; 2d(2) - (3), 2e(1) - (7)
7/15/94	M5632.1C-1	MANUAL FOR PROTECTION AND CONTROL OF SAFEGUARDS AND SECURITY INTERESTS	O 470.1 9/28/95 O 471.2A 3/27/97	Chapter XI Chapter III, Paras 1, 2, 4-9