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		TITLE:	Technetics Columbia QA Provisions for Purchased Items
		REVISION:	13
		EFFECTIVE DATE:	03/4/24

External approval/acknowledgment req'd prior to issuance or revision of this document: Yes No Proprietary Document: Yes No

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SCOPE:

This specification establishes quality provisions for items and services purchased by Technetics Group Columbia (TGC) and applies to all purchase orders issued by TGC. It is intended to meet the requirements of the Technetics Quality Manual, AS9100, and NQA-1 1994. This document has a QCE designation; however, it is considered a QAM Administrative Procedure and is therefore subject to subject to controls and approvals typical for Administrative Procedures.

RESPONSIBILITIES:

All suppliers of components or services are responsible to review the following applicable clauses for each purchase order and ensure their quality systems meet or exceed these requirements. Any supplier that has questions or is unable to comply with any of these clauses should contact Technetics Group immediately for resolution.

Revisions to this document to be approved by the TGC Purchasing Manager (or designee) and TGC Quality Manager (or designee) for compliance to the current revision of AS9100.

PURCHASE ORDER REQUIREMENTS & CLAUSES:

The following clauses apply as required on TGC purchase orders. Additional requirements may be included as text or notes in the body or line item of the purchase order.

➤ **CLAUSE 1.0: GENERAL REQUIREMENTS - Applies to all purchase orders.**

Quality System:


The Supplier's Quality Program and Quality Manual, if applicable, shall apply to this order. If requested, the supplier shall submit a controlled copy of their current Quality Manual to Technetics Group Columbia for review and approval prior to fulfillment of the purchase order.

Calibration:

The supplier shall establish and maintain documented procedures to control, calibrate, and maintain inspection, measurement, and test equipment used to verify conformance to specified requirements. Equipment shall be selected such that it is sufficiently accurate and allows the degree of measurement uncertainty to be known. Equipment shall be checked at established intervals to ensure proper operation. Calibration Standards shall be traceable to the National Institute of Standards and Technology (NIST) or equivalent standards organization.

Rights of Access:

The supplier shall grant: the right of access by the organization (Technetics Group Columbia), their customer, and regulatory authorities to the applicable areas of facilities and to applicable documented information, at any level of the supply chain.

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Certificate of Conformance:

A Certificate of Conformance stating that all materials and / or services are complete and in compliance with all purchase order requirements shall be provided with shipment. The C of C shall reference the purchase order number, the part number (if provided) and the item description and shall be signed and the name / title authority of the person signing shall be clearly printed. Note: For raw materials, a CMTR may be supplied in lieu of a Certificate of Conformance.

Deviations:

The supplier shall obtain Technetics Group Columbia approval of existing or proposed deviations from the requirements of the procurement documents and / or referenced specifications.

Documentation:

All required reports, documentation and certifications shall be received by the Technetics Group Columbia Quality Manager prior to payment.

Safety Data Sheets:

Technetics Group Columbia requires Safety Data Sheets on all material and / or suppliers requiring their use that are delivered to this facility. SDS are required for the first shipment and any time the SDS has changed.

Ozone Depleting Chemicals:


Warning labels will be required on products, materials, or supplies that we receive that are manufactured using Class II Ozone Depleting Chemicals (ODC's). The vendor shall be required to mark each part with the following: "WARNING! MANUFACTURED WITH (NAME OF SUBSTANCE) A SUBSTANCE WHICH HARMS PUBLIC HEALTH AND ENVIRONMENT BY DESTROYING OZONE IN THE UPPER ATMOSPHERE."

Flow Down Requirements:

The requirements of this purchase order, including requirements for control of key characteristics, where applicable, shall be extended to lower tier subcontractors.

Counterfeit and Suspect Items:

Seller is hereby notified that the delivery of suspect / counterfeit items is of special concern to Technetics Group Columbia. If any parts covered by this order are described using a manufacturer part number or using a product description and / or specifies an industry standard, Seller shall be responsible to assure that the replacement parts supplied by Seller meet all requirements of the latest version of the applicable manufacturer data sheet, description, and / or industry standard. If the Seller is not the manufacturer of the goods, the Seller shall make all reasonable efforts to assure that the replacement parts supplied under this order are made by the Original Equipment Manufacturer (OEM) and meet the applicable manufacturer data sheet or industry standard. Should Seller desire to supply a replacement part that may not meet the requirements of this paragraph, Seller shall notify Technetics Group Columbia of any exceptions and receive written approval prior to shipment. If suspect / counterfeit items are furnished under this order or are found in any of the goods delivered hereunder, such items will be dispositioned by Technetics Group Columbia and may be returned to the Seller. The Seller shall promptly replace such suspect / counterfeit

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items with items acceptable to Technetics Group Columbia and the Seller shall be liable for all costs, including but not limited to, Technetics Group Columbia's internal and external costs relating to the removal and replacement of said parts.

Conflict Minerals:

Before shipping any products that include conflict mineral(s) originating from a conflict area (including the Democratic Republic of Congo and surrounding countries), a written response from Technetics Group Columbia is required stating that it is understood that an item on the purchase order contains conflict mineral(s) originating from a conflict area.

Foreign Objects:

The seller shall establish Cleanliness Control / Foreign Object Debris / Damage (FOD) practices to ensure that the items supplied on this purchase order are free from oil or grease, machine tailings, dirt, scale, residue, contaminants or other foreign material that may adversely affect the operation of the item(s) provided or may be introduced into interfacing equipment and systems of Technetics Group and its customers. These practices shall be proportional to the sensitivity of the items to FOD, as well as the FOD generating potential of the manufacturing methods. Seller shall be responsible for the prevention of FOD while the items are under their control, including manufacturing, inspection, packaging and shipping.

Record Storage:

The supplier shall maintain adequate records of inspections, tests, and other quality control activities. Such records shall be maintained and available for a minimum of ten (10) years, unless otherwise noted on Purchase Order. This includes but is not limited to, C of C's, Work Instructions, Special Process certifications, Inspection Logs, and Chemical and Physical Raw Material Certifications. The supplier must be able to fax or e-mail a legible copy of all applicable paperwork/documentation within one (1) working day when requested by Technetics Group.

Fraud or Falsification:

The recording of false, fictitious or fraudulent statements or entries on any document related to this purchase order may be punishable as a felony under Federal Statutes.

Safety-Conformity-Ethical Behavior:


Vendors shall ensure their personnel are aware of:

- Their contribution to product or service conformity
- Their contribution to product safety
- The importance of ethical behavior

➤ **CLAUSE 2: QUALITY REQUIREMENTS: The following clauses are only applicable if specified on the purchase order.**

2.1 Certified Material Test Reports (CMTRs)

A certified material test report (CMTR) shall be provided for all materials supplied. The CