

Title: State-of-the-Art Chemical and Biochemical Research at the University of Wyoming:
Funding Proposal for Maintenance of a High-Resolution Mass Spectrometer

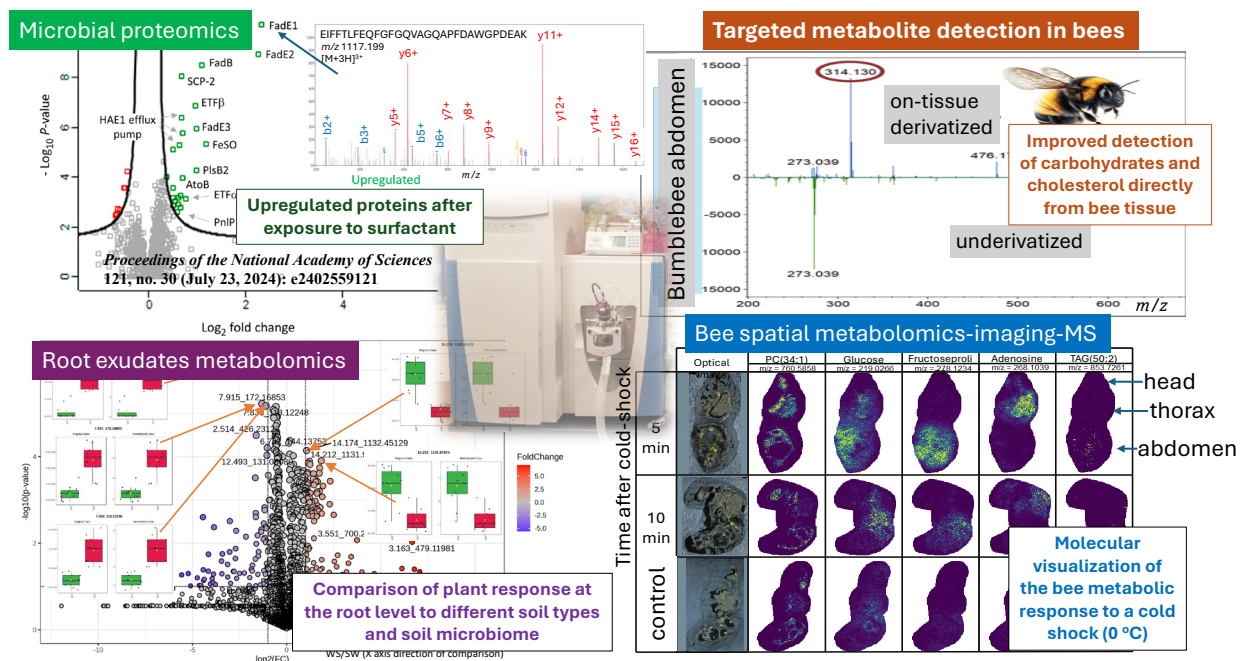
PI Franco Basile *Chemistry, CEPS*

Co-PIs: *See complete list in table*

Total amount requested: \$66,922

Project Description

What is being requested: This proposal requests funds to purchase a service agreement for the period 2025-26 for a Liquid Chromatography-Orbitrap Mass Spectrometer instrument (a.k.a. ‘Orbitrap’) currently housed in the PI’s laboratory (F. Basile, Chemistry Department). The Orbitrap was purchased with funds from an NSF Track 1 grant in 2018, and since then it has been a critical component for several multiple-PI research projects being conducted at UW as well as in teaching (complete list below; Some examples of projects shown in the figure below).



Why is being requested: As with many sophisticated and complex instruments, the Orbitrap requires periodic maintenance, and on occasions repairs, to ensure its continued performance to conduct high-resolution MS measurements at UW (see Table).

Thanks to the 2024 CEPS One-Time funding to purchase a service agreement for the 2024-25 period, this past summer the Orbitrap was fixed and back in service within 2 weeks after it suffered a catastrophic turbomolecular pump failure in its main vacuum manifold. *Without this support, repair of this system would have taken 4-6 months due to the slow process of issuing a Purchase Order at UW and the non-priority scheduling with the manufacturer (Thermo), in addition to the time required by the PI to find funds to pay for the service. This delay would have brought to halt many research projects at UW that depend on this instrument.*

Support for the purchase of an Orbitrap service agreement for the year 2025-26 is vital for the continued progress of World-Class research at UW -impacting at least 10 investigators (all with limited budgets) and their graduate students- while at the same time facilitating the undertaking of new projects and seeking new funding opportunities.

How the proposal will benefit the College: The Orbitrap instrument has state-of-the-art capabilities for high-resolution mass measurements and molecular imaging that make it a unique resource at UW and in the Western state region. Currently, *the use of the Orbitrap is directly contributing to two of the goals of the Tier 1 Engineering Initiative:*

World-Class Research and Graduate Education: Research using the Orbitrap spans metabolite and protein detection in samples like bacteria, plants, soil, and bees, and in the development of new Analytical Chemistry technologies. Collaborative work between Prof. Daniel Wall and Prof. Basile on microorganism behavior was published in the journal *Proceedings of the National Academy of Sciences* (PNAS; see figure for complete citation). Pending proposals with the USDA (PI: van Diepen, co-PI: Basile) and NSF (PI: Basile, co-PI: Weinig et al.) highlight the Orbitrap's role in metabolite identification and molecular imaging-MS. Prof. Basile also provides expert support and Orbitrap/MALDI-MS/GC-MS access for projects across the College, including coal research (Prof. Maohong Fan) and molasses by-product characterization (Dr. Roberta Sabino). A full list of collaborators is shown in the table below.

