

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
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2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
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6. ISSUED BY CODE	7. ADMINISTERED BY (If other than Item 6) CODE
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8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 11)
CODE		FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA (Signature of Contracting Officer)	16C. DATE SIGNED

The purpose of this modification is to make the following revisions:

1. Clause B.2 Fixed Fee - ORNL (Jun 1995) of the basic contract is replaced with the following:

B.2 Fixed Fee - ORNL (Jun 1995)

The Government shall pay a fixed fee to the Contractor for performing the ORNL mission work as follows:

January 1, 1996 - September 30, 1996	\$5,107,000
October 1, 1996 - September 30, 1997	\$6,925,000

2. Clause H.20 Contractor Commitments (Oct 1995), item (a)(8), is deleted and the following is substituted:

“(8) Make significant progress toward achieving DOE Voluntary Protection Program “STAR” status by 1998. The first major milestone, to conduct a self-assessment against the VPP application to identify activities currently underway which meet the elements of VPP and to identify areas of weakness which need to be addressed in order to be recognized for inclusion in the DOE-VPP, will be accomplished by the end of fiscal year 97.”

3. Appendix C is revised as follows:

The Bilateral Agreements included in Appendix C by Modification A009 are deleted and the attached agreements are substituted.

DOE F 1328.8
(08-93)

United States Government

Department of Energy

memorandum

DATE:

**REPLY TO
ATTN OF:**

March 20, 1997

SUBJECT:

Colette Muenzen (202) 586-0343
Office of the Assistant General Counsel for
Technology Transfer and Intellectual Property

TO:

Bilateral and Multilateral International Agreements

All Field Patent Counsels

Attached are two lists of all active bilateral and multilateral international agreements which should be added to your M&O contractors' contracts.

These lists are current as of March 18, 1997.



**DEPARTMENT OF ENERGY RESEARCH AND DEVELOPMENT BILATERAL AGREEMENTS
ALL ACTIVE AGREEMENTS**

Index	Start/End Dates	Country	Type	Principal Subjects
18	12/20/74 6/31/91 Extending	Germany	Umbrella	Radioactive Waste Management
	6/3/75 6/1/92 Renegotiating	Italy		Geothermal Research and Development
31	9/29/77 None	Germany	Letter	Nuclear Materials Safeguards/Physical Security
38	1/31/79 4/30/01	China	Umbrella	High Energy Physics
41	2/16/79 None	Mexico	Intergovernmental	Science and Technology
42	5/2/79 2/1/00	Japan	Intergovernmental	Energy and Related Fields
48	8/24/79 2/1/95	Japan	Project Under #42	Fusion Energy/Coordinating Committee
50	8/28/79 8/28/96	Japan (JAERI)	Project Under #42/48	Fusion Energy/Doublet III
58	11/11/79 2/1/95	Japan	Project Under #42	High Energy Physics
64	3/6/80 9/8/98	Venezuela	Umbrella	Energy R&D
73	7/10/80 9/8/98	Venezuela	Project I Under #64	Heavy Crude Characterization
74	7/10/80 9/8/98	Venezuela	Project II Under #64	Enhanced Oil Recovery Supporting Research
75	7/10/80 9/8/98	Venezuela	Project III Under #64	Enhanced Oil Recovery Evaluation
81	9/9/80 9/9/00 Renegotiating to extend + 5 years	Sweden	Umbrella	Radioactive Waste Management

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Index	Start/End Dates	Country	Type	Principal Subjects
82	9/29/80 9/8/98	Venezuela	Project IV Under #64	Enhanced Oil Recovery Thermal Processes
90	9/30/81 2/1/95	Japan	Project Under #42	Photosynthesis
94	11/6/81 10/25/99	South Korea	Umbrella (A)	Conservation
95	11/6/81 10/25/99	South Korea	Umbrella (B)	Solar Energy
96	11/6/81 6/13/99	South Korea	Umbrella (C)	Coal R&D
97	1/28/82 1/6/00 Renegotiating as to IPR	European Union	Umbrella	Nuclear Materials Safeguards
100	2/5/82 9/8/98	Venezuela	Project VIII Under #64	Coal Preparation and Combustion
	3/00/82 3/00/00	Mexico	Umbrella	Sister lab arrangement
107	8/25/82 8/25/96 Renegotiating	Canada	Umbrella	Radioactive Waste Management
110	10/6/82 10/6/92 Renegotiating	European Union	Umbrella	Radioactive Waste Management
113	12/17/82 / /	Commission of the Euratom	Letters of Cooperation	Renewable Energy Sources
114	1/24/83 2/1/95	Japan	Intergovernmen tal Under #42	Fusion Energy
123	5/11/83 4/30/01	China	Umbrella	Nuclear Physics and Magnetic Fusion
134	11/8/83 2/1/95	Japan (JAERI)	Project Under #114	Fusion Energy

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Index	Start/End Dates	Country	Type	Principal Subjects
137	3/14/84 9/8/98	Venezuela	Project X Under #64	Training of Petroleum Engineers
140	4/26/84 6/20/98	Japan	Project Under #249	Electric Field Effects
157	4/16/85 4/30/01	China	Umbrella	Fossil Energy R&D
158	4/19/85 9/23/96 Renegotiating	Switzerland	Umbrella	Radioactive Waste Management
159	5/14/85 6/11/00	United Kingdom	Project Under #278	Energy-Related Information
171	12/12/85 None	Spain	Umbrella	Science and Technology
176	3/13/86 4/30/01	China	Project I Under #123	IPR/Nuclear Physics and Magnetic Fusion
265	5/11/86 4/11/98	Australia	Project Under #242	Oil Shale Research
182	5/19/86 2/1/95	Japan	Project Under #42	Coal R&D
187	07/07/86 07/07/91 Renegotiating	European Union	Umbrella	Health & Environmental Effects of Radiation
195	12/3/86 12/3/96 Renegotiating	Japan	Umbrella	Radioactive Waste Management
196	12/4/86 12/4/96 Renegotiating	Canada	Umbrella	Energy R&D
197	12/15/86 12/15/96 Renegotiating	Commission of the Euratom	Umbrella	Magnetic Fusion Power System
198	12/24/86 12/24/96 Renegotiating	Canada	Project I Under #196	IPR/Information/Personnel Exchange

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Index	Start/End Dates	Country	Type	Principal Subjects
	00/00/87 00/00/02	Mexico	Umbrella	Exchange of Technical Information of the Cooperation in the Field of Air Quality Research
199	2/4/87 2/13/95 Renegotiating	Saudi Arabia	Umbrella	Renewable Energy R&D
203	5/5/87 12/31/91 Renegotiating	European Union	Project Under #197	JET Pellet Fueling
204	5/6/87 5/7/97	Commission of the Euratom	Project Under #197	Fusion Research and Development: Tore Supra (CEA)
216	8/14/87 9/8/98	Venezuela	Project XII Under #64	Geochemistry
217	8/19/87 4/30/01	China	Project Under #157	Atmospheric Trace Gases
222	9/24/87 9/24/97	Individually with: Denmark, Finland, Norway, Sweden	Project	Exchange of Information
224	9/28/87 9/28/97	Poland	Umbrella	Science and Technology
226	10/13/87 4/30/01	China	Project IV Under #157	Coal Preparation and Waste Stream Utilization
227	10/13/87 4/30/01	China	Project V Under #157	Atmospheric Fluidized Bed Combustion Information Exchange
228	10/16/87 2/1/95	Japan	Project Under #42	Coal R&D
231	11/19/87 11/19/92 Renegotiating	Canada	Umbrella	Magnetic Fusion
236	2/16/88 2/16/98	Canada	Project II Under #196	Natural Gas Hydrates
239	2/29/88 9/8/98	Venezuela	Project XIII Under #64	Microbial Enhanced Oil Recovery

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242	4/11/88 4/11/98	Australia	Umbrella	Energy R&D
243	4/14/88 12/31/91 Renegotiating	European Union	Project Under #197	Collaborative Particle Control Program
247	6/10/88 4/11/98	Australia	Project Under #242	Alternative Fuels
249	6/20/88 6/20/98	Japan	Intergovernmental	Research and Development in Science and Technology
253	8/26/88 8/26/98	United Kingdom	Project	Gas Cooled Reactor Graphite Technology
257	12/19/88 9/19/04	France	Umbrella	High Energy Laser Matter Physics R&D
258	12/21/88 12/21/98	Japan (Monbusho)	Project Under #115	Data Link and Data Link Projects for Fusion
260	1/13/89 4/11/98	Australia	Project Under #242	Research-in-Progress
261	1/31/89 12/15/96	European Union	Project Under #197	Fusion - Fuel Processing
264	2/16/89 9/8/98	Venezuela	Project XIV Under #64	Exchange of Energy Related Personnel
266	6/1/89 None	Costa Rica	Project	Clean Coal Technologies
270	1/11/90 1/11/95	Japan (JAERI)	Project IX Under #134	Fusion R&D Collaborative Program on the Data Link
272	3/15/90 3/15/95 Renegotiating	Poland	Project	Clean Coal Technology at Powerplant in Cracow
273	3/30/90 9/15/98	Japan (PNC)	Project (SMA-1) Under #249	NDA for Feed Pu Storage in Auto Production of MOX

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274	3/30/90 9/15/98	Japan (PNC)	Project (SMA-2) Under #249	Authentication and Identification of MOX Fuel
275	3/31/90 9/15/98	Japan (PNC)	Project (SMA) Under #240	Pu Isotopic and Concentration for Chemical Process
276	3/31/90 09/15/98	Japan	Project	Fissile Inventory Verification Isotope Dilution
277	6/1/90 6/1/97	Russia	Umbrella	S&T Cooperation Peaceful Uses of Atomic Energy
278	6/11/90 6/11/00	United Kingdom	Umbrella	Energy R&D
279	6/25/90 / /	Chile	Protocol of Intent	Development of Clean Coal Technologies
280	7/2/90 7/2/95 Ongoing	Japan (JAERI)	Project	Nuclear Materials Control Accountancy Protection
281	7/23/90 9/15/98	Japan (PNC)	Project (SMA) Under #249	NDA Tech Process Holdup Pu Conversion Development
287	12/8/90 12/8/00	Venezuela	Umbrella	Science and Technology
288	1/25/91 9/15/98	Japan (PNC)	Project (SMA) Under #249	Safeguards Techniques for Monitors -- JOYO Reactor
289	1/31/91 9/15/98	Japan (PNC)	Project (SMA) Under #249	Safeguards Techniques for Monitors -- MONJU Reactor
292	3/01/91 12/15/96	European Union	Project Under #197	Fast Ions and Alpha Particles
293	3/26/91 9/15/98	Japan (PNC)	Project (SMA) Under #249	Pu Storage by Passive Gamma Spectroscopy
296	9/23/91 9/23/96	Switzerland	Project III Under #158	Site Characterization, Repository Performance, Validation

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Index	Start/End Dates	Country	Type	Principal Subjects
299	10/16/91 10/16/96 Renegotiating	Poland	Umbrella	Krakov Clean Fossil Fuels and Energy Efficiency
300	10/22/91 10/22/00	Czech	Intergovernmental: S&T	Fusion Energy
	10/22/91 10/22/00	Slovak	Intergovernmental: S&T	Fusion Energy
	1/15/92 / /	Indonesia	Intergovernmental	Scientific Research and Technology Development
303	4/16/92 4/16/97	Japan (JAERI)	Project (XI) Under #134	Test Negative Ion Sources Accelerators . . . Injectors
	5/7/92 5/7/97 Self-Renewing Every Five Years	Ukraine		Environmental Protection
305	6/17/92 6/17/97	Russia	Umbrella	Fuels and Energy
306	6/29/92 / /	Brazil (Ceara)	Protocol of Intent	Solar Energy Based Rural Electrification Program
307	6/29/92 / /	Brazil (Pernambuco)	Protocol of Intent	Solar Energy Based Rural Electrification Program
310	10/1/92 10/1/97	Australia	Umbrella	Nuclear Material Control Safeguards Application
312	12/16/92 12/16/97	Spain	Umbrella	Radioactive Waste Management
313	12/16/92 12/16/97	Sweden	Project Under #81	Site Characterization and Repository Performance
315	2/18/93 / /	Russia	Umbrella	Disposition HEU Extracted from Nuclear Weapons
317	7/21/93 7/21/97	Saudi Arabia	Annex II Under #199	Annex II: Assessment of Solar Radiation Resources

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301	07/29/93 07/29/98	South Korea	Intergovernmental	Science and Technology
318	8/4/93 8/4/95	Japan (PNC)	Project (SMA-13) Under #249	SMA 13: Fuel Pin . . . MOX Fuel Fabrication Facility
319	9/2/93 9/2/95	Japan (PNC)	Project (SMA-14) Under #249	Video Motion Detection . . . PFPF Product Storage
321	9/15/93 9/15/98	Japan (PNC)	Umbrella	R&D Nuclear Materials Control and Accounting for Safeguards
322	10/1/93 10/1/98	Russia	Umbrella	Energy Efficiency and Renewable Energy
323	10/4/93 10/4/98	Italy	Intergovernmental	Science and Technology
324	1/14/94 1/14/99	Russia	Umbrella	Radioactive Contamination Health and Environment
325	1/27/94 12/31/97	Japan (PNC)	Project Under #249	Waste Measurement System Glove Box Accounting Systems
326	1/27/94 None	Japan (PNC)	Project Under #249	Upgraded Glove Box Accounting Systems
327	2/9/94 2/9/96	Saudi Arabia	Annex III Under #199	Assessment of Geothermal Energy Resources
330	4/8/94 / /	Ukraine	Statement of Intent	Shutdown Chernobyl Nuclear Power Plant
	04/12/94 04/12/99	China	Project IX Under #157	Clean Coal Technology Utilization
331	4/18/94 4/18/99	Argentina	Umbrella	International Safeguards Applications
332	4/18/94 4/18/99	Brazil	Umbrella	International Safeguards Applications
333	4/26/94 9/7/98	Venezuela	Project XV Under #64	Oil Recovery Information and Technology Transfer
334	5/12/94 4/11/98	Australia	Project Under #242	Bio-Electromagnetic Research

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Index	Start/End Dates	Country	Type	Principal Subjects
335	6/13/94 6/13/99	South Korea	Project Under #96	Fossil Energy Technology
	7/6/94 7/6/99	Estonia	Intergovern- mental	Science and Technology
	7/6/94 7/6/99	Latvia	Intergovern- mental	Science and Technology
	7/6/94 7/6/99	Lithuania	Intergovern- mental	Science and Technology
337	9/18/94 / /	Austria	Umbrella	Energy Efficiency/Conservation and Climate Change
338	9/24/94 / /	Pakistan	Statement of Intent 1	Fossil Fuel and New and Renewable Energy
339	9/24/94 / /	Pakistan	Statement of Intent 2	Climate Change
340	9/24/94 / /	Pakistan	Statement of Intent 3	Fossil Fuel and New and Renewable Energy
341	11/18/94 / /	Canada	Statment of Intent Under #196	Biennial Biomass Conference of the Americas
342	11/19/94 8/9/04	France	Project #1 Under #257	Megajoule-Class Solid State Lasers
343	11/19/94 8/9/04	France	Project #2 Under #257	Megajoule-Class Solid State Laser Technology
344	12/13/94 / /	Chile	Statement of Intent	Renewable and Energy Efficiency Technologies
	02/10/95 02/10/00	Slovenia	Intergovernmen- tal	S&T
345	2/23/95 / /	China	Umbrella	Bilateral Energy Consultations
346	2/23/95 / /	China	Statement of Intent A	Energy Information Exchange

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Index	Start/End Dates	Country	Type	Principal Subjects
347	2/23/95 / /	China	Statement of Intent B	Research Reactor Fuel
348	2/23/95 2/23/00	China	Project XII Under #157	Regional Climate Research
349	2/23/95 2/23/00	China	Project XI Under #157	Coal Bed Methane Recovery and Utilization
350	2/23/95 2/23/00	China	Umbrella	Energy Efficiency and Renewable Energy Development and Utilization
352	3/7/95 / /	Chile	Statement of Intent	Control Emissions of Greenhouse Gases
353	3/13/95 3/13/00	Estonia	Umbrella	Technical Cooperation Clean-up Paldiski Site
357	4/26/95 4/26/05	France	Umbrella	Accelerator Driven Technology
358	5/26/95 5/26/00	Italy	Umbrella	Energy R&D
359	6/15/95 / /	Russia	Project	Weapons Expertise for the Globus-M Project
360	6/16/95 / /	Russia	Project	Nonproliferation of Weapons/Weapons Expertise
	6/27/95 6/27/00	China	Project I Under #350	Renewable Energy Under 100 Counties Integrated Rural Energy Development Program in China
362	7/17/95 7/17/05	Japan (JAERI)	Project	Nuclear Research and Development
363	7/21/95 / /	Canada	Statement of Intent Under #196	Building Energy Simulation Tools
364	7/25/95 / /	United Kingdom	Statement of Intent	Nuclear Clean-Up
365	7/31/95 1/31/97	Japan (PNC)	Project (19) Under #321	Measuring Vitrified High Level Waste Canisters

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367	8/21/95 8/21/00	Poland	Project	Environmental Restoration Hazardous Waste Management
368	8/25/95 8/25/20	South Africa	Umbrella	Peaceful Uses of Nuclear Energy
371	8/25/95 / /	South Africa	Umbrella	Sustainable Development Resource Center
372	8/25/95 / /	South Africa	Umbrella (2)	Renewable and Energy Efficiency Technologies
373	8/25/95 / /	South Africa	Statement of Intent 1	Renewable Energy (Guguletu Township)
374	8/25/95 / /	South Africa	Umbrella (3)	Electrification of Rural Clinics (Cape Town)
375	8/25/95 / /	South Africa	Statement of Intent 3	Renewable Energy (The Csir, South Africa)
376	9/19/95 9/19/00	Brazil	Umbrella	International Safeguards Applications
377	9/20/95 9/20/00	France	Umbrella	Radioactive Waste Management
379	10/8/95 10/8/00	France	Umbrella	Radioactive Waste Management
380	10/30/95 / /	Ghana	Statement of Intent	Peaceful Uses of Nuclear Energy
	11/01/95 11/01/00	Croatia	Intergovernmental	Science and Technology
381	12/05/95 12/05/00	South Africa	Umbrella	Energy Policy - S&T Development
382	12/05/95 / /	South Africa	Statement of intent	Cooperative Agreement with Provincial Governments
383	12/05/95 / /	South Africa	Statement of intent	Mitigation of Greenhouse Gases
384	02/01/96 02/01/01	Israel	Umbrella	Framework for Collaboration in Energy R&D

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316	3/26/96 3/26/97	Japan (PNC)	Project Under #195	Characterization and Predictive Technologies
355	4/11/96 1/31/00	Japan (PNC)	Project	Nuclear Technologies
385	05/03/96 05/03/01	Japan	Umbrella	Science and Technology
386	05/07/96 05/07/01	Mexico	Umbrella	Energy Cooperation
387	05/24/96 05/24/06	Argentina	Umbrella	Radioactive and Mixed Waste Management
388	06/14/96 06/14/01	South Korea	Umbrella - MOU	Cooperative Lab Relationship
389	06/14/96 06/14/01	South Korea	Project	Fusion Energy Research
	08/01/96 08/01/06	Argentina	Umbrella	Energy Technology
390	09/05/96 / /	United Kingdom	Statement of intent	Environmental Restoration and Waste Management
250	09/16/96 09/16/01	Russian Federation	Umbrella	Russian Nuclear Reactor Design and Safety
	09/16/96 09/16/01	Russian Federation	Umbrella	Russian-American Fuel Cell Consortium
286	9/16/96 9/16/01	Russian Federation	Umbrella - MOC	Environmental Restoration and Waste Management
294	9/16/96 9/16/01	Russian Federation	Umbrella - MOU/MOC	Magnetic Confinement Fusion
391	09/30/96 / /	Brazil	Stament of intent	Clean Coal Technologies
392	10/01/96 10/01/01	Ghana	Umbrella	Energy Policy and S&T Development
	10/25/96 10/25/01	China	Project IV Under #350	Renewable Energy/Business Development

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	10/25/96 10/25/01	China	Project III Under #350	Energy Efficiency
	11/01/96 11/01/01	Macedonia	Intergovern mental	S&T
	11/25/96 11/25/01	China	Project II Under #350	Wind Energy Development in China
	12/11/96 7/3/01	Japan (NUPEC)	Implementing Arrangement	Light Water Reactor (LWR) Associated Technologies
86	12/16/96 12/15/00	Finland	Umbrella	Energy R&D
295	02/07/97 02/07/02	Russian Federation	Umbrella	Fundamental Properties of Matter

DEPARTMENT OF ENERGY RESEARCH AND DEVELOPMENT MULTI-LATERAL AGREEMENTS
All Active Agreements

Term of Agreement	Countries	Type of Agreement	Agreement Subject Area	DOE Record #
3/20/74 9/16/96 Renegotiating	Australia, Austria, Belgium, Canada, Denmark, Commission of the Euratom, Finland, France, Germany (unified), Greece, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom	Umbrella	Nuclear data and computer programs	90
11/18/74 Indefinite	Australia, Austria, Belgium, Canada, Denmark, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Spain, Sweden, Switzerland, Turkey, United Kingdom	Umbrella/annex	Establishment of International Energy Program through implementation of an International Energy Agency	
1/1/75 1/1/2050	Australia, Austria, Belgium, Canada, Denmark, Commission of the Euratom, Finland, Germany (unified), Italy, Japan, Netherlands, Spain, Sweden, United Kingdom	Implementing/ project	Coal research	154
7/28/75 1/1/2050	Australia, Belgium, Canada, Denmark, Finland, Germany (unified), Greece, Italy, Japan, Netherlands, New Zealand, Norway, Sweden, Switzerland, Turkey, United Kingdom	Implementing/ project	Energy conservation in buildings and community systems	49
11/20/75 1/1/2050	Austria, Belgium, Germany, Italy, Netherlands, Spain, Sweden, Turkey, United Kingdom	Implementing/ project, annex	Establishment of the Coal Technical Information Service	154
12/31/75 1/1/2050	Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Spain, Sweden, United Kingdom (DOI/USGS, DOE and BLM)	Establishment of Coal Research Service Center Project	This Agreement incorporates four previous implementing agreements on: Mining Technology Clearinghouse (DOI/BLM), Coal Economic Assessment Services (DOE), Coal Technical Information Services (DOE, DOI/USGS), and World Coal Resources and Reserves Data Bank (DOI/USGS)	154
12/20/76 1/00/2050	Australia, Austria, Belgium, Canada, Commission of the Euratom, Denmark, Finland, Germany (unified), Greece, Italy, Japan, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom	Implementing/ project, annexes	Solar heating and cooling systems	11

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Term of Agreement	Countries	Type of Agreement	Agreement Subject Area	DOE Record #
3/16/77 Indefinite	Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom	Implementing/ project, annex	Energy conservation/ emissions reduction in combustion	
3/16/77 Indefinite	Austria, Germany, Sweden, Switzerland	Implementing/ project, annex	Energy conservation through energy cascading	
3/16/77 1/1/2050	Canada, Germany (unified), Italy, Japan, Norway, Sweden, Switzerland, United Kingdom	Annex	Combustion system modeling and diagnostics	33
6/28/77 1/1/2050	Germany, Netherlands, Norway, Sweden, Switzerland, United Kingdom	Implementing/ project, annex	Energy conservation in heat transfer and heat exchangers	26
6/28/77 1/1/2050	Austria, Canada, Denmark, Germany (unified), Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom	Implementing/ project, annexes	Wind turbine systems	30
10/6/77 12/31/96	Germany, Israel, Spain, Switzerland	Implementing/ project, annexes	Solar power and chemical energy systems	
10/6/77 12/30/02	Canada, Commission of the Euratom, Japan, Switzerland, Turkey	Implementing/ project, annex	Fusion energy, plasma wall interaction in Textor	110
10/6/77 Indefinite	Germany, Japan, Sweden, Switzerland, United Kingdom	Implementing/ project, annex	Man-made geothermal energy systems	
10/6/77 1/1/2050	Germany (unified), Japan, Switzerland	Implementing/ project, annex	Superconducting magnets for fusion power	107
10/6/77 1/00/2050	Belgium, Canada, EEC, Germany, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom	Implementing/ project, annexes	Production of hydrogen from water	18
2/18/78 1/1/2050	Belgium, Canada, Finland, Japan, Netherlands, New Zealand, Norway, Spain, Sweden, United Kingdom	Implementing/ project, annexes	Energy conservation in the pulp and paper industry	53
4/00/78 Indefinite	Belgium, Canada, Ireland, Sweden	Implementing/ project, annex	Forestry energy	
4/13/78 Indefinite	Canada, Ireland, Japan, United Kingdom	Implementing/ project, annex	Wave power R&D	
5/24/78 Indefinite	Austria, Belgium, Canada, EEC, Finland, Germany, Ireland, Italy, Japan, New Zealand, Norway, Portugal, Sweden, Switzerland, United Kingdom	Implementing/ project	Biomass conversion technical information service	58

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All Active Agreements**

Term of Agreement	Countries	Type of Agreement	Agreement Subject Area	DOE Record #
7/27/78 Indefinite	Germany, New Zealand, Sweden, United Kingdom	Implementing/ project, annex	Energy conservation in cement manufacture	
7/27/78 Indefinite	Austria, Belgium, Canada, Denmark, Finland, France, Germany (unified), Italy, Ireland, Japan, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom	Implementing/ project, annex	Advanced heat pump systems for energy conservation	39
9/22/78 Indefinite	Belgium, EEC, Denmark, Germany, Netherlands, Sweden, Switzerland	Implementing/ project, annexes	Energy conservation through energy storage	60
1/1/79 1/1/2050	Canada, Venezuela	Other	Heavy crude and tar sands	160
5/22/79 1/1/2050	Germany, Japan, Sweden	Implementing/ project, annexes	High temperature materials for automotive engines	45
5/22/79 1/1/2050	Australia, Austria, Canada, Denmark, Egypt, France, Germany, Japan, Norway, United Kingdom	Implementing/ project, annex	Enhanced recovery of oil	159
5/22/79 Indefinite	Italy, Mexico, New Zealand	Implementing/ project, annex	Geothermal equip- ment	
10/21/80 10/21/94 ongoing agreement	Canada, EEC, Japan, Switzerland	Implementing/ project, annex	Radiation Damage in Fusion Materials	115
11/13/80 Indefinite	Australia, Belgium, Denmark, EEC, Germany, Italy, Norway, Sweden, Switzerland	Implementing/ project, annexes	Energy technology systems analysis	268
1/1/81 1/1/2049	Canada, Japan, Netherlands, Spain, Sweden, United Kingdom	Implementing/ project, annex	Coal/oil liquid mixtures	181
5/21/84 1/1/2050	Belgium, Canada, Finland, France, Italy, Japan, Netherlands, New Zealand, Norway, Sweden, United Kingdom	Implementing/ project, annexes	Alternative motor fuels	55
3/27/85 Indefinite	Australia, Canada, Denmark, Finland, Germany, Italy, Netherlands, Sweden, United Kingdom		Coal Combustion Sciences	136
1/26/87 Indefinite	Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom		Energy technology data exchange	3
3/15/87 3/15/93 ongoing agreement	Canada, Norway, United Kingdom		Fossil Fuel Multiphase Flow Sciences	174

