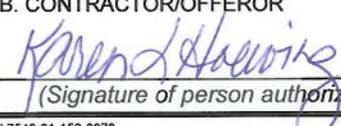
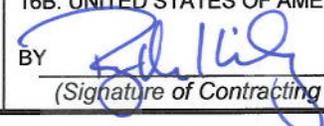


AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE 1	OF 2	PAGES 2
2. AMENDMENT/MODIFICATION NO. M963		3. EFFECTIVE DATE (M/D/Y) See Block 16C	4. REQUISITION/PURCHASE REQ. NO. N/A	5. PROJECT NO. (If applicable)	
6. ISSUED BY CODE U.S. Department of Energy Pacific Northwest Site Office Post Office Box 350 Richland, WA 99352		7. ADMINISTERED BY (If other than Item 6) CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP code) Battelle Memorial Institute Pacific Northwest Division Richland, Benton County, WA 99352 DUNS # 032987476		<input type="checkbox"/> 9A. AMENDMENT OF SOLICITATION NO. <input type="checkbox"/> 9B. DATED (SEE ITEM 11)		<input checked="" type="checkbox"/> 10A. MODIFICATION OF CONTRACT/ ORDER NO. DE-AC05-76RL01830	
CODE	FACILITY CODE		10B. DATED (SEE ITEM 13) December 30, 1964		
11. THIS ITEM APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> 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 ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE DATE AND HOUR SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you 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 amendment and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS SET FORTH IN ITEM 14.					
CHECK	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE				
<input type="checkbox"/>					
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO AUTHORITY OF FAR 43.103(b).				
<input checked="" type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF: The mutual agreement of the parties				
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>2</u> copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including a solicitation/contract subject matter where feasible.) This bilateral contract modification incorporates changes to Part II, Section I – Contract Clauses and Part III, Section J, List of Documents, Exhibits and Other Attachments. (See Continuation Pages for the purpose and description of this modification)					
15A. NAME AND TITLE OF SIGNER (Type or print) Karen L. Hoewing General Counsel			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Ryan M. Kilbury Contracting Officer		
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)		15C. DATE SIGNED 12-19-13	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)		16C. DATE SIGNED 12-19-13

Purpose of Modification:

The Department of Energy (DOE), Office of Science (SC), Pacific Northwest Site Office (PNSO) is modifying the Contract to update Part II, Section I – Contract Clauses and Part III, Section J- Appendix I, and Appendix K to their most current form.

Description of Modification:

1. Part II, Section I – Contract Clauses Table of Contents is updated to replace Contract Clause, I-115 DEAR 970.5244-1 – Contractor’s Purchasing System (Class Deviation Policy Flash 2011-98, Aug 2011) with Contract Clause, I-115 DEAR 970.5244-1 – Contractor’s Purchasing System (Policy Flash 2011-98, Jan 2013)
2. Part II, Section I – Contract Clauses is updated to replace Contract Clause, I-115 DEAR 970.5244-1 – Contractor’s Purchasing System (Class Deviation Policy Flash 2011-98, Aug 2011) with Contract Clause, I-115 DEAR 970.5244-1 – Contractor’s Purchasing System (Policy Flash 2011-98, Jan 2013) **[M963]**
3. Part III, Section J – Appendix I - List of Battelle Memorial Institute Legacy Work, is updated to reflect the completion or transition of Legacy projects through November 30, 2013 and to update term or dollar amount(s) as appropriate and agreed to by the parties. **[M963]**
4. Part III, Section J – Appendix K, Appendix K-1, and Appendix K-1 Attachment B are updated to reflect the purchase of the remaining Battelle owned personal property and includes an executed sales agreement (Attachment AA) between the parties effective October 1, 2013 and the disposition of retained nuclear materials Appendix K-2 and Appendix K-2 Attachment B. **[M963]**
5. This modification results in no further changes to the Contract.

(End of Contract Modification)

I-115 DEAR 970.5244-1CONTRACTOR PURCHASING SYSTEM (Policy Flash 2011-98)
(JAN 2013)

- (a) *General.* The Contractor shall develop, implement, and maintain formal policies, practices, and procedures to be used in the award of subcontracts consistent with this clause and 48 CFR subpart 970.44. The Contractor's purchasing system and methods shall be fully documented, consistently applied, and acceptable to the Department of Energy (DOE) in accordance with 48 CFR 970.4401-1. The Contractor shall maintain file documentation which is appropriate to the value of the purchase and is adequate to establish the propriety of the transaction and the price paid. The Contractor's purchasing performance will be evaluated against such performance criteria and measures as may be set forth elsewhere in this contract. DOE reserves the right at any time to require that the Contractor submit for approval any or all purchases under this contract. The Contractor shall not purchase any item or service, the purchase of which is expressly prohibited by the written direction of DOE, and shall use such special and directed sources as may be expressly required by the DOE Contracting Officer. DOE will conduct periodic appraisals of the Contractor's management of all facets of the purchasing function, including the Contractor's compliance with its approved system and methods. Such appraisals will be performed through the conduct of Contractor Purchasing System Reviews in accordance with 48 CFR subpart 44.3, or, when approved by the Contracting Officer, through the Contractor's participation in the conduct of the Balanced Scorecard performance measurement and performance management system. The Contractor's approved purchasing system and methods shall include the requirements set forth in paragraphs (b) through (y) of this clause.
- (b) *Acquisition of utility services.* Utility services shall be acquired in accordance with the requirements of subpart 970.41.
- (c) *Acquisition of Real Property.* Real property shall be acquired in accordance with 48 CFR subpart 917.74.
- (d) *Advance Notice of Proposed Subcontract Awards.* Advance notice shall be provided in accordance with 48 CFR 970.4401-3.
- (e) *Audit of Subcontractors.*
- (1) The Contractor shall provide for—
 - (i) Periodic post-award audit of cost-reimbursement subcontractors at all tiers; and
 - (ii) Audits, where necessary, to provide a valid basis for pre-award or cost or price analysis.
 - (2) Responsibility for determining the costs allowable under each cost-reimbursement subcontract remains with the contractor or next higher-tier subcontractor. The Contractor shall provide, in appropriate cases, for the timely involvement of the

Contractor and the DOE Contracting Officer in resolution of subcontract cost allowability.

- (3) Where audits of subcontractors at any tier are required, arrangements may be made to have the cognizant Federal agency perform the audit of the subcontract. These arrangements shall be made administratively between DOE and the other agency involved and shall provide for the cognizant agency to audit in an appropriate manner in light of the magnitude and nature of the subcontract. In no case, however, shall these arrangements preclude determination by the DOE Contracting Officer of the allowability or unallowability of subcontractor costs claimed for reimbursement by the Contractor.
- (4) Allowable costs for cost reimbursable subcontracts are to be determined in accordance with the cost principles of 48 CFR part 31, appropriate for the type of organization to which the subcontract is to be awarded, as supplemented by 48 CFR part 931. Allowable costs in the purchase or transfer from contractor-affiliated sources shall be determined in accordance with 48 CFR 970.4402-3 and 48 CFR 31.205-26(e).

(f) *Bonds and Insurance.*

- (1) The Contractor shall require performance bonds in penal amounts as set forth in 48 CFR 28.102-2(a) for all fixed-priced and unit-priced construction subcontracts in excess of \$100,000. The Contractor shall consider the use of performance bonds in fixed-price non-construction subcontracts, where appropriate.
- (2) For fixed-price, unit-priced and cost reimbursement construction subcontracts in excess of \$100,000, a payment bond shall be obtained on Standard Form 25A modified to name the Contractor as well as the United States of America as obligees. The penal amounts shall be determined in accordance with 48 CFR 28.102-2(b).
- (3) For fixed-price, unit-priced and cost-reimbursement construction subcontracts greater than \$25,000, but not greater than \$100,000, the Contractor shall select two or more of the payment protections at 48 CFR 28.102-1(b), giving particular consideration to the inclusion of an irrevocable letter of credit as one of the selected alternatives.
- (4) A subcontractor may have more than one acceptable surety in both construction and other subcontracts, provided that in no case will the liability of any one surety exceed the maximum penal sum for which it is qualified for any one obligation. For subcontracts other than construction, a co-surety (two or more sureties together) may reinsure amounts in excess of their individual capacity, with each surety having the required underwriting capacity that appears on the list of acceptable corporate sureties.

(g) *Buy American.* The Contractor shall comply with the provisions of the Buy American Act as reflected in 48 CFR 52.225-1 and 48 CFR 52.225-9. The Contractor shall forward

determinations of non-availability of individual items to the DOE Contracting Officer for approval. Items in excess of **\$500,000** require the prior concurrence of the Head of Contracting Activity. If, however, the Contractor has an approved purchasing system, the Head of the Contracting Activity may authorize the Contractor to make determinations of non-availability for individual items valued at **\$500,000** or less. [M963]

(h) *Construction and Architect-Engineer Subcontracts.*

(1) *Independent Estimates.* A detailed, independent estimate of costs shall be prepared for all construction work to be subcontracted.

(2) *Specifications.* Specifications for construction shall be prepared in accordance with the DOE publication entitled "General Design Criteria Manual."

(3) *Prevention of Conflict of Interest.*

(i) The Contractor shall not award a subcontract for construction to the architect-engineer firm or an affiliate that prepared the design. This prohibition does not preclude the award of a "turnkey" subcontract so long as the subcontractor assumes all liability for defects in design and construction and consequential damages.

(ii) The Contractor shall not award both a cost-reimbursement subcontract and a fixed-price subcontract for construction or architect-engineer services or any combination thereof to the same firm where those subcontracts will be performed at the same site.

(iii) The Contractor shall not employ the construction subcontractor or an affiliate to inspect the firm's work. The contractor shall assure that the working relationships of the construction subcontractor and the subcontractor inspecting its work and the authority of the inspector are clearly defined.

(i) *Contractor-Affiliated Sources.* Equipment, materials, supplies, or services from a contractor-affiliated source shall be purchased or transferred in accordance with 48 CFR 970.4402-3.

(j) *Contractor-Subcontractor Relationship.* The obligations of the Contractor under paragraph (a) of this clause, including the development of the purchasing system and methods, and purchases made pursuant thereto, shall not relieve the Contractor of any obligation under this contract (including, among other things, the obligation to properly supervise, administer, and coordinate the work of subcontractors). Subcontracts shall be in the name of the Contractor, and shall not bind or purport to bind the Government.

(k) *Government Property.* The Contractor shall establish and maintain a property management system that complies with criteria in 48 CFR 970.5245-1, Property, and 48 CFR 52.245-1, Government Property.

- (l) *Indemnification*. Except for Price-Anderson Nuclear Hazards Indemnity, no subcontractor may be indemnified except with the prior approval of the Senior Procurement Executive.
- (m) *Leasing of Motor Vehicles*. Contractors shall comply with 48 CFR subpart 8.11 and 48 CFR subpart 908.11.
- (n) [Reserved]
- (o) *Management, Acquisition and Use of Information Resources*. Requirements for automatic data processing resources and telecommunications facilities, services, and equipment, shall be reviewed and approved in accordance with applicable DOE Orders and regulations regarding information resources.
- (p) *Priorities, Allocations and Allotments*. Priorities, allocations and allotments shall be extended to appropriate subcontracts in accordance with the clause or clauses of this contract dealing with priorities and allocations.
- (q) *Purchase of Special Items*. Purchase of the following items shall be in accordance with the following provisions of 48 CFR subpart 8.5, 48 CFR subpart 908.71, Federal Management Regulation 41 CFR part 102, and the Federal Property Management Regulation 41 CFR chapter 101:
- (1) Motor vehicles—48 CFR 908.7101
 - (2) Aircraft—48 CFR 908.7102
 - (3) Security Cabinets—48 CFR 908.7106
 - (4) Alcohol—48 CFR 908.7107
 - (5) Helium—48 CFR subpart 8.5
 - (6) Fuels and packaged petroleum products—48 CFR 908.7109
 - (7) Coal—48 CFR 908.7110
 - (8) Arms and Ammunition—48 CFR 908.7111
 - (9) Heavy Water—48 CFR 908.7121(a)
 - (10) Precious Metals—48 CFR 908.7121(b)
 - (11) Lithium—48 CFR 908.7121(c)
 - (12) Products and services of the blind and severely handicapped—41 CFR 101-26.701

(13) Products made in Federal penal and correctional institutions—41 CFR 101-26.702

- (r) *Purchase versus Lease Determinations.* Contractors shall determine whether required equipment and property should be purchased or leased, and establish appropriate thresholds for application of lease versus purchase determinations. Such determinations shall be made—
- (1) At time of original acquisition;
 - (2) When lease renewals are being considered; and
 - (3) At other times as circumstances warrant.
- (s) *Quality Assurance.* Contractors shall provide no less protection for the Government in its subcontracts than is provided in the prime contract.
- (t) *Setoff of Assigned Subcontractor Proceeds.* Where a subcontractor has been permitted to assign payments to a financial institution, the assignment shall treat any right of setoff in accordance with 48 CFR 932.803.
- (u) *Strategic and Critical Materials.* The Contractor may use strategic and critical materials in the National Defense Stockpile.
- (v) *Termination.* When subcontracts are terminated as a result of the termination of all or a portion of this contract, the Contractor shall settle with subcontractors in conformity with the policies and principles relating to settlement of prime contracts in 48 CFR subparts 49.1, 49.2 and 49.3. When subcontracts are terminated for reasons other than termination of this contract, the Contractor shall settle such subcontracts in general conformity with the policies and principles in 48 CFR subparts 49.1, 49.2, 49.3 and 49.4. Each such termination shall be documented and consistent with the terms of this contract. Terminations which require approval by the Government shall be supported by accounting data and other information as may be directed by the Contracting Officer.
- (w) *Unclassified Controlled Nuclear Information.* Subcontracts involving unclassified uncontrolled nuclear information shall be treated in accordance with 10 CFR part 1017.
- (x) *Subcontract Flowdown Requirements.* In addition to terms and conditions that are included in the prime contract which direct application of such terms and conditions in appropriate subcontracts, the Contractor shall include the following clauses in subcontracts, as applicable:
- (1) Davis-Bacon clauses prescribed in 48 CFR 22.407.
 - (2) Foreign Travel clause prescribed in 48 CFR 952.247-70.
 - (3) Counterintelligence clause prescribed in 48 CFR 970.0404-4(a).

(4) Service Contract Act clauses prescribed in 48 CFR 22.1006.

(5) State and local taxes clause prescribed in 48 CFR 970.2904-1.

(6) Cost or pricing data clauses prescribed in 48 CFR 970.1504-3-1(b).

(y) *Legal Services*. Contractor purchases of litigation and other legal services are subject to the requirements in 10 CFR part 719 and the requirements of this clause. **[M963]**

(End of Clause)

APPENDIX I
LIST OF BATTELLE MEMORIAL INSTITUTE LEGACY WORK
(LEGACY PROJECT AUTHORIZATION - NOVEMBER 2013)