Current Research Projects Using the Orbitrap-MS system at the University of Wyoming:

PI	Dept/College	Project using the Orbitrap	Funding agency
Basile	Chemistry/CEPS	molecular imaging-MS	NSF-IIBR (pending)
Wall	Mol Bio/Ag	microbial proteomics	NIH
Ewers/Guadagno	Botany/Ag	plant proteomics	NSF
Weinig	Botany/Ag	plant root exudates	NSF-Track1
van Diepen	Ecosystem Sci/Ag	plant proteomics	NSF-Track1
		soil metabolomics	USDA (pending)
Surovell	Anthropology/A&S	zooMS: bone identification*	NSF
Dillon	Zoology/Ag	bee metabolomics, lipidomic	NSF-Track2
		bee metabolomics, lipidomic	NSF-URoL
Suyama/Boothby	Chem-Mol Bio	Tardigrade biomarker discovery	NIH (submit Jan 2025)

*article in CNN about this work: <https://www.cnn.com/2024/12/04/science/ancient-needles-discovery-wyoming/index.html>

Excellence in Undergraduate Education: The Orbitrap is also utilized for demonstrations and hands-on measurements in undergraduate and graduate courses, including CHEM4230 Instrumental Chemical Analysis, CHEM5260 Chemical Separations, CHEM5200 Mass Spectrometry, Chemistry Undergraduate Research (PI Basile; detection of PFAS in water treatment slurs), Microbiology Undergraduate Research (Microbiology Capstone project, Advisor: Dr. Rachel Watson, LAMP director), and undergraduate research support to Norwest College (Powell, WY), Chemistry Capstone projects (Prof. Uko Udodong, Advisor).

Budget:

(see attached quote from Thermo)

Support period requested*: March 1, 2025-February 28, 2026

0726042	Q Exactive HF-X Mass Spectrometer SN06176L	
	Coverage: UNITY ESSENTIAL SUPPORT PLAN-MSPEC-LC-MS	54,569.00 USD
5041.0010A	UltiMate 3000 NCS-3500RS NANO Nano-Cap-S 8131131	
	Coverage: UNTY ESSENTIAL PLAN CHROM LC DNX	7,528.00 USD
5826.0020	Dionex WPS-3000TPL RS AUTOSAMPLER 8131319	
	Coverage: UNTY ESSENTIAL PLAN CHROM LC DNX	3,571.00 USD
5074.0010	Ultimate 3000 VWD-3400RS 8131530	
	Coverage: UNTY ESSENTIAL PLAN CHROM LC DNX	1,254.00 USD
<hr/>		
	Service Plan Total	\$ 66,922.00

**Note: the current service plan covers the Orbitrap until February 28, 2025*

Thermo Electron North America LLC

1400 Northpoint Pkwy Ste 50
West Palm Beach, FL 33407-1976

SERVICE PLAN QUOTATION	
QUOTATION Number:	22178761 /
Coverage Start Date:	March 01, 2025
Coverage End Date:	February 28, 2026
Quotation Expires:	March 01, 2025

FRANCO BASILE
UNIVERSITY OF WYOMING
1000 EAST UNIVERSITY AVE
LARAMIE WY 82071

Phone: 307-766-4376
Fax: 307-766-2807
Email: BASILE@UWYO.EDU

Dear FRANCO BASILE,

Thank you for being a valued Thermo Fisher Scientific customer. The current coverage for your instrumentation will expire in the coming months.

The following details a Service Plan that will help you gain the greatest value from your technology investment.

Some key benefits of purchasing a Service Plan for your instrument may include:

- ~ 50% faster onsite response time with 30-40% reduced downtime compared to billable customers
- ~ 35% remote resolution of issues with exclusive access to enhanced technical support with digital remote support tools
- ~ Priority access to more than 2,000 field service professionals with an average of 18 years' experience

I ask that you please review the following proposal. If you wish to purchase the Service Plan, please forward the following via email (preferred) or fax to my attention:

- ~ A signed copy of the proposal
- ~ A copy of the respective Purchase Order
 - Ensuring the PO reflects Thermo Electron North America LLC as the vendor/supplier
 - Referencing this proposal number on the PO

Please review the Equipment Location Summary at the end of the proposal to ensure accuracy. For any questions or revisions, please contact me.

On behalf of our team, thank you for choosing Thermo Fisher to be your preferred service provider.

Sincerely,

JESSICA REBHOLZ, SR. TERRITORY MANAGER
Tel #: 205-234-9816
Email: JESS.REBHOLZ@THERMOFISHER.COM

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Email: BASILE@UWYO.EDU

Customer agrees to make full payment within thirty days of invoice. Alternative payments are available at an additional finance fee. Prices shown on this sheet are exclusive of all state, local, use, excise and/or other taxes.

Material	Description	Serial Number	Price	
0726042	Q Exactive HF-X Mass Spectrometer Coverage: UNITY ESSENTIAL SUPPORT PLAN-MSPEC-LC-MS	SN06176L	54,569.00	USD
5041.0010A	UltiMate 3000 NCS-3500RS NANO Nano-Cap-S Coverage: UNTY ESSENTIAL PLAN CHROM LC DNX	8131131	7,528.00	USD
5826.0020	Dionex WPS-3000TPL RS AUTOSAMPLER Coverage: UNTY ESSENTIAL PLAN CHROM LC DNX	8131319	3,571.00	USD
5074.0010	Ultimate 3000 VWD-3400RS Coverage: UNTY ESSENTIAL PLAN CHROM LC DNX	8131530	1,254.00	USD
Service Plan Sub-Total			66,922.00	USD
Service Plan Total			66,922.00	USD

Thermo Fisher Scientific looks forward to providing service on those instruments specified above subject to the terms and conditions stated on the attached document. As an authorized representative of the Buyer, your signature below creates an Agreement to buy the services listed above and your acceptance of the Terms and Conditions on the following pages as the sole and exclusive terms for your purchase. If you have questions, please contact me.

Please be advised that our legal department's contract review policy does not allow for the review or acceptance of customer terms for Service Plan engagements below \$20,000. The rationale for this policy is to expedite the sales process and reduce the possibility of accepting onerous terms for low dollar value contracts. We are willing to entertain in good faith proposed edits to our standard terms if you are inclined to propose reasonable changes. As alternative to the exchange and review of edited commercial terms, we may agree to have neither party sign any terms and rely on the terms applied under the relevant version of the Uniform Commercial Code.

ACCEPTANCE OF SERVICE PLAN

UNIVERSITY OF WYOMING

Thermo Electron North America, LLC

Signature Date

Signature Date

PO Number

Thermo Electron North America LLC

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UNITY LAB SERVICES ESSENTIAL SERVICE PLAN

Plan Features:

- ~ Field Service Engineer labor, travel, and parts required for Corrective Maintenance visits with a targeted response time of 3 business days
- ~ Priority status for technical support inquiries with a targeted immediate response time. A certified service engineer will conduct diagnosis and Corrective Maintenance procedures using the latest digital remote support tools
- ~ One (1) scheduled annual standard Preventive Maintenance visit (standard PM kit included)
- ~ Access to Unity Lab Services Online Knowledge Base
- ~ 10% discount on spare parts (not covered by corrective maintenance), accessories, and consumables for the instruments covered under this contract and during the effective period of this contract (please ask for the discount when contacting your local Thermo Fisher Scientific parts ordering department)
- ~ Software and firmware updates upon request and in conjunction with a scheduled Preventive Maintenance or Corrective Maintenance visit (updates are defined as changes of the existing software version that are intended to improve its performance)
- ~ 10% discount off list price for the training classes purchased during the contract validity period. May not be available in all locations or used in conjunction with any other discounts or promotions (please check availability with your local Thermo Fisher sales representative or customer service team)

Optional Add-on Services:

- ~ Purchase of an Operational Qualification (OQ) with this contract includes an Instrument Requalification (RQ) in conjunction with a scheduled Corrective Maintenance. Scope of RQ testing is defined in the Unity Lab Services Re-Qualification Testing Matrix
- ~ Purchase of an additional Preventive Maintenance with this contract available at a reduced price

(For details on plan exclusion please refer to www.unitylabservices.com/contractexclusions)

TERMS AND CONDITIONS OF SALE FOR PRODUCTS AND SERVICES

1. **GENERAL.** Thermo Electron North America LLC ("Seller") hereby offers for sale to the buyer named on the face hereof ("Buyer") the products ("Products") and/or annual support plans ("Support Plan(s)") and billable services ("Technical Support") [Support Plans and Technical Support may be referred to collectively as "Services"] as listed on the face hereof on the express condition that Buyer agrees to accept and be bound by the terms and conditions set forth herein ("Agreement"). Any new or different provisions contained in any document issued by Buyer in response to this offer are expressly rejected; and if Buyer's response is deemed to be an offer, this document is a rejection of Buyer's offer and a counter offer by Seller and shall not constitute acceptance of any proposal by Buyer. Buyer's receipt of Products or Seller's commencement of Services hereunder will constitute Buyer's acceptance of this Agreement. This is the final, complete and exclusive statement of the contract between Seller and Buyer with respect to Buyer's purchase of Products and Services specified herein, which terms may not be altered in any way by Buyer's purchase order terms. No waiver, consent, modification, amendment or change of the terms contained herein shall be binding upon Seller unless agreed in writing and signed by Seller. Seller's failure to object to additional or different terms contained in any subsequent communication from Buyer will not be a waiver or modification of the terms set forth herein and all such proposals contained in Buyer's order are subject to acceptance in writing by an authorized representative of Seller.
2. **PRICE.** All prices published by Seller or Seller's representatives may be changed at any time without notice. All prices quoted by Seller or Seller's representatives are valid for thirty (30) days, unless otherwise stated in writing. All prices for the Products or Services will be as specified by Seller or, if no price has been specified or quoted, will be Seller's standard prices in effect at the time of shipment of Products or delivery of Services. With respect to multi-year support plans, annual support plan fees shall be subject to annual increase, such increase not to exceed greater of (i) 5% or (ii) the percentage increase in the US Consumer Price Index (All Urban Consumers - Other goods and services, - Unadjusted) for the preceding calendar year. All prices are subject to adjustment on account of specifications, quantities, raw materials, cost of production, shipment arrangements or other terms or conditions that are not part of Seller's original quotation. Unless otherwise stated in the quotation, the quoted rate for Technical Support includes Work Time, Travel Time and Standby Time in accordance with the following schedule and conditions; except that Technical Support requested without at least seven (7) days advanced notification shall be subject to airfare charges in addition to the Standard Rate.
 - (a) **Work Time:** shall include all hours that Seller's service personnel are on the Buyer's job site, either working or ready for work and shall be payable at the applicable specified rates.
 - (b) **Travel Time:** shall include the time spent by Seller's service personnel in traveling between their customary headquarters and the Buyer's job site and in returning (including travel occurring on Saturdays, Sundays and holidays). Except as otherwise stated in the Services quotation, Travel Time will be invoiced per diem at the applicable Travel Zone rates in Seller's standard service list prices. Air travel and car hire related expenses will be charged in addition to the daily rate at cost plus a 10% administration fee.
 - (c) **Standby Time:** shall include the time that Seller agrees in writing, at its sole discretion, to reserve its service personnel to be ready to perform work for the Buyer, whether on the job site or not, up to a maximum of 8 hours a day, between the hours of 8:00 a.m. and 5:00 p.m., local standard time on Saturdays, Sundays and holidays. Standby Time shall be paid for at the special rates quoted by Seller at the time of Buyer's request or, if none, at the current Double Time Rate; and Standby Time preceded and/or followed by Work Time is cumulative in determining Overtime.
 - (d) **Standard Rate:** the Service rate quoted by Seller that shall be paid for time worked on a regular schedule of eight (8) hours per day, Monday through Friday (excluding Seller's holidays), between 8:00 a.m. and 5:00 p.m. local standard time.
 - (e) **Overtime Rate:** if applicable for the quoted Services, the rate of one and a half times the Standard Rate shall be paid for any time worked in excess of eight (8) hours or between the hours of 5:00 p.m. and 8:00 a.m. local standard time; but not exceeding sixteen (16) hours per day Monday through Friday, and for any time on Saturdays, not to exceed sixteen (16) hours. Overtime shall be billed in 30 minute blocks; or longer time blocks, if quoted by the Supplier.
 - (f) **Double Time Rate:** the rate of twice the Standard Rate shall be paid for time worked in excess of sixteen (16) hours per day, without a six (6) hour break, Monday through Friday, and for all time on Saturdays, Sundays and holidays. Holidays shall be those observed by Seller.
3. **TAXES AND OTHER CHARGES.** Prices for the Products and Services exclude all sales, use, value added and other taxes and duties imposed with respect to the sale, delivery, or use of any Products or Services covered hereby, all of which taxes and duties must be paid by Buyer. If Buyer claims any exemption, Buyer must provide a valid, signed certificate or letter of exemption for each respective jurisdiction.
4. **TERMS OF PAYMENT.** Seller may invoice Buyer immediately for the single lump sum amount equal to the total charges for the initial Term of a Support Plan, upon shipment of Products or upon completion of Technical Support for the price and all other charges payable by Buyer in accordance with the terms on the face hereof. If no payment terms are stated on the face hereof, payment shall be net thirty (30) days from the date of invoice. International Technical Support may require payment in advance. Buyer will grant a security interest in the Products sold under this Agreement until payment of the full purchase price to Seller in accordance with Article 9-103 of Uniform Commercial Code-Secured Transactions. If Buyer fails to pay any amounts when due, Buyer shall pay Seller interest thereon at the greater of a periodic rate of one and one-half percent (1.5%) per month or the highest rate stipulated by applicable law, together with all costs and expenses (including without limitation reasonable attorneys' fees and disbursements and court costs) incurred by Seller in collecting such overdue amounts or otherwise enforcing Seller's rights hereunder. Seller reserves the right to require from Buyer full or partial payment in advance, or other security that is satisfactory to Seller, at any time that Seller believes in good faith that Buyer's financial condition does not justify the terms of payment specified. All payments shall be made in U.S. Dollars unless otherwise specified in Seller's invoice.
5. **A. PRODUCT DELIVERY.** All Products will be shipped to the destination specified by Buyer, FCA (INCOTERMS 2010) at OEM shipping point or Seller's distribution facility, as applicable, which will vary depending on Product type and availability and may include points outside the United States (U.S.) (inquire for specific shipping point information). Notwithstanding specified INCOTERMS, Seller shall select carrier on Buyer's behalf and Seller agrees to arrange transportation of Products to Buyer's destination, and to act as the importer of record on behalf of Buyer to clear the Products through U.S. customs. All freight, taxes, duties and insurance, if any, charges shall be prepaid and added to Buyer's invoice. Seller may, at its election, make partial shipments of the Products and invoice each shipment separately. Seller reserves the right to withhold shipments in whole or in part and/or terminate any Services, if Buyer fails to make any payment to Seller when due or otherwise fails to perform its obligations hereunder. Seller's termination of Services will not relieve Buyer's obligation to pay all amounts due for Services provided by Seller prior to the termination date. All shipping dates are approximate only, and Seller will not be liable for any loss or damage resulting from any delay in delivery or failure to deliver which is due to any cause beyond Seller's reasonable control. In the event of a delay due to any cause beyond Seller's reasonable control, Seller reserves the right to terminate the order or to reschedule the shipment within a reasonable period of time, and Buyer will not be entitled to refuse delivery or otherwise be relieved of any obligations as the result of such delay.
5. **B. CANCELLATION OR CHANGES BY BUYER.** If Buyer requests that Seller delay delivery of Products for any reason, Seller may place Products in storage at Buyer's risk and expense and for Buyer's account. Orders in process may be cancelled only with Seller's written consent and upon payment of Seller's cancellation charges. Orders in process may not be changed except with Seller's written consent and upon agreement by the parties as to an appropriate adjustment in the purchase price therefor. Credit will not be allowed for Products returned without the prior written consent of Seller. Before returning any item, contact Seller's Order Administration Department for a Return Material Authorization (RMA) number at (800) 532-4752. Buyer may need to complete an RMA Form which includes a Hazard Free Form and/or Instrument Contamination Data Form. If authorized by Seller, Buyer must return items to Seller in their original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk if the item is lost or damaged in shipment. In addition, Seller reserves the right to charge the Buyer the list price for missing components or subassemblies when incomplete items are returned to Seller. Authorized returns of any unused items which are free from material defects to Seller, in its sole discretion, may be subject to a twenty percent (20%) restocking charge.
- Requests by Buyer to delay, postpone or suspend on-site Services, due to no fault of Seller, shall be subject to Seller's ability to recall its service representatives and to cancel and/or reschedule of any of their travel arrangements; and provided that, Buyer pays any and all additional costs (including, Travel Time and expenses) incurred by Seller as a result of the Services being postponed or suspended by Buyer. Cancellation of scheduled Services may be subject to a cancellation fee of twenty percent (20%) if Seller is notified less than 7 business days prior to the scheduled date of service.
6. **DELIVERY OF SERVICES.** Except as otherwise stated on the face hereof, all Services will be provided by Seller or its agent between the hours of 8:00 a.m. and 5:00 p.m. local standard time, Monday through Friday, excluding Seller's holidays, either at Seller's principal offices or, at Seller's option, at Buyer's installation address. If Seller advises Buyer that Services should be performed at Seller's facility, Buyer will properly package the Products to prevent damage, clearly mark the RMA number on the outer packaging, and ship it, via postage/freight prepaid, to the address set forth on the face hereof or such different address as Seller may from time to time provide to Buyer. After Seller completes the Services, or has made a determination that the products are beyond repair, Seller may, at its option, either advise Buyer to scrap the Products or to have the Products shipped, postage/freight prepaid, back to Buyer's installation address stated on the quotation, or to such other address as Buyer requests. In the event Buyer requires expedited delivery, such delivery will be made at Buyer's expense. If Seller advises Buyer that Services should be performed at Buyer's site, Buyer will use its best efforts to provide Seller with all requested diagnostic information for any products requiring Services; and subject to compliance with Buyer's reasonable security requirements, will allow Seller free access to all relevant equipment, documentation and records. In addition, Buyer will cooperate with Seller's efforts to perform the Services and will provide such additional assistance as Seller may reasonably request. At the completion of the Services, Seller's representatives will provide Buyer with a field service report on which will be indicated the number of hours spent and the materials used in completing the work. Buyer's signature on the field service report will signify approval of the information in the report and Seller's satisfactory completion of the Services. If Buyer does not sign the report or provide written objection within five (5) business days after receipt, then the report will be deemed unequivocally approved and accepted by Buyer.
7. **TITLE AND RISK OF LOSS.** Notwithstanding the transport terms indicated above, title to and risk of loss of the Products will pass to Buyer upon delivery of possession of the Products by Seller to the carrier at the time and place of shipment; provided, however, that title to any software incorporated within or forming a part of the Products will at all times remain with Seller or the licensor(s) thereof, as the case may be. All risk of loss or damage to Buyer's products being transported for Services shall remain with Buyer during shipment to and from the Buyer's site and during Seller's performance of Services hereunder.
8. **WARRANTIES.** Seller's sole obligation with respect to the Services is to provide the quoted Services in a workmanlike manner and if Buyer provides notice of defect in Service within ninety (90) days of completion of such Services, Seller will, at its sole option, either reperform the Services without charge to Buyer or grant Buyer a credit for the amount paid by Buyer with respect to such Service. Seller warrants that the Products will operate or perform substantially in conformance with Seller's published specifications and be free from defects in material and workmanship, when subjected to normal, proper and intended usage by properly trained personnel, for the period of time set forth in the Product documentation, published specifications or package inserts (the "Warranty Period"). If a Warranty Period is not specified in Seller's Product documentation, published specifications, or package inserts, the Warranty Period for new instruments is twelve (12) months from the date of shipment to Buyer; and for all other Products is ninety (90) days from the date of shipment. During the Warranty Period, Seller agrees to repair or replace, at Seller's option, defective Products so as to cause the same to operate in substantial conformance with Seller's published specifications; provided that Buyer (a) promptly notifies Seller in writing upon the discovery of any covered defect in the Products, including the Product model and serial number (if applicable) and details of the warranty claim; and (b) after Seller's review, Seller will provide Buyer with an RMA number and services data, which may include biohazard decontamination procedures and other Product-specific handling instructions. Then, if applicable, Buyer may return the defective Products to Seller with all costs prepaid by Buyer. Replacement parts may be new or refurbished, at the election of Seller. All replaced parts shall become the property of Seller. Shipment to Buyer of repaired or replacement Products will be made in accordance with the Delivery clause of this Agreement. Except for new consumable items manufactured and sold by Seller, this warranty expressly excludes all other consumable parts or components (e.g., bulbs, belts, cartridges, etc.) in the Products. If Seller elects to repair defective medical device instruments, Seller may, in its sole discretion, provide a replacement loaner instrument to Buyer as necessary for use while the instruments are being repaired. Notwithstanding the foregoing, Products supplied by Seller that are obtained by Seller from an original manufacturer or third party supplier are not warranted by Seller; but Seller agrees to assign to Buyer any warranty rights in such Product that Seller may have from the original manufacturer or third party supplier, to the extent such assignment is allowed by such original manufacturer or third party supplier.
- In no event shall Seller have any obligation to make repairs, replacements or corrections under the Warranty, in whole or in part, as the result of or with respect to: (a) use of the Products in a manner for which they were not designed; (b) improper storage and handling of the Products; (c) use of the Products in combination with equipment or software not supplied by Seller (d) shipping damage incurred en route to Buyer's site or because of moving equipment, in which case Seller will promptly provide a cost estimate for Technical Support to the consignee for filing claims to carriers for shipping damage; (e) flood, lightning, earthquake, tornado, hurricane or fire, bombing, armed conflict, malicious mischief, sabotage or other natural or man-made disasters; (f) normal wear and tear, physical abuse, misuse, sprinkler damage, electrical surge or abnormal power variation; (g) repairs, maintenance, or modifications made by anyone other than Seller trained personnel or without Seller's supervision and/or approval; (h) relocation and reinstallation of equipment; although upon request Seller will supervise the removing, crating, relocation and reinstallation of the Products at Seller's current Services rates; (i) maintenance or replacement of media (i.e., floppy disks, plotter supplies, etc.) whatever the reason for loss, failure or damage; (j) beta-site support; (k) operator training; or (l) repairing Product

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malfunctions if the fault is not with the equipment. If Seller determines that Products for which Buyer requested warranty services are not covered by this warranty, Buyer will pay or reimburse Seller for all costs of investigating and responding to such request at Seller's then prevailing time and materials rates. If Seller provides Services or replacement parts that are not covered by this warranty, Buyer shall pay Seller therefor at Seller's then prevailing time and materials rates.

ANY INSTALLATION, MAINTENANCE, REPAIR, SERVICE, RELOCATION OR ALTERATION TO OR OF, OR OTHER TAMPERING WITH, THE PRODUCTS PERFORMED BY ANY PERSON OR ENTITY OTHER THAN SELLER WITHOUT SELLER'S PRIOR WRITTEN APPROVAL, OR ANY USE OF REPLACEMENT PARTS NOT SUPPLIED BY SELLER, SHALL IMMEDIATELY VOID AND CANCEL ALL WARRANTIES WITH RESPECT TO THE AFFECTED PRODUCTS AND/OR SERVICES. THE OBLIGATIONS CREATED BY THIS WARRANTY STATEMENT FOR SELLER TO REPAIR OR REPLACE A DEFECTIVE PRODUCT OR TO REPERFORM OR CREDIT THE PRICE OF DEFECTIVE SERVICES SHALL BE THE SOLE REMEDY OF BUYER FOR SUCH DEFECTIVE PRODUCTS OR SERVICES UNDER THIS AGREEMENT. EXCEPT AS EXPRESSLY PROVIDED IN THIS WARRANTY STATEMENT, SELLER DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, WITH RESPECT TO THE PRODUCTS, INCLUDING WITHOUT LIMITATION ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. SELLER DOES NOT WARRANT THAT THE PRODUCTS OR SERVICES ARE ERROR-FREE OR WILL ACCOMPLISH ANY PARTICULAR RESULT.

9. INDEMNIFICATION.

9.1 By Seller. Seller will indemnify, defend and save Buyer, its officers, directors, and employees from and against any and all damages, liabilities, actions, causes of action, suits, claims, demands, losses, costs and expenses (including without limitation reasonable attorneys' fees) ("Indemnified Items") asserted by another party against Buyer for (i) bodily injury to or death of persons or damage to tangible property to the extent caused by the negligence or willful misconduct of Seller, its employees, agents or representatives or contractors in connection with the performance of Services at Buyer's premises under this Agreement; and (ii) claims that a Product infringes any U.S. patent, copyright or trade secret; provided, however, Seller's liability under this Section does not extend to any such Indemnified Items caused by either (u) the negligence or willful misconduct of Buyer, its employees, agents or representatives or contractors, (v) by any third party, (w) use of a Product in combination with equipment or software not supplied by Seller where the Product alone would not be infringing, (x) Seller's compliance with Buyer's designs, specifications or instructions, (y) use of the Product in an application or environment for which it was not designed, or (z) modifications of the Product by anyone other than Seller without Seller's prior written approval. Buyer will promptly notify Seller in writing of any claim covered by Seller's indemnification obligations hereunder. Seller may assume exclusive control of the defense of such claim or, at the option of the Seller, to settle the same. Buyer agrees to cooperate reasonably with Seller in connection with the performance by Seller of its obligations in this Section.

Notwithstanding the above, Seller's infringement related indemnification obligations shall be extinguished and relieved if Seller, at its discretion and at its own expense (a) procures for Buyer the right, at no additional expense to Buyer, to continue using the Product; (b) replaces or modifies the Product so that it becomes non-infringing, provided the modification or replacement does not adversely affect the specifications of the Product; or (c) in the event (a) and (b) are not practical, refund to Buyer the amortized amounts paid by Buyer with respect thereto, based on a five (5) year amortization schedule. THE FOREGOING INDEMNIFICATION PROVISION STATES SELLER'S ENTIRE LIABILITY TO BUYER FOR, AND BUYER'S SOLE AND EXCLUSIVE REMEDY IN RESPECT OF, THE CLAIMS DESCRIBED HEREIN.

9.2 By Buyer. Buyer will indemnify, defend with competent and experienced counsel and hold harmless Seller, its parent, subsidiaries, affiliates and divisions, and their respective officers, directors, shareholders and employees, from and against any and all damages, liabilities, actions, causes of action, suits, claims, demands, losses, costs and expenses (including without limitation reasonable attorneys' fees and disbursements and court costs) to the extent arising from or in connection with (i) the negligence or willful misconduct of Buyer, its agents, employees, representatives or contractors; (ii) use of a Product in combination with equipment or software not supplied by Seller where the Product alone would not be infringing; (iii) Seller's compliance with designs, specifications or instructions supplied to Seller by Buyer; (iv) use of a Product in an application or environment for which it was not designed; or (v) modifications of a Product by anyone other than Seller without Seller's prior written approval.

10. SOFTWARE. With respect to any software products incorporated in or forming a part of the Products hereunder (i.e., firmware), Seller and Buyer intend and agree that such software products are being licensed and not sold, and that the words "purchase", "sell" or similar or derivative words are understood and agreed to mean "license", and that the word "Buyer" or similar or derivative words are understood and agreed to mean "licensee". Notwithstanding anything to the contrary contained herein, Seller or its licensor, as the case may be, retains all rights and interest in software products provided hereunder. Seller hereby grants to Buyer a royalty-free, non-exclusive, nontransferable license, without power to sublicense, to use software licensed hereunder solely for Buyer's own internal business purposes on its hardware Products and to use the related documentation solely for Buyer's own internal business purposes. This license terminates when Buyer's lawful possession of the hardware Products provided hereunder ceases, unless earlier terminated as provided herein. Buyer agrees to hold in confidence and not to sell, transfer, license, loan or otherwise make available in any form to third parties the software products and related documentation provided hereunder. Buyer may not disassemble, decompile or reverse engineer, copy, modify, enhance or otherwise change or supplement the software products provided hereunder without Seller's prior written consent. Seller will be entitled to terminate this license if Buyer fails to comply with any term or condition herein. Buyer agrees, upon termination of this license, to immediately stop using all software products and related documentation provided hereunder and all copies and portions thereof. Certain of the software products provided by Seller may be owned by one or more third parties and licensed to Seller or may be stand-alone software products, which Buyer hereby agrees are subject to a separate browse-wrap, shrink-wrap or click-thru end user license agreement (EULA). Accordingly, the warranty and indemnification provisions herein do not apply to such software, which are exclusively provided in the applicable EULA.

11. LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, THE LIABILITY OF SELLER UNDER THESE TERMS AND CONDITIONS (WHETHER BY REASON OF BREACH OF CONTRACT, TORT, INDEMNIFICATION, OR OTHERWISE, BUT EXCLUDING LIABILITY OF SELLER FOR BREACH OF WARRANTY (THE SOLE REMEDY FOR WHICH IS PROVIDED UNDER THE PRODUCT AND SERVICES WARRANTIES HEREIN)) SHALL NOT EXCEED AN AMOUNT EQUAL TO THE LESSER OF (A) THE TOTAL PURCHASE PRICE THERETOFORE PAID BY BUYER TO SELLER WITH RESPECT TO THE PRODUCT(S) OR SERVICES GIVING RISE TO SUCH LIABILITY OR (B) ONE MILLION DOLLARS (\$1,000,000). NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING WITHOUT LIMITATION DAMAGES FOR LOSS OF USE OF FACILITIES OR EQUIPMENT, LOSS OF REVENUE, LOSS OF DATA, LOSS OF PROFITS OR LOSS OF GOODWILL), REGARDLESS OF WHETHER SELLER (a) HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES OR (b) IS NEGLIGENT.

12. EXPORT RESTRICTIONS. Buyer acknowledges that each Product and any related services, software and technology, including technical information supplied by Seller or contained in documents (collectively "Items"), may be subject to export controls of the U.S. government and/or other governments. Such export controls may include, but are not limited to, the Export Administration Regulations of the U.S. Department of Commerce (the "EAR"), which may restrict or require licenses for the export of Items from the U.S. and their re-export from other countries and all other applicable laws, regulations, laws, treaties, and agreements relating to the export, re-export, and import of any Item. Buyer shall not export, re-export, distribute or supply any Item, directly or indirectly, to (i) any country, person or entity, in each case, without first obtaining from the U.S. government and/or other appropriate government agency any license required to do so lawfully; (ii) any person or organization in Cuba, Iran, North Korea, Sudan, Syria, or other country then the subject of a U.S. embargo, or any person or entity considered a part of the government of any such country; or (iii) any person or entity who is involved in improper development or use of nuclear weapons, or of chemical/biological weapons (CBW) or missiles, or in terrorist activities. Buyer shall cooperate fully with Seller in any official or unofficial audit or inspection related to applicable export or import control laws or regulations, and shall indemnify and hold Seller harmless from, or in connection with, any violation of this Section by Buyer or its employees, consultants, agents and/or representatives.

13. SUPPORT PLAN TERMS AND CONDITIONS.

A. General. In the event Buyer purchases a Support Plan from Seller under this Agreement, Seller agrees to maintain and/or repair those Products or instruments identified on the face hereof as covered under a Support Plan ("Covered Equipment") in a manner consistent with the specifications and entitlements included in the purchased Support Plan as specified by Seller on the face hereof, which may include various levels of service at the Buyer's site(s) and/or Seller's Depot Repair locations and are purchased separate from the original Product Warranty above (the "Support Service(s)"). The Support Services will only be valid for Covered Equipment within the Region covered by the Plan (e.g. 48 contiguous U.S.), Monday through Friday (excluding Seller's holidays) during the hours of 8:00 a.m. to 5:00 p.m. local standard time ("Normal Hours") during the term of the Agreement. The Covered Equipment must be operated according to the manufacturer's supplied instructions, including without limitation the Operator's Manual(s) and any malfunction must be promptly reported to Seller. Support Service calls requested outside of Normal Hours or for any non-Covered Equipment or for services not included in the Support Plan will be billed at Seller's standard rates for Technical Support in effect at the time of Buyer's request. Seller reserves the exclusive right to determine the assignment of its employees in the performance of Support Services.

B. Term. (a) Unless terminated sooner by either Party, the term of the Support Plan shall commence on the date of invoice and end on the one year anniversary of such date (the "Initial Term"); provided, that the then-current term shall automatically renew for additional one year periods (each such extension, a "Renewal Term", and, collectively with the Initial Term, the "Term") unless either party provides written notice of its intent not to renew at least thirty (30) days prior to the end of the then-current Term. For each Renewal Term, Seller will invoice Buyer sixty (60) days prior to the end of the then-current Term and such invoice shall reflect any increase in the price of the Support Plan. Either party may terminate a Support Plan for any/no reason by providing at least thirty (30) days written notice to the other party. Seller will use commercially reasonable efforts to stop work and to incur no additional expenses. Regardless, if a Support Plan is cancelled, Seller will charge Buyer for the total price of Services actually performed and expenses actually and reasonably incurred in servicing the covered equipment under the underlying Support Plan from its effective date until the cancellation date or the prorated price of the underlying Support Plan from its effective date until the cancellation date, whichever is greater, plus fifteen percent (15%) of the total fee paid for the underlying Support Plan. In the event Buyer prepaid the Support Plan fees in full and a credit balance exists for the underlying Support Plan, Seller will provide a credit or refund the amount remaining to Buyer.

C. Pricing and Pricing Assumptions. Except as otherwise agreed in writing, the annual charge for each Renewal will be Thermo Fisher's standard support plan rates in effect at the start of the Renewal. All Support Plan pricing is based on the assumption that the Covered Equipment operates in accordance with product specifications as of the coverage start date; therefore, prior to the start of each Term and Renewal, Seller reserves the right to verify and correct the condition of the Covered Equipment and invoice Buyer at Seller's current billable rates for any Support Services deemed reasonably necessary to bring the Covered Equipment into good operating condition. Notwithstanding the above, Seller agrees to waive its right to bill the Buyer for bringing the Covered Equipment into good operating condition if there is no lapse between the end date of the current Support Plan Term and the beginning of any Renewal.

D. Parts and Consumables: The Support Plan level defines when and if the cost of parts is included under the Support Plan. Notwithstanding the foregoing, the cost for parts that are consumed in the normal and usual operation of the Covered Equipment including, but not limited to, sample preparation and analysis, consumables, paper, ink cartridges, ribbons, pens, lamps and/or data media are not covered under any Support Plan.

E. Key Operator: Buyer will designate a key operator of Covered Equipment who can describe instrument malfunctions to Seller's service representatives by telephone and who is qualified to perform simple adjustments and corrections to the Covered Equipment as requested by Seller's service representatives. Buyer's failure to designate a key operator or to perform or to have an authorized representative perform the routine maintenance specified in the Covered Equipment's instructions or Owner's Manual may result, at Seller's option, in Buyer being invoiced at Seller's standard Technical Support rates to provide such non-covered services.

F. Equipment Modification: Seller reserves the right to make any changes in the design or construction of Seller's Products without incurring any obligation to make any updates or changes whatsoever in the Covered Equipment under the Support Plan. Buyer agrees to allow Seller, at its expense and option, to make retrofits or design changes which improve product reliability, but do not change its performance characteristics. Any Buyer requests to modify or add devices or accessories to Covered Equipment that are not manufactured by Seller are outside the scope of the Support Plans and covered Support Services.

G. Support Services Warranty: Seller's sole obligation under any Support Plan is to provide the Support Services in a workmanlike manner in accordance with the entitlements of the Support Plan purchased by Buyer hereunder. SELLER MAKES NO OTHER WARRANTIES FOR SUPPORT SERVICES PROVIDED UNDER A SUPPORT PLAN, EXPRESS OR IMPLIED, AND DISCLAIMS ALL WARRANTIES INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ANY OTHER OBLIGATIONS OR LIABILITIES WHETHER IN CONTRACT, WARRANTY, NEGLIGENCE OR OTHERWISE.

H. Support Plan Exclusions: The following occurrences are not covered by any Support Plan purchased by Buyer from Seller under this Agreement:

(a) Covered Equipment malfunctions caused by any of the following abnormal conditions; and if Seller performs Support Services as a result thereof, Seller will invoice Buyer at Seller's standard billable rates for service, travel or move, labor and parts: (i) Shipping damage incurred en route to Buyer's site or any subsequent transport thereafter; (ii) Force Majeure events, including for example, floods, lightning, earthquake, tornado, hurricane or fire, bombing, terrorism, armed conflict, malicious mischief, sabotage or other such natural or manmade disasters; (iii) Physical abuse, misuse, sprinkler damage, electrical surge or abnormal power variation; (iv) Repairs, maintenance, or modifications made by anyone other than Seller's trained personnel or without Seller's supervision and/or approval; and (v) Relocation and reinstallation of Covered Equipment are not covered under the Support Plan; however, upon request Seller, will supervise the removing, crating, relocation and reinstallation of its products at Seller's standard billable rates for service, travel or move, labor and parts.

(b) Maintenance or replacement of media (i.e., floppy disks, printer supplies, etc.) whatever the reason for loss, failure or damage;

(c) Servicing of material or instruments manufactured by anyone other than Seller, including third-party material or instruments purchased for engineering specials;

Thermo Electron North America LLC

1400 Northpoint Pkwy Ste 50
West Palm Beach, FL 33407-1976

(d) Beta-site support;

(e) Service calls made to train operators; and/or

(f) Service calls made as a result of Buyer-identified areas of responsibility, i.e. malfunctions related to Buyer's site conditions, utilities and/or facilities (power, water, temperature, humidity, vibration, dust, etc.) or site computer/data network problems or integrity.

Buyer Responsibilities: Buyer will give Seller's personnel reasonable access to the Covered Equipment whenever Support Service is required. Buyer will cooperate with Seller's personnel so that Support Services can be performed efficiently and without interruption. Buyer will permit Seller to use of Buyer's equipment, including Covered Equipment, that Seller's personnel deem necessary to perform the Support Services. Buyer is solely responsible for the procurement, installation, maintenance and fees associated with all third party communication equipment and media as needed for the performance of Support Service under the Support Plan including, but not limited to, telephone and equipment for remote transmission of data.