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Term of Agreement	Countries	Type of Agreement	Agreement Subject Area	DOE Record #
3/18/88 3/18/98	Australia, Belgium, Canada, Denmark, Finland, Italy, Japan, Korea, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom	Implementing/ project, annexes	Information Center for the Analysis and Dissemination of Demonstrated Energy Technologies (CADDET)	44
1/1/89 1/1/2050	Austria, Belgium, Canada, Denmark, Finland, Ireland, Italy, Japan, New Zealand, Norway, Sweden, United Kingdom	Implementing/ project, annex	Bioenergy research and development	58
4/3/90 4/2/00	Commission of the Euratom, Japan	Implementing/ project	Fusion Energy/ Reversed Field Pinches (RFP)	123
4/3/90 4/2/00	Commission of the Euratom, Japan	Annex 1	Fusion Energy/ Reversed Field Pinches (RFP)	124
4/3/90 4/2/00	Commission of the Euratom, Japan	Annex 2	Fusion Energy/ Reversed Field Pinches (RFP)	119
10/20/91 10/19/01	Canada, Denmark, Commission of the Euratom, Finland, Italy, Japan, Netherlands, Norway, Spain, Sweden, United Kingdom	Implementing/ project, annex	Greenhouse gases derived from fossil fuel use	231
7/6/92 7/6/97	Canada, Commission of the Euratom, Japan	Implementing/ project, annexes	Environmental, safety and economic aspects of fusion power	232
7/6/92 7/6/97	Canada, Commission of the Euratom, Japan	Umbrella	Environmental and economic aspects of fusion power	266
7/21/92 7/21/98	Commission of the Euratom, Germany, Japan, the former Soviet Union	Umbrella	International Thermonuclear Experimental Reactor (ITER)	233
11/24/92 11/11/98	Austria, Canada, Denmark, EEC, Finland, France, Germany, Israel, Italy, Japan, Korea, Netherlands, Portugal, Sweden, Switzerland, Turkey, United Kingdom	Implementing/ project, annexes	Photovoltaic power systems	
3/21/94 7/21/98	Commission of the Euratom, Germany, Japan, the former Soviet Union	Project under #233	ITER Engineering Design Activities	329
6/13/94 6/13/99	Canada, Japan	Implementing/ project, annex	Nuclear technology of fusion reactors	
7/12/94 7/12/99	Austria, Canada, France, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom	Implementing/ project, annexes	Electric vehicle (EV) technologies	

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9/16/96 9/16/01	Former Soviet Union, Russian Federation	MOU/MOC	Magnetic confinement fusion	91
9/16/96 9/16/01	Russian Federation, Ukraine	Umbrella	Russian Nuclear Reactor Design and Safety	250
2/7/97 2/7/02	Former Soviet Union, Russian Federation	Umbrella	Fundamental Properties of Matter	126