Contract No. DE-AC05-76RL01830
 Modification M963

SCOPE NO	PROPOSAL TITLE	CONT_CLNT_NAME	FUND_CLNT_NAME	WALS COST_AMT	WALS PROP_END_ DATE
63499	56067 - Predicting Kinetic Rate Constants for Condensed Phases	Spectral Sciences, Inc.	Air Force Research Laboratory	146,891	3/13/2013
63767	58844 - Potsdam Roadmaps towards Sustainable Energy Futures	Potsdam Institute for Climate Impact Research	Potsdam Institute for Climate Impact Research	245,000	6/30/2013
63607	62301 - INSPIRE Maintenance	Multi-client Industrial	Multi-client Industrial	62,443	9/30/2013
63766	58619 - Links - Linking Global and Regional Energy Strategies	SINTEF Energy Research	SINTEF Energy Research	71,000	4/25/2014
63649	62654 - Enhancement of the Light Right Survey (LRS) Tool	Philips Lighting	Philips Lighting	40,064	12/20/2012
63451	48887 - Improving Efficiency of Commercial Buildings in WA	State of Washington, Attorney Generals Office	State of Washington, Attorney Generals Office	1,630,000	12/31/2014
63828	FRAPCON-3 User Group Paper Study	Multi-client	Multi-client	75,000	9/30/2013
63594	61846 - Silicon Detectors for High Resolution Radioxenon Measurements	XIA, LLC	DOE - SC Germantown Building	70,000	2/12/2014
63759	52172 - Economic Methods for Assessing Climate Change	Mizuho Information & Research Institute	Mizuho Information & Research Institute	17,294	1/31/2013
63602	62215 - Helium Ion Microscopy of Shale Mineral Deposits	ExxonMobile Research and Engineering Company	ExxonMobile Research and Engineering Company	6,845	8/31/2013
63513	57320 - The Impact of geo-engineering by aerosols on the climate	University of Calgary	University of Calgary	224,674	9/30/2014
63551	APT Analysis	GE Global Research	GE Global Research	37,046	12/31/2013
63508	AMS Deployment at National Parks	Electric Power Research Institute - EPRI	Electric Power Research Institute - EPRI	5,797	12/31/2013
63574	Evaluation of Dose and Dose Rate Effects in Beagle dogs expo	Electric Power Research Institute - EPRI	Electric Power Research Institute - EPRI	50,949	12/31/2013
63503	Develop and Utilize an Integrated Model of GHG Emissions	Electric Power Research Institute - EPRI	Electric Power Research Institute - EPRI	126,140	12/31/2013
63583	61605 - Polymer Characterization	PepsiCo, Inc.	PepsiCo, Inc.	59,236	12/31/2013
63492	55433 - Seamless prediction of cold clouds (NCAR)	National Center of Atmospheric Research	NASA - National Aeronautics & Space Administration	115,819	5/31/2014
63603	62232 - Analyzing Model Simulations from the Community Land Model	Carnegie Institution of Washington	NASA - National Aeronautics & Space Administration	31,780	7/30/2014
63482	54211 - Collaborative Research: The Role of Surface, Subsurface and Oceanic and Atmospheric Administration (NOAA)	National Oceanic and Atmospheric Administration (NOAA)	National Oceanic and Atmospheric Administration (NOAA)	57,288	7/31/2014
63520	58354 - Integrated Assessment Modeling of Major Forest Disturbances	University of Maryland at College Park	NASA - National Aeronautics & Space Administration	297,040	8/31/2014
63516	57489 - Integrated Assessment of Coupled Human-Forest Dynamics	University of New Hampshire	NASA - National Aeronautics & Space Administration	391,305	8/31/2014
63475	53677 - Comparative proteomics of women infected with Malaria	Seattle Biomedical Research Institute	NIH - National Institutes of Health	268,370	11/30/2014
63507	56613 - GEPR: Soybean Root Hairs: A model for single-cell plant growth	University of Missouri	National Science Foundation	107,341	8/31/2015
63545	Impact of Organic Matter and Black Carbon Emissions on Climate	National Oceanic and Atmospheric Administration (NOAA)	National Oceanic and Atmospheric Administration (NOAA)	455,008	8/31/2015
63558	60730 - High Order Model, Computation, and Stochastic Hybrid Models	University of Notre Dame	National Science Foundation	28,124	9/30/2015
64029	62438 - Prediction and Network Construction Using High-throughput Sequencing	University of Washington	NIH - National Institute of General Medical Sciences	46,326	6/30/2014
63489	54923 - Genetic analysis of Salmonella typhimurium virulence	Oregon Health Sciences University	NIH - National Institutes of Health	85,890	11/30/2013
63477	53776 - Genetic Analysis of Salmonella Typhimurium Virulence	Oregon Health Sciences University	NIH - National Institutes of Health	144,012	11/30/2013
63885	58766 - Automated NMR Potato Sensing	Lamb Weston	Lamb Weston	27,072	12/31/2012
63468	53063 - Evaluation and development of FT catalysis	Korea Institute of Energy Research	Korea Institute of Energy Research	28,958	12/31/2012
63742	61886 - COMcheck Ontario	Municipal Affairs & Housing Building	Municipal Affairs & Housing Building	8,127	3/31/2013
63604	62241 - CSC FRAMES Support Task Order 1521-02	Computer Sciences Corporation	EPA Mid-Continent Ecology Division	125,453	5/7/2013
63760	61148 - NREL WIND SITE SWEA	Los Alamos Technical Associates (LATA)	National Renewable Energy Laboratory - NREL	17,000	9/30/2013
63573	61088 - CO2BOLs post combustion	U.S. Department of Energy (DOE)	U.S. Department of Energy (DOE)	997,718	3/31/2014
63585	61615 - EMFP of Bitumen for Fuel and Chemical Production	H-Quest Partners, LP	H-Quest Partners, LP	20,064,674	9/30/2015
63524	59070 - Numerical Simulator for the Kinetic Exchange of Gases	Korea Institute of Geoscience & Mineral Research	Korea Institute of Geoscience & Mineral Research	85,464	12/31/2013
63622	62715 - GS3 for EPA Region 5	EPA, Environmental Protection Agency	EPA, Environmental Protection Agency	37,136	9/30/2013
63496	55898 - Shell Oil Co.	Shell Oil Company	Shell Oil Company	360,000	12/31/2014
63453	Carbon Sequestration Field Pilot Study	National Energy Technology Laboratory (NETL)	National Energy Technology Laboratory (NETL)	2,167,949	12/31/2014
63587	61713 - Support for RTI	Real-Time Innovations, Inc.	Air Force, Research Laboratory	182,414	9/30/2013
63755	63106 - Installation of SAIC P7500 at 3440 Test Track	Science Applications International Corporation - SAIC	DHS - Customs & Border Protection	300,000	10/31/2012
63854	63166 - Installation of Smiths IRD & HE System at 3440 Test Track	Smith's Detection	DHS - Customs & Border Protection	710,000	12/30/2012
63493	Visual Sample Plan Training Course in Support of AMEC	AMEC	AMEC	30,000	4/30/2013
63544	60207 - Geometric flow approach to implicit solvation models	Michigan State University	NIH - National Institutes of Health	118,823	7/31/2013
63737	60586 - Characterization/bioinformatics modeling	Washington University School of Medicine	National Institute of Health (NIH)	254,386	8/31/2013
63511	57182 - Natural Products	Antelope Therapeutics, LLC	Antelope Therapeutics, LLC	572,712	9/30/2013
63614	62510 - NEI Minor Phase II	Intelligent Automation, Inc.	U.S. Army Corps of Engineers	8,472	11/13/2013
63541	National Biomedical Computation Resource	University of California, San Diego	NIH - National Institutes of Health	57,659	4/30/2014
63579	61394 - Immunization Safety Beliefs in Microblogs	Infectious Diseases Society of America Edu & Rsch	Sealy Center for Vaccine Development, UTMB	50,956	5/1/2014
63589	61764 - Nanophotonic sensor fabrication and characterization	University of Delaware	National Science Foundation	39,000	3/31/2015
63542	59994 - Mechanism of Oxysterol Activation of Membrane Cholesterol	Washington University School of Medicine	NIH - National Institutes of Health	158,361	9/30/2015
63479	54067 - RL16 Laboratory (post-cert)	CTBTO	CTBTO	375,000	9/30/2015
63440	28480 - Chernobyl Shelter Implementation Plan Project Management	Ministry of Energy of Ukraine State Dept. of Nuclear Safety	European Bank for Reconstruction and Development	45,000,000	9/30/2015
63834	59383 - GC PUD Productivity	Grant County Public Utility District	Grant County Public Utility District	8,110	12/31/2012
63842	61023 - Spawm Habitat	Grant County Public Utility District	Grant County Public Utility District	7,582	12/31/2012
63833	59272 - Fall Chinook Working Group	Grant County Public Utility District	Grant County Public Utility District	11,000	12/31/2012
63851	62541 - Phase 2 O2 Isotopes Fall Chinook	Idaho Power Company	Idaho Power Company	83,000	12/31/2012
63606	62290 - McNary Steelhead Fallback	Army Corps of Engineers - Walla Walla District (USACE)	Army Corps of Engineers - Walla Walla District (USACE)	99,677	12/31/2012

APPENDIX I
LIST OF BATTELLE MEMORIAL INSTITUTE LEGACY WORK
(LEGACY PROJECT AUTHORIZATION - NOVEMBER 2013)

Contract No. DE-AC05-76RL01830
Modification M963

SCOPE NO	PROPOSAL TITLE	CONT_CLNT_NAME	FUND_CLNT_NAME	WALS COST_AMT	WALS PROP_END_ DATE
63837	59746 - Egg to Fry Survival	Grant County Public Utility District	Grant County Public Utility District	50,000	12/31/2012
63624	62747 - Tailrace Tracking	Army Corps of Engineers - Walla Walla District (USACE)	Army Corps of Engineers - Walla Walla District (USACE)	290,951	2/15/2014
63623	62724 - External JSATS Field Test	Army Corps of Engineers - Walla Walla District (USACE)	Army Corps of Engineers - Walla Walla District (USACE)	568,597	3/29/2013
63618	62636 - Steelhead Kelt Passage	Army Corps of Engineers - Walla Walla District (USACE)	Army Corps of Engineers - Walla Walla District (USACE)	567,550	3/29/2013
63913	Spawning & Overwintering of Rainbow Trout	Fish & Wildlife Department - Colville Confederated Tribes	BPA - Portland	288,000	4/30/2013
63577	61316 - WW JSATS	Army Corps of Engineers - Walla Walla District (USACE)	Army Corps of Engineers - Walla Walla District (USACE)	8,319,737	9/30/2014
63738	61110 - Basin of Origin	Grant County Public Utility District	Grant County Public Utility District	450,000	12/31/2013
63840	60894 - Stranding/Entrapment	Grant County Public Utility District	Grant County Public Utility District	750,804	9/30/2015
63835	59402 - Life Cycle Model	Grant County Public Utility District	Grant County Public Utility District	305,017	9/30/2015
63568	61020 - Survival Study	Army, Corps of Engineers - Portland District	Army, Corps of Engineers - Portland District	742,526	9/30/2013
63841	60989 - Barotrauma Consultation	Symbiotics, LLC	Symbiotics, LLC	101,000	9/30/2013
63836	59599 - GC Thermal Modeling	Grant County Public Utility District	Grant County Public Utility District	317,000	12/31/2014
63888	60676 - PRD Turbine Assessment	Grant County Public Utility District	Grant County Public Utility District	848,000	12/31/2014
63829	Tech Services GC PUD	Grant County Public Utility District	Grant County Public Utility District	5,000,000	9/30/2015
63488	54761 - In vivo Characterization of Extracellular Reduction	Bowling Green State University	NIH - National Inst of Environmental Health Sciences (NIEHS)	5,959	11/30/2012
63580	61486 - Research Consultation for American Chemical Council	American Chemistry Council	American Chemistry Council	4,604	12/31/2012
63890	61593 - Airborne Ammonia Sensor Test Flight	Los Gatos Research	U.S. Department of Energy (DOE)	7,900	12/31/2012
63570	61062 - Calculations of Airflow and Particle Breakup Inside	Oregon State University	NASA - John C. Stennis Space Center	3,636	2/5/2013
63598	61949 - Social Network Analysis: Enhance Climate Change Adap	Centre for Environmental Mgmt, CQ University Australia	National Climate Change Adaptation Research Facility	43,632	2/6/2013
63740	61690 - Inhalation Route Isobutyl Series Pharmacokinetics	Oxo Process Panel, ACC	Oxo Process Panel, ACC	40,769	3/31/2013
63850	62322 - UMCP Human Dimensions of Global Change (HDGC) Researc	University of Maryland at College Park	University of Maryland at College Park	67,000	4/30/2013
63481	61493 - PBPK Enabled Urine Biomarker Based Human BPA Exposur	EPA, Environmental Protection Agency	EPA, Environmental Protection Agency	274,080	5/3/2013
63556	Validation of Biomarkers for Triple Negative Breast Cancer	University of Texas Health Science Center-San Antonio	NIH - National Cancer Institute	600,000	6/30/2014
63500	Exceptional, Unconventional Research Enabling Knowledge Acce	University of Miami	NIH - National Institutes of Health	209,112	8/31/2013
63626	62847 - Migration of Y-90 in Tumor	Advanced Medical Isotope Corporation	Advanced Medical Isotope Corporation	412,435	9/30/2013
63609	62435 - Intergenerational & intragenerational equity climat	Ragnar Frisch Centre for Economic Research	Norwegian Research Council	56,222	12/31/2013
63559	60829 - Modeling International Offsets	Electric Power Research Institute	Electric Power Research Institute	50,431	12/31/2013
63497	Support for GTSP	Electric Power Research Institute	Electric Power Research Institute	179,199	12/31/2013
63910	48559 - Vinyl Acetate Council Consulting	Vinyl Acetate Council	Vinyl Acetate Council	1,000,000	1/3/2014
63832	59135 - Molecular Mechanisms of LPS Preconditioning in Strok	Oregon Health & Science University	NIH - NINDS	80,000	6/30/2014
63746	62182 - Evaluation of BPA Dermal Exposure and TK Among Cashi	Ohio State University	Centers for Disease Control & Prevention	88,663	6/30/2014
63728	54142 - Mitral-FSI	University of Maine	NIH - National Institutes of Health	381,000	6/30/2014
63729	55374 - Urinary Proteome Monitoring for Transplant Injury	Stanford University	NIH - National Institutes of Health	800,000	7/31/2014
63566	60962 - A 1.5-T superconducting solenoid-dipole magnet for M	Massachusetts Institute of Technology (MIT)	NIH - National Institutes of Health	152,010	9/30/2014
63745	62084 - Reduction of Black Carbon from Diesel Sources	EPA, Office of International Affairs	EPA, Office of International Affairs	1,000,000	9/30/2015
63540	59973 - Structure-Function of Dirigent Protein in Lignan Bio	Washington State University	National Science Foundation	219,024	9/30/2015
63726	53375 - Administrative Core for OSU/PNNL Superfund	Oregon State University	National Toxicology Program (NIEHS)	251,596	9/30/2015
63735	60260 - Deep RNA sequencing and proteomic analysis of a hybr	University of California, Los Angeles	NIH - National Institutes of Health	575,107	9/30/2015
63597	61923 - Structural Genomics on Infectious Diseases	Seattle Biomedical Research Institute	NIH - Nat'l Inst of Allergy & Infectious Diseases (NIAID)	809,184	9/30/2015
63560	60831 - Vulnerability of DOD facilities to climate change	DOD - Strategic Environmental Research & Development-SER[DOD - Strategic Environmental Research & Development-SERPD	1,734,518	9/30/2015
63464	52726 - Statistics & Bioinformatics for SBRP	Oregon State University	NIH - National Institutes of Health	3,152,595	9/30/2015
63518	57951 - Transplacental pharmacokinetics of dibenzo[a,l]pyren	Oregon State University	National Toxicology Program (NIEHS)	3,261,092	9/30/2015
63549	Animal Model Development for Medical Countermeasures	Department of Health and Human Services	Department of Health and Human Services	26,000,000	9/30/2015
63834	56852 - IEA Task 34	IEA Bioenergy	IEA Bioenergy	86,500	12/31/2012
63467	Aberdeen Proving Ground	Johnson Controls, Federal Solutions	Army, Aberdeen Proving Grounds	209,934	12/31/2012
63452	48997 - ENVIRONMENT-ASSISTED CRACKING MECHANISMS	Rolls Royce & Associates Ltd.	Rolls Royce & Associates Ltd.	223,504	3/31/2013
63744	62045 - Production of Bio-Hydrogenated Diesel (BHD) in Micro	Oregon State University	PTT Public Company Limited	108,500	6/20/2013
63843	61182 - Membrane Evaluation for Redox Flow Battery	LynnTech, Inc.	U.S. Department of Energy (DOE)	125,000	9/30/2014
63847	62021 - FCE UVP Components	Fuel Cell Energy, Inc.	Navy, Office of Naval Research	300,000	9/30/2014
63839	60752 - Sustainable Alternative Jet Fuel from Cellulosic Bio	LanzaTech	US Department of Transportation	200,009	9/30/2014
63519	57999 - ARRA - Pacific Northwest Smart Grid Demonstration	U.S. Department of Energy (DOE)	U.S. Department of Energy (DOE)	46,128,990	9/30/2015
63550	60549 - ARRA Technical Support to FutureGen Industrial Alli	FutureGen Industrial Alliance, Inc.	National Energy Technology Laboratory (NETL)	68,539,852	9/30/2015
63536	59676 - NEEA Industrial Model	Northwest Energy Efficiency Alliance	Bonneville Power Administration - Portland	52,780	12/31/2012
63564	60951 - American Samoa Tropical Energy Code Adoption and Tra	American Samoa Energy Office	DOE, Energy Efficiency and Renewable Energy Network	106,964	12/31/2013
63581	61493 - Transcriptomics Analysis of Fermentation Organisms	LanzaTech	LanzaTech	67,109	3/31/2013
63439	28336 - CVSA Pilot Inspection Study	Commercial Vehicle Safety Alliance	DOE, Office of Civilian Radioactive Waste Management	66,000	9/30/2013
63480	54159 - SECA Vertical Team Coal Based SOFC Stack Development	Delphi	DOE, Office of Fossil Energy	705,000	6/30/2014
63621	62676 - Low-Cost Vacuum-Insulated Glass Windows	Milgard Windows & Doors	Milgard Windows & Doors	205,288	12/31/2012

**APPENDIX I
LIST OF BATTELLE MEMORIAL INSTITUTE LEGACY WORK
(LEGACY PROJECT AUTHORIZATION - NOVEMBER 2013)**

Contract No. DE-AC05-76RL01830
Modification M963

SCOPE NO	PROPOSAL TITLE	CONT_CLNT_NAME	FUND_CLNT_NAME	WALS COST_AMT	WALS PROP_END_ DATE
63546	60306 - Biomarkers for pulmonary injury following deployment	Institute for Systems Biology	Army, Medical Research and Materiel Command	179,775	7/31/2013
63476	53773 - Technical Assistance to Ashland for Catalytic Hydrot	Ashland Speciality Chemical Company	Ashland Speciality Chemical Company	45,902	7/2/2013
63474	Quality Assurance Support	Theseus Professional Services, LLC	DOE, Office of Environmental Management	139,111	9/30/2013
63514	57361 - Quality Assurance Support	Theseus Professional Services, LLC	Farris Engineering-Curtiss Wright Flow Control Corp	16,715	9/30/2013
63748	62446 - Infrared Transmitting Glass Ceramics	Raytheon - Integrated Defense Systems	Defense Advanced Research Projects Agency (DARPA)	144,549	12/31/2013
63887	59828 - AECL Reactor Dosimetry	Atomic Energy of Canada Limited	Atomic Energy of Canada Limited	17,722	3/31/2013
63463	52687 - Tri Cities Patient Safety Improvement	Benton Franklin Community Health Alliance	Benton Franklin Community Health Alliance	30,839	12/31/2012
63571	61072 - EPRI PWR Reactor Support	Electric Power Research Institute	Electric Power Research Institute	12,068	12/31/2012
63461	52306 - Southern California Edison Co.	Southern California Edison Co.	Southern California Edison Co.	36,640	12/31/2012
63484	54489 - SM Stoller - Germanium Detector	SM Stoller Corporation	SM Stoller Corporation	996	3/31/2013
63534	59658 - Chemical Waste Management Northwest	Chemical Waste Management	Chemical Waste Management	854	5/31/2013
63533	59647 - STTR Phase II: Development of an Integrated In-Situ	EIC Laboratories, Inc.	DOE, Office of Science	35,874	8/14/2013
63535	59674 - SBIR Phase II: Development of a Compact Fiber Optica	EIC Laboratories, Inc.	DOE, Office of Science	106,733	8/14/2013
64040	53725 - Isotope Production from Gamma and Neutron Generators	Thorence, LLC	Thorence, LLC	30,000	9/30/2013
63449	47859 - Westinghouse Retrospective Reactor Dosimetry	Westinghouse Electric Company - Nuclear Fuel Unit	Westinghouse Electric Company - Nuclear Fuel Unit	115,763	9/30/2013
64028	57296 - Modeling/Simulation Studies of Cincinnati Arch Mt.	Battelle Memorial Institute	National Energy Technology Laboratory (NETL)	11,000	10/31/2012
63501	56185 - Hunters Point Parcel F BCO Support	Battelle Columbus Operations	Naval Facilities Engineering Command - Southwest Division	15,000	10/31/2012
63523	DU Soil Contamination and Transport	Battelle Eastern Science & Technology Center	Army Public Health Command	1,162	11/30/2012
63915	62594 - Sulfuryl Fluoride Modeling support	Battelle Columbus Operations	Dow Chemical Company	20,000	12/31/2012
63627	62879 - ExFIRS Support	Battelle Columbus Operations	Internal Revenue Service	50,000	12/31/2012
63884	First Wave	Battelle Columbus Operations	Independent Establishments and Government Corporations	75,000	12/31/2012
63973	54140 - Technical and Analytical Support to NA-24	Battelle Columbus Operations	DOE - National Nuclear Security Administration	200,000	1/31/2013
63912	57119 - Chlorpyrifos Children Modeling	Battelle Columbus Operations	Dow Chemical Company	72,000	2/28/2013
63562	60928 - Veterinary Support for Tox Northwest	Battelle Columbus Operations	National Institutes of Health (NIH)	15,000	3/31/2013
63563	60931 - Veterinary Support for Tox Northwest	Battelle Columbus Operations	National Institutes of Health (NIH)	10,000	3/31/2013
63578	61370 - RNTRA	Battelle Columbus Operations	DHS - Department of Homeland Security	261,000	3/31/2013
63510	56994 - Fagitee Management for Rapid Renewal Highway Const	Battelle Columbus Operations	DOE Transportation Research Board	82,300	3/31/2013
63855	63175 - EDSP - TO 03	Battelle Columbus Operations	EPA, Environmental Protection Agency	47,000	4/30/2013
64049	59343 - ACRP 03-16	Battelle Memorial Institute	Transportation Research Board	40,000	4/30/2013
63889	Assessment of Contamination after Laundering	Battelle Columbus Operations	EPA Office of Research and Development	133,980	8/31/2013
63506	56589 - High Flyer Dosimetry Testing	Battelle Memorial Institute	Air Force, School of Aerospace Medicine	110,000	9/30/2013
63438	27190 - Provide Multiple Services to Pre-Clinical Drug Devel	Battelle Columbus Operations	Department of Health and Human Services	350,000	9/30/2013
63911	55031 - Brooks Air Force Base - Dosimeter Irradiations	Battelle San Antonio Operations	Air Force, Brooks Air Force Base	76,465	8/1/2014
63538	59781 - Biological Threat Reduction Program (BTRP/BTRIG)	Battelle Crystal City Office	Defense Threat Reduction Agency (DTRA)	1,500,000	9/30/2013
63491	PBPK Model Support for EPA ORD	Battelle Memorial Institute	EPA, Environmental Protection Agency	350,000	10/31/2013
63530	Evaluation of PB-Biokinetic Model for Bacillus anthracis	Battelle Memorial Institute	EPA, National Risk Management Research Laboratory	174,000	10/31/2013
64041	59556 - ICM Benefit Analysis	Battelle Columbus Operations	US Department of Transportation	75,000	4/30/2014
63495	55879 - MRCS Phase III	Battelle Columbus Operations	National Energy Technology Laboratory (NETL)	1,000,000	9/30/2014
63856	63219 - Evaluation of AEP Oklahoma gridSMART Volt Var Projec	Battelle Columbus Operations	American Electric Power Service	75,000	12/15/2012
63436	07182 - Monitoring marine receiving water	City of Sequim	City of Sequim	9,943	12/31/2012
63442	41578 - Biomarkers and Toxicology involving EVOS-related Spe	Exxon Mobil Corporation	Exxon Mobil Corporation	62,000	12/31/2012
63445	44198 - Silver and Copper Analysis in Effluent	City of Salisbury, WWTP	City of Salisbury, WWTP	5,100	12/31/2012
63515	57393 - Hydrodynamic Modeling Analyses for the Mill Road Res	Columbia Land Trust	Bonneville Power Administration - Portland	19,252	12/31/2012
63505	56575 - Kitsap Co EPA Region X 2009	Kitsap County Public Works	EPA Region 10 - Seattle	12,978	12/31/2012
63617	62562 - USACE NYD Arthur Kill	Battelle Ocean Sciences Laboratory	Army - Corps of Engineers - New York District	28,125	12/31/2012
63521	58366 - Palau Circulation Modeling	University of California, San Diego	Navy, Office of Naval Research	61,239	2/26/2014
63612	62488 - Pelton Round Butte - Temperature Model - FY 2012	Portland General Electric	Portland General Electric	119,910	12/31/2012
63611	62452 - BW Treatment Technology Verification using Test Orga	National Science Foundation International	U.S. EPA - Great Lakes Region	117,640	9/30/2013
63590	61780 - EDSP - TO 38	EPA, Environmental Protection Agency	EPA, Environmental Protection Agency	362,824	4/30/2013
63754	63005 - FSU Mercury	Florida State University	National Oceanic and Atmospheric Administration (NOAA)	12,000	3/1/2013
63543	60076 - EDSP - TO 33	EPA, Environmental Protection Agency	EPA, Environmental Protection Agency	332,854	3/21/2013
63527	59495 - EDSP TO 31 Larval Amphibian	EPA, Environmental Protection Agency	EPA, Environmental Protection Agency	444,663	3/21/2013
63528	59496 - EDSP TO 32 Medaka	EPA, Environmental Protection Agency	EPA, Environmental Protection Agency	676,818	3/21/2013
63485	54627 - Hecla Greens Creek Mining Company	Hecla Green Creek Mining Company	Hecla Green Creek Mining Company	15,566	4/16/2013
63596	Fish and Shellfish Monitoring Analytical	Aluminum Company of America (ALCOA)	Aluminum Company of America (ALCOA)	45,000	6/26/2013
63460	52238 - Ballast Water RDTE Facility	National Oceanic & Atmospheric Administration (NOAA)	National Oceanic & Atmospheric Administration (NOAA)	569,821	9/30/2013
63586	61699 - META CCA Analysis	META Environmental	Electric Power Research Institute	3,569	9/30/2013
63444	43549 - Morro Bay Taxonomic Identifications	Marine Research Specialists	City of Morro Bay	2,800	9/30/2013

APPENDIX I
LIST OF BATTELLE MEMORIAL INSTITUTE LEGACY WORK
(LEGACY PROJECT AUTHORIZATION - NOVEMBER 2013)

Contract No. DE-AC05-76RL01830
Modification M963

SCOPE NO	PROPOSAL TITLE	CONT_CLNT_NAME	FUND_CLNT_NAME	WALS COST_AMT	WALS PROP_END_ DATE
63446	EPA Region 2 Low Level Hg Analyses	EPA Region 2 - New York	EPA Region 2 - New York	7,500	9/30/2013
63450	47930 - Eagle River Water and Sanitation District	Eagle River Water & Sanitation District	Eagle River Water & Sanitation District	10,988	9/30/2013
63443	42556 - Englewood Mercury Analyses 2001 Open PO	City of Englewood-Colorado	City of Englewood-Colorado	12,000	9/30/2013
63592	61829 - Carbon Footprint Tool Technical Support	Noblis	Noblis	86,723	9/30/2013
63616	62561 - USACE NYD Newark Bay	Battelle Ocean Sciences Laboratory	Army - Corps of Engineers - New York District	57,956	4/30/2013
63458	51728 - Penobscot River Mercury Study	Eviron International Corporation	Mallinckrodt	99,290	9/30/2013
63547	60371 - 2010 Maine DEP Gulfwatch	AXYS Analytical Services Ltd	Maine Department of Environmental Protection	56,500	9/30/2013
63600	62172 - TO 1 Chemical Repository	Battelle Columbus Operations	EPA, Environmental Protection Agency	90,260	9/30/2013
63599	61985 - USACE NYD HARS Sampling	Battelle Ocean Sciences Laboratory	Army - Corps of Engineers - New York District	111,488	9/30/2013
63457	DuPont South River Project	Dupont De Nemours and Company, Inc.	Dupont De Nemours and Company, Inc.	176,645	9/30/2013
63526	59394 - Fir Island Farm Restoration	Shannon & Wilson, Inc.	Shannon & Wilson, Inc.	138,733	9/30/2013
63531	59524 - CSF Proteomics	University of Medicine & Dentistry of New Jersey	NIH - National Institutes of Health	155,000	9/30/2013
63487	54715 - Temperature Modeling Support Boundary Hydroelectric	Seattle City Light	Seattle City Light	76,065	12/31/2013
63454	Mercury Analysis - Olin Corporation	Olin Corporation	Olin Corporation	27,434	12/31/2013
63509	56654 - City of Greeley - Hg Analysis	City of Greeley - WPCF	City of Greeley - WPCF	10,983	12/31/2013
63610	62444 - Alyeska Work Order for 2012	Alyeska Pipeline Services Company	Alyeska Pipeline Services Company	95,293	12/31/2013
63739	61146 - High throughput screening of endocrine disruptors	EPA, Environmental Protection Agency	EPA, Environmental Protection Agency	1,200,000	9/30/2015
63494	55849 - Population Climate Project	Population Action International	Population Action International	4,017	9/30/2013
63576	61262 - Nerospora quantitative proteomics study	University of California, Berkeley	British Petroleum	49,500	10/31/2012
63478	53806 - Modeling Post-2012 International Climate Policy Scen	Pew Center on Global Climate Change	Pew Center on Global Climate Change	18,796	12/31/2012
63747	62434 - Cardiac Metabolism and Protein Synthesis during Extr	Seattle Children's Research Institute	NIH - National Institutes of Health	12,000	12/31/2012
63525	59310 - Characterization of Thin Films for Mermistor Devices	Oregon State University	Navy, Office of Naval Research	35,000	12/31/2012
63532	59531 - Characterize the proteome response to hydrocodone	Genova Foundation	Army, Medical Research and Materiel Command	170,839	2/28/2013
63483	A Systems Biology Approach to Emerging Respiratory Viral Dis	University of Washington	NIH - Nat'l Inst of Allergy & Infectious Diseases (NIAID)	1,880,000	9/25/2013
63539	Blood plasma biomarker verification from early stage breast	Fred Hutchinson Cancer Research Center	Susan G. Komen Breast Cancer Foundation	5,984	9/30/2013
63465	52792 - Support for GTSP 3	Chevron Environmental Management Company	Chevron Environmental Management Company	72,968	9/30/2013
63502	56191 - Optimal U.S. freight transport to reduce emissions	University of Illinois	EPA, Environmental Protection Agency	34,225	10/31/2013
63459	51834 - Support for GTSP Phase 3	ExxonMobil Corporation	ExxonMobil Corporation	463,201	12/31/2013
63472	53527 - Chairmanship of GOCF/GOLD	American Geophysical Union	NASA - National Aeronautics & Space Administration	90,089	4/13/2014
63914	61077 - High-Content High-Throughput Zebrafish Assays for Pr	Oregon State University	EPA, Environmental Protection Agency	450,000	1/31/2015
63522	Biomarkers for prostate cancer	University of Washington	NIH - National Cancer Institute	355,000	6/30/2015
63567	Microbiome Studies of Type 1 Diabetes	J. Craig Venter Institute	NIH - Nat'l Inst of Diabetes, Digestive, & Kidney Diseases	823,378	8/31/2015
63753	62860 - Gryphon Scientific	Battelle Columbus Operations	DHS - Department of Homeland Security	50,000	3/31/2013
64155	62631 - Support for Midwest Carbon Sequestration	Battelle Columbus Operations	Ohio Department of Development	10,000	10/31/2012