14. INSURANCE. For the Term of a Support Plan and/or for the provision of on-site Services purchased hereunder, as applicable, Seller agrees to maintain and carry liability insurance in amounts set forth below with insurance companies rated B+ or better by "BEST" rating services. Insurance includes (a) commercial general liability insurance for a limit of US\$2,000,000 (two million) for each occurrence and US\$4,000,000 (four million) in the aggregate, (b) Statutory workers' compensation and employer's liability insurance for a limit of US\$1,000,000 (one million), (c) Automobile liability of US\$2,000,000 (two million) and (d) Umbrella coverage of US\$5,000,000 (five million). No policy will include a waiver of subrogation. Upon request from Buyer related to applicable Services, Seller will provide to Buyer a certificate of insurance using the standard ACORD form to evidence the insurance coverage required herein.

15. MEDICARE/MEDICAID REPORTING REQUIREMENTS. If Buyer is a recipient of Medicare/Medicaid funds, Buyer acknowledges that it has been informed of and agrees to fully and accurately account for, and report on its applicable cost report, the total value of any discount, rebate or other compensation paid hereunder in a way that complies with all applicable federal, state and local laws and regulations which establish "Safe Harbor" for discounts. Buyer may make written request for additional information from Seller as needed to satisfy Buyer's reporting requirements. Buyer acknowledges that agreement to such reporting requirement was a condition precedent to Seller's agreement to provide Products and that Seller would not have entered into this Agreement had Buyer not agreed to comply with such obligations.

16. MISCELLANEOUS. (a) Buyer may not delegate any duties or assign any rights or claims hereunder without Seller's prior written consent, and any such attempted delegation or assignment shall be void. (b) The rights and obligations of the parties hereunder shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, U.S.A. without reference to its choice of law provisions. Each party hereby irrevocably consents to the exclusive jurisdiction of the state and federal courts located in the County of Suffolk, Massachusetts U.S.A. for any action arising out of or relating to this Agreement. Each party hereby waives any other venue to which it may be entitled by domicile or otherwise. (c) In the event of any legal proceeding between the Seller and Buyer relating to this Agreement, neither party may claim the right to a trial by jury, and both parties waive any right they may have under applicable law or otherwise to a right to a trial by jury. Any action arising under this Agreement must be brought within one (1) year from the date that the cause of action arose. (d) In the event that any one or more provisions contained herein shall be held by a court of competent jurisdiction to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall remain in full force and effect, unless the revision materially changes the bargain. (e) Seller's failure to enforce, or Seller's waiver of a breach of, any provision contained herein shall not constitute a waiver of any other breach or of such provision. (f) Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, software and/or Services, they are not approved medical devices and are intended by Seller to be for "Research Use Only" as defined by the U.S. Food and Drug Administration regulations and is not to be used for any illegal or unapproved regulatory purposes, including without limitation, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to humans or animals. (g) Seller agrees not to knowingly disclose any confidential information or data obtained by it during the performance of Services when such information or data is clearly identified in writing by Buyer as confidential. Buyer agrees that all pricing, discounts and technical information that Seller provides to Buyer are the confidential and proprietary information of Seller. The parties agree to keep such information confidential and not disclose each other's confidential information to any third party for one (1) year hereafter, and to use such information solely for Buyer's internal purposes and in connection with the Products supplied hereunder. Nothing herein shall restrict the use of information available to the general public. (h) Any notice or communication required or permitted hereunder must be in writing and shall be deemed received when personally delivered, upon delivery by any internationally recognized carrier such as Federal Express or similar overnight delivery service, or three (3) business days after being sent by certified mail, postage prepaid, to a party at the address specified herein or at such other address as either party may from time to time designate to the other. (i) Seller may, in its sole discretion, provide (l) applicable Product training to Buyer or its employees, or (ll) samples of Products to Buyer for distribution to patients of Buyer. Buyer agrees to distribute any such samples to patients for patient use or, if not so distributed, to return them to Seller. Buyer may not use the samples to provide care to patients and must not bill any patients or third party payers when Buyer dispenses the samples. (j) Seller hereby rejects and disclaims any rights of Buyer contained, or obligations imposed upon Seller, in any document provided, referenced or otherwise submitted by Buyer, in each case, that Seller has not expressly included in this Agreement or a writing manually executed by Seller (including, without limitation, any rights of Buyer in respect of designs, specifications, source code or intellectual property, owned, created, developed or licensed, by Seller; any rights to items or services not specifically identified in Seller's quotation; any audit rights or financial offset rights of Buyer; any penalties or liquidated damages imposed upon Seller; any obligation of Seller to comply with Health Insurance Portability and Accountability Act of 1996 (as amended), Current Good Manufacturing Practice regulations (as amended), the requirements, as amended, of the Customs-Trade Partnership Against Terrorism or any code of conduct, quality program, information security program, background or drug screening program or other guidelines, programs or policies; in each case, promulgated or required by Buyer; any obligation that Seller comply with any law that, under law, would not otherwise apply to Seller in respect of the transaction(s) contemplated hereby; any right of Buyer to withhold all, or any portion, of the purchase price of any products or services provided hereunder for any period of time; any right of Buyer, itself or through any third party, to remediate any defects in, replace or re-perform, any products or services provided hereunder at Seller's cost or expense; any obligation of Seller to waive, or require its insurers to waive, any rights of subrogation; any obligation of Seller that would impair, restrict or prohibit Seller's ability to freely conduct any business with any person or in any geography or market; any early-payment, or other, discount; any obligation of Seller to maintain a supply of spares, or otherwise make any services available, for any particular period of time; any representation, warranty or other obligation of Seller to provide pricing comparable to, or more favorable than, the pricing that Seller provides to others; any restriction of, or prohibition on, Seller's ability to modify, change or discontinue any of its products, processes or services; or any waiver by Seller of any right to enforce any of the terms hereof).

BUYER

SELLER

By: _____
Print Name: _____
Print Title: _____
Date: _____

By: _____
Print Name: _____
Print Title: _____
Date: _____

Initial here to indicate Buyer's agreement to automatically apply the Terms and Conditions of Sale for Products and Service to all future orders of Products and Services from Seller, whether or not the Agreement is referenced on Seller's quote or Buyer's Purchase Orders, for _____ (write # of years) from later date of the parties' signature, or until either party provides written notice that this Agreement is terminated.