Section J – Appendix K

Advance Agreement on Disposition of Battelle Owned Personal Property/Nuclear Materials for the Pacific Northwest National Laboratory

The Parties agree as follows:

Battelle Memorial Institute (Battelle) owns certain property which includes: personal property, nuclear materials, and one G-1 aircraft with associated parts. Such property identified is required for the continued operations and missions of the Pacific Northwest National Laboratory (PNNL).

For Battelle owned personal property and nuclear materials, which are either fully depreciated or in the case of nuclear materials that are required for transfer for the purposes of eliminating state licenses and the assumption of licensing by the Department of Energy and its regulatory requirements, sales agreements between the Parties will be executed and made part of this advance agreement effective October 1, 2012. Appendix K-1 Advance Agreement On Costs And Disposition Of Battelle Owned Personal Property (Attachment A – Personal Property Sales Agreement) and Appendix K-2 Advance Agreement On Costs And Disposition Of Battelle Owned Nuclear Materials (Attachment A – Nuclear Materials Sales Agreement)

For those personal property items listed in Appendix K-1, Attachment B (Rev. 1) – Retained Personal Property, that still have remaining net book value, the Parties agree to execute a sales agreement (Attachment AA – Personal Property Sales Agreement) effective October 1, 2013. The Parties agree that the personal property listed in Appendix K-1, Attachment B (Rev. 1), will be screened prior to transfer of all property to determine if said property may be excess to the needs of PNNL and the property identified as broken, non-repairable, or excess to the needs of PNNL will be transferred to PNNL and subsequently processed for excess or scrap/salvaged in accordance with DOE property management regulations.

For those nuclear materials listed in Appendix K-2, Attachment B – Retained Nuclear Materials, that were for the sole purpose of fulfilling Battelle Memorial Institute Legacy Work, the Department and Battelle have determined there is no longer a continuing need for those nuclear materials and those retained nuclear materials have been appropriately disposed of by Battelle.

For those personal property items related to the G-1 aircraft listed in Appendix K-1, Attachment C - Personal Property Associated with G-1 Aircraft, the Parties agree to review the list of property on an annual basis and determine the need for the property associated with the aircraft and its associated operation and against any requirements as promulgated by the Federal Aviation Administration. As personal property associated with the G-1 aircraft reaches a net book value of \$0, the Parties will be required to determine the appropriate pathway for disposition.

Battelle and DOE agree the best interests of both Parties are served by executing an Advance Agreement on the costs and disposition pathways for the Battelle owned personal property/ nuclear materials and an agreement for the use and costs associated with the G-1 aircraft. The text of those advance agreements are described as follows in Appendix K-1 and Appendix K-2.

Agreed and acknowledged by the Parties as of the 19th day of December, 2013.

Battelle Memorial Institute

By: Michael K...

Date: 12/18/2013

U.S. Department of Energy

By: [Signature]

Date: 12-19-13

APPENDIX K-1

ADVANCE AGREEMENT ON COSTS AND DISPOSITION OF BATTELLE OWNED PERSONAL PROPERTY

The Parties acknowledge that in consideration of the extension of Contract No. DE-AC05-76RL01830 from October 1, 2012 through September 30, 2017, it would be in the best interests of both Parties to enter into this Advance Agreement on Costs and Disposition of Battelle Owned Personal Property (hereinafter referred to as "the Agreement – Personal Property"),

The Parties agree as follows:

General Principles

1. All personal property transferred to DOE under Attachment A, Personal Property Sales Agreement, or Attachment AA, Personal Property Sales Agreement, to this Agreement - Personal Property will be appropriately tagged by December 31, 2012, or December 31, 2013, as appropriate. This requirement applies only where a physical tag is required in accordance with the DOE property requirements.
2. The Parties agree that each and every obligation of the Government contained herein involving an expenditure of funds is subject to the availability of the appropriated funds of the DOE, or in the event of a claim, as provided by the Contract Disputes Act, if applicable. DOE will use its best efforts to obtain funds to meet all of its obligations under this Agreement - Personal Property. Nothing herein shall be construed as implying that the Congress will, at a later date, appropriate funds sufficient to meet deficiencies.

Miscellaneous Personal Property

3. As of October 1, 2012, the title to all personal property identified in Attachment A shall be transferred to and reside in DOE.
4. As of October 1, 2012, all costs (including depreciation, insurance and cost of capital), associated with the maintenance and management (including disposition) pursuant to the DOE-approved property management system, of the personal property identified on Attachment B that are otherwise allowable under the terms of the PNNL Prime Contract shall be allowable, if not otherwise unallowable under any other term of the Contract, so long as:
 - a. The property remains functional and available for DOE use, and
 - b. The property and its associated costs will be properly allocated to the benefiting projects, and

- c. The property is necessary for conduct of assigned missions and/or capabilities of PNNL, and
 - d. DOE has not expressly declined utilization of the property.
5. As of October 1, 2013, no further depreciation, insurance or cost of capital shall be charged or considered allowable for the property identified in Attachment B (Rev. 1).
 6. As of October 1, 2013, the title to all personal property identified in Attachment B (Rev. 1) shall be transferred to and reside in DOE.
 7. The consideration for the transfer of title to all miscellaneous personal property identified in Attachment A from Battelle to DOE will be documented in the initial executed sales agreement.
 8. The consideration for the transfer of title to all miscellaneous personal property identified in Attachment B (Rev. 1) from Battelle to DOE will be documented in the subsequent executed sales agreement (Attachment AA).

Aircraft

9. Battelle currently owns a certain aircraft and associated personal property, as described in Attachment C - Personal Property Associated with G-1 Aircraft.
10. Missions assigned to and undertaken by Battelle as Operator of PNNL have need for such aircraft. As such it is considered in the Government's interest for Battelle to continue to provide such aircraft and associated personal property on an exclusive basis for use under the PNNL Prime Contract. While in the service of PNNL, such aircraft will be maintained in compliance with any and all statutes, laws, ordinances, regulations and standards or directives issued by any governmental agency applicable to the maintenance thereof, in compliance with any airworthiness certificate, license or registration relating to such aircraft issued by any agency and in a manner that does not modify or impair any existing warranties on the aircraft or any part thereof.
11. As of October 1, 2012, expenses associated with the maintenance and management of such aircraft and associated personal property identified in Attachment C (including, without limitation, (i) depreciation, (ii) the cost of capital, (iii) the allocable portion of a liability insurance policy with a policy limit of \$50,000,000.00, (iv) future repair/replacement of parts or components of the aircraft and associated personal property, and (v) all costs of maintaining and managing the aircraft and associated personal property) shall be allowable under the terms of the PNNL Prime Contract, if not otherwise unallowable under any other term of the Contract, so long as:
 - a. The aircraft and associated personal property remain functional and available for DOE use, and
 - b. The aircraft and associated personal property are necessary for conduct of assigned missions and/or capabilities of PNNL, and
 - c. DOE has not expressly declined utilization of the aircraft and associated personal property.

**Appendix K-1
Attachment AA
Personal Property Sales Agreement**

WHEREAS, Battelle Memorial Institute (**Battelle**) owns certain personal property, described in Appendix K-1, Attachment B (Rev. 1);

WHEREAS, such personal property is available for use in performing work under Contract No. DE-AC05-76RL01830, as amended (**PNNL Prime Contract**); and

WHEREAS, Battelle and the United States Department of Energy (**DOE**) have reached agreement (Appendix K-1) with regard to the allowability of certain costs associated with such property and Battelle and DOE desire to execute the transfer of title regarding such personal property;

THEREFORE, effective October 1, 2013 (**Effective Date**), DOE and Battelle agree as follows:

1. Authority. The authority for this Personal Property Sales Agreement is the Atomic Energy Act § 161g.

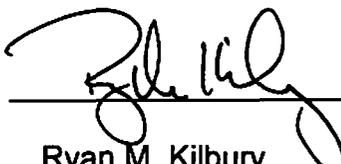
2. Transfer of Personal Property and Consideration
 - A. As of the Effective Date of this Personal Property Sales Agreement, the title to all personal property identified in Appendix K-1, Attachment B (Rev.1) shall be transferred to and reside in DOE. DOE hereby accepts transfer of title to such property in an AS-IS condition.

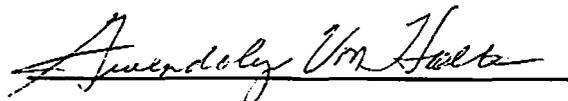
 - B. The consideration for the transfer of title to all personal property identified in Appendix K-1, Attachment B (Rev. 1) from Battelle to DOE is \$894,507.43, receipt of which is hereby acknowledged.

3. Exclusive use. As of the Effective Date of this Personal Property Sales Agreement, all personal property identified in Appendix K-1, Attachment B (Rev. 1) shall be used solely in connection with work authorized under the PNNL Prime Contract, or as directed in writing by DOE.

U. S. DEPARTMENT OF ENERGY

BATTELLE MEMORIAL INSTITUTE

By: 
Ryan M. Kilbury
Contracting Officer


Gwendolyn Von Holten
VP, Finance

Date: 12-19-13

Date: 12/10/13

Appendix K-1
Attachment B - Retained Personal Property
(Rev. 1)

Contract Number: DE-AC05-76RLO1830
Modification M963

ACQ DATE	BLD NO	ROOM	PROPTY NO	PROPTY NAME	EQPT TYPE	MFG MODEL	MFG NAME	SERIAL NO	TOTAL COST	NBV
27-May-03	2400STV	1837	N827488	SPECTROPHOTOMETE	UV/VIS/NIR	LAMBDA900	PERKIN ELMER	04230410994	72790	0.00
20-Feb-03	2400STV	1837	N830459	LASER	ARGON ION	INNOVA306C	COHERENT	21288707	57226	0.00
01-Aug-80	318	122	N822904	MONITOR	AIR PARTICULATE	ALPHAIII	EBERLINE	547	1988	0.00
25-Sep-08	3420	1607	N827629	AUTOSAMPLER	RANDOM ACCESS	ASX-520	CETAC TECHNOLOGI	080856A520	17814	8,694.30
01-Dec-08	3420	1607	N828217	SPECTROMETER	DUAL VIEW	6500 DUO	THERMO SCIENTIFIC	ICP-20083612	88124	45,236.97
01-Apr-04	APEL	207	N828142	CHROMATOGRAPH	GAS	6890N	AGILENT TECHNOLO		22045	1,445.62
21-Sep-05	APEL	217	N828152	CONTROLLER		720 CONTROLLEF	SHOP MADE		18793	3,938.07
01-Apr-04	APEL	207	N828141	DETECTOR	MASS SELECTIVE	5973	AGILENT TECHNOLO		66212	4,341.87
01-Aug-04	APEL	105	N828149	GLOVE BOX	CONTROLLED ATM	LABMASTER130	M BRAUN	LM04118	81659	7,448.46
13-Oct-11	BIL	105	N828466	PURIFIER	PURELAB	PRIMA	SIEMANS WATER TE	PR15E239736	10985	5,444.60
26-Jun-09	BRSW	10	N827637	LIFT	TUK-A-WAY	GPT3	MAXON	0509151662	8809	4,967.34
01-Oct-03	BSEL	166	N830519	CHROMATOGRAPH	LIQUID	HPLC	SHIMADZU SCIENTIF		73563	0.00
01-Oct-03	BSEL	262	N830521	EVAPORATOR	ROTARY	R205	BUCHI		16142	0.00
01-Oct-03	BSEL	166	N830522	CHROMATOGRAPH	GAS	GC2010	SHIMADZU SCIENTIF	SS1619	51166	0.00
01-Oct-03	BSEL	262	N830525	REACTOR	BENCH TOP	4566	PARR INSTRUMENT	25019B	32658	0.00
07-Jun-04	BSEL	156	N827532	CHILLER		TDK20022KC150I	TEK TEMP	E280422701C	174282	80,558.49
11-Feb-03	BSF	1229	N827468	DEWAR	LIQUID NITROGEN	265MP	NORCO	CBIL03A101	2924	0.00
25-Feb-03	BSF	1229	N830437	DETECTOR	MASS SELECTIVE	5973	AGILENT TECHNOLO	US21864678	81815	0.00
25-Feb-03	BSF	1229	N830438	MASS SPECTROMETER	SERIES 1100	1100	AGILENT TECHNOLO	US25113091	162620	0.00
25-Feb-03	BSF	1224	N830439	CHROMATOGRAPH	GAS	6890N	AGILENT TECHNOLO	US10251138	88677	0.00
25-Feb-03	BSF	1224	N830440	CHROMATOGRAPH	GAS	6890N	AGILENT TECHNOLO	US10302076	29905	0.00
25-Jan-06	BSF	1229	N827585	DEWAR	LIQUID GASES	MVEDUA	MVE	CBKM05M106	4198	915.50
25-Jan-06	BSF	1229	N827584	DEWAR	LIQUID GASES	MVEDUA	MVE	CBKM05M104	4201	916.24
12-Apr-04	BSF	2222	N827516	READER	MICROPLATE	SIAFR	BIO TEK INSTRUMEN	190056	28196	1,368.26
22-Feb-06	BSF	1229	N828168	HEAT EXCHANGER	POLYSCIENCE AIR	3370	AGILENT TECHNOLO	G57110	6822	1,545.87
13-Oct-11	BSF	1229	N828494	HOOD	LABORATORY FUM	FS1645	FLOW SCIENCES		5554	1,885.89
22-Feb-06	BSF	1229	N828166	AUTOSAMPLER	RANDOM ACCESS	ASX-520	CETAC TECHNOLOGI	110526A520	10466	2,371.66
13-Oct-11	BSF	2240	N828485	FREEZER	ULTRA-LOW TEMP	ULT21863A30	REVCO	P136330290P	7128	2,431.92
13-Oct-11	BSF	1229	N828491	BALANCE	MICROBALANCE	UMX2	METTLER	1127163959	16254	9,607.05
22-Feb-06	BSF	1229	N828154	MASS SPECTROMETER	ICP-MS	7500CE	AGILENT TECHNOLO	JP51201542	160191	36,300.56
27-Sep-05	EMSL	1413	N827578	CHROMATOGRAPH	GAS	G2801A	AGILENT TECHNOLO	US10538002	24365	5,105.67
01-Aug-04	EMSL	1418	N828145	CONTROLLER	SPECTROMETER	720 CONTROLLEF	BRUKER INSTRUMEN	1502	439950	40,129.72
07-Jun-12	EMSL	1521	N828486	MASS SPECTROMETER	QQQ	G6410A	AGILENT TECHNOLO	US63810127(109700	55,105.50
06-Jun-12	EMSL	2591	N828478	PUMP	NANOACQUITYUP	186016002	WATERS	M08NPB528M	119018.13	66,674.33
01-Jul-04	ETB	1332	N830469	GPS	GLOBAL RTK SURV	5800	TRIMBLE NAVIGATIC	4426135305	24357	1,597.21
01-Jul-04	ETB	1332	N830470	GPS	GLOBAL RTK	5700	TRIMBLE NAVIGATIC	0220331845	25127	1,647.74

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27-Sep-12	LSL2	S EQUIPM	N827597	CIRCUIT BREAKER	AIR	DS632	WESTINGHOUSE		19055	11,494.94
01-Oct-03	LSW	6666	N830524	REACTOR	BENCH TOP	4566	PARR INSTRUMENT	25019A	32658	0.00
01-Oct-03	LSW	6666	N830526	DISTILLATION SYSTEM	WIPED FILM STILL	WFS	POPE SCIENTIFIC		46556	0.00
01-Jun-08	LSW	6666	N830552	SCANNER	HOLOGRAPHIC BO	720 HOLOGRAPH	INTELLIFIT		91900	42,422.11
19-Sep-03	MSL1	6666	N828279	MOTOR	OUTBOARD	LF200TXRC	YAMAHA	1000548	16492	0.00
02-Dec-03	MSL1	6666	N828280	MOTOR	OUTBOARD	LF200TXRC	YAMAHA	1002794	16485	0.00
17-Mar-03	MSL1	108	N830481	READER	MICROPLATE	SIAFRT	BIO TEK INSTRUMEN	185930	29446	0.00
14-Mar-03	MSL1	6666	N830484	TANK	FISH HOLDING	FCT9400	RED EWALD		11523	0.00
14-Mar-03	MSL1	6666	N830485	TANK	FISH HOLDING	FCT9400	RED EWALD		11454	0.00
08-Jan-03	MSL1	6666	N830432A	BOAT	BOAT	AOGXR	SAFE BOATS INTERN	EG000178A2C	402	148.70
01-May-04	MSL1	6666	N828293	TRAILER	BOAT	KB15000B3RM	KING TRAILERS	4XBBZ34334A	9629	467.26
01-Jun-04	MSL1	108	N830504	PCR SYSTEM	REAL TIME	7300	APPLIED BIOSYSTEM	75034051056	34082	2,234.92
31-May-02	MSL1	6666	N830432	BOAT	BOAT	AOGXR	SAFE BOATS INTERN	EG000178A2C	52439	18,924.72
01-May-04	MSL2	111	N828296	CAMERA	MICROSCOPE SLID	RT740	SPOT	229812	10906	715.16
01-Oct-04	MSL2	110	N830539	TEST CHAMBER	ENVIRONMENTAL	6030	CARON PRODUCTS	07060467770	24466	2,231.64
01-May-04	MSL2	111	N828291	MICROSCOPE	INVERTED	DMIRMHC	LEICA MICROSysten	090134010	46336	3,837.30
10-May-10	MSL2	111	N828459	IMAGING SYSTEM	2 CHANNEL SIMUL	DV2	MAG BIOSYSTEMS	Q09B121009(12490	3,854.70
01-Jun-05	MSL2	108	N830551	CENTRIFUGE	ULTRA	OPTIMAMAX	BECKMAN COULTER	CTM04004	71205	11,309.79
01-Sep-05	MSL2	111	N829002	CYTOMETER	IMAGING FLOW C	FLOWCAM	FLUID IMAGING TEC	FIT402	101060	19,470.03
01-May-06	MSL2	OUTSD	N828316	BOAT	BOAT-31' WALK AI	AXGXC31	SAFE BOATS INTERN	EGO00887C6(215849	126,156.02
14-Mar-03	MSL5	227	N830479	CHROMATOGRAPH	ION	DX600	DIONEX	02080350	36871	0.00
14-Mar-03	MSL5	223	N830480	SPECTROMETER		720 SPECTROME	ORTEC		12227	0.00
07-Jul-03	MSL5	219	N830489	WASHER	MICROPLATE	ELX50	BIO TEK INSTRUMEN	186454	6050	0.00
21-Jul-03	MSL5	114	N830491	SPECTROMETER	ICP-OES	OPTIMA4300	PERKIN ELMER	077N3072802	84116	0.00
01-Mar-04	MSL5	215	N830501	SAMPLER	AUTOMATIC LIQU	7683	AGILENT TECHNOLO	CN40835133	9790	475.08
07-Sep-04	MSL5	118	N828297	CYCLER	THERMAL	720 CYCLER THEP	BIO-RAD LABORATO	582BR011920	7188	595.40
01-Mar-04	MSL5	215	N830500	CHROMATOGRAPH	GAS	6890N	AGILENT TECHNOLO	CN10412070	13364	648.51
01-Mar-04	MSL5	227	N830493	ANALYZER	MERCURY	HYDRA AA	LEEMAN LAB	HA3032	26180	1,050.31
01-Mar-06	MSL5	126	N828312	DETECTOR	MERCURY	2500	TEKRAN	0196	5738	1,346.14
01-Mar-06	MSL5	126	N828311	DETECTOR	MERCURY	2500	TEKRAN	0195	6679	1,566.88
01-Mar-04	MSL5	215	N830499	DETECTOR	MASS SELECTIVE	5973	AGILENT TECHNOLO	US40630259	68820	3,339.57
01-Mar-08	MSL5	114	N828344	FIAS-400		FIAS 400	PERKIN ELMER	400S7121901	14035	6,124.42
01-Mar-08	MSL5	114	N828343	SPECTROPHOTOMETE		ANALYST 400	PERKIN ELMER	201S8013202	14039	6,126.15
01-Mar-05	MSL5	223	N830541	EXTRACTOR	ACCELERATED SOL	ASE300	DIONEX	05030003	48590	6,478.07
01-Apr-06	MSL5	130	N828314	FREEZE DRYER	BENCHTOP SHELL	25XL70	VIRTIS	218526	27328	6,644.03
12-Apr-06	MSL5	130	N828313	FREEZE DRYER	BENCHTOP SHELL	25XL70	VIRTIS	218528	27556	6,699.50
01-Mar-05	MSL5	219	N830542	CHROMATOGRAPH	GAS	6890N	AGILENT TECHNOLO	WS10510061	53439	6,699.94

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01-Feb-04	MSL5	227	N830497	MASS SPECTROMETER	ICP	ELANDRCE	PERKIN ELMER	W0600402	172228	6,909.53
01-Mar-08	MSL5	114	N828345	S10 AUTOSAMPLER		S10 AUTOSAMPL	PERKIN ELMER	102S8010402	15699	6,996.09
01-Apr-05	MSL5	219	N830544	CHROMATOGRAPH	LIQUID	100HPLC	AGILENT TECHNOLO	DE43624744	56878	7,131.08
05-May-06	MSL5	227	N828315	ANALYZER	DIRECT MERCURY	DMA-8204	MILESTONE SRL	05120292	39290	9,880.27
19-Feb-13	MSL5	114	N828350	ANALYZER	COMBUSTION CAT	TOC-LCSH	SHIMADZU	H542049002C	32002	29,966.33
08-Jul-05	MSL7	130	N828302	SURVEY INSTRUMENT		LASERACE300	MDL	79157	5502	1,060.05
01-Jul-05	MSL7	109	N828300	MAPPING SYSTEM	GEOEXPLORER XT	720 MAPPING SY	TRIMBLE NAVIGATIO	4515E00071	5903	1,137.31
21-Jul-05	MSL7	105	N828305	FLUOROMETER	PULSED AMPLITUDE	720 FLUOROMET	HEINZ WALZ	UWFA0227A	25633	4,938.38
01-Mar-04	OFFSITE		N828288	MAPPING SYSTEM	GEOEXPLORER XT	720 MAPPING SY	TRIMBLE NAVIGATIO	4412A40693	5997	240.58
01-Apr-04	OFFSITE		N827524	TRANSDUCER	SPLIT BEAM MULT	PAS420	PRECISION ACOUSTI	468	6889	334.29
01-Apr-04	OFFSITE		N827526	TRANSDUCER	SPLIT BEAM MULT	PAS420	PRECISION ACOUSTI	474	6889	334.29
01-Apr-04	OFFSITE		N827523	TRANSDUCER	SPLIT BEAM MULT	PAS203	PRECISION ACOUSTI	25	7310	354.74
04-May-04	OFFSITE		N827520	TRANSDUCER	SPLIT BEAM MULT	PAS420	PRECISION ACOUSTI	467	9350	453.73
04-May-04	OFFSITE		N827519	TRANSDUCER	SPLIT BEAM MULT	PAS420	PRECISION ACOUSTI	448	9352	453.82
07-May-04	OFFSITE		N827529	RECEIVER	TELEMETRY	SRX400	LOTEK	11803A	8065	461.15
07-May-04	OFFSITE		N827531	RECEIVER	TELEMETRY	SRX400	LOTEK	11805A	8066	461.18
07-May-04	OFFSITE		N827528	RECEIVER	TELEMETRY	SRX400	LOTEK	11802A	12776	730.51
01-Apr-04	OFFSITE		N827521	ECHO SOUNDER	MULTI-MODE	PAS103	PRECISION ACOUSTI	53	36732	1,782.47
01-Apr-04	POS2	1	N827527	TRANSDUCER	SPLIT BEAM MULT	PAS420	PRECISION ACOUSTI	475	6889	334.29
01-Jul-04	POS2	1	N828292	SURVEY INSTRUMENT	ROBOTIC TOTAL S	5603	TRIMBLE	63323451	27635	1,812.19
02-Sep-04	PSL	256	N827557	THERMAL CYCLER	DNA ENGINE	PTC0200	MJ RESEARCH	EN025690	39341	3,588.47
16-Jun-08	PSL	1623	N828326	PROBE		UNIVERSAL	JANDEL ENGINEERIN		20256	9,433.67
02-May-08	PSL	1316	N828325	AIR CONDITIONER	CHALLENGER 3000	BU071WGAAEI	LIEBERT		24028	10,885.07
01-Jan-07	ROB	1104	N827594	VIDEO CONFERENCE S		880MXP	TANDBERG	30A7372	12472	3,978.77
06-Jun-12	RPL	313	N828477	SPECTROMETER	FT-IR	NICOLET6700	THERMO ELECTRON	AGB0500422	76731.43	0.00
01-Jun-04	RPL	400	N830443	SAMPLER	AUTOMATIC	AS50	DIONEX	04050273	4146	378.22
01-Jun-04	RPL	400	N830447	GENERATOR	EFFLUENT	EG50	DIONEX	04060079	6591	601.18
01-Jun-04	RPL	400	N830448	GENERATOR	EFFLUENT	EG50	DIONEX	04050038	6591	601.18
01-Jun-04	RPL	400	N830450	DETECTOR	ELECTROCHEMICA	ED50A	DIONEX	04060230	7898	720.40
01-Jun-04	RPL	400	N830449	DETECTOR	CONDUCTIVITY	CD25A	DIONEX	04040745	8086	737.55
20-Sep-04	RPL		N827563	TRUCK	MICRO PICKUP	TRUCKALLMXCI	VANTAGE VEHICLE	LFWAIFI2X4JA	10381	2,000.02
01-Jun-04	RPL	400	N830444	SAMPLER	AUTOMATIC	AS50	DIONEX	04050274	49309	4,497.69
01-Sep-05	RPL	22	N828151	LASER FLASH APPARA	THERMOPHYSICAL	LFA457	NETZSCH		168707	32,502.79
09-Jan-06	RPL	405	N827583	SPECTROMETER	ICP-OES	5300DV	PERKIN ELMER	077N5122002	130085	44,751.34
01-Apr-04	RSW	1	N827525	TRANSDUCER	SPLIT BEAM MULT	PAS420	PRECISION ACOUSTI	473	6889	334.29
23-May-06	RTL520	416	N828317	MAGNETIC SYSTEM		MS12	MICROTECH INSTRU	21552	91400	22,984.38

894,507.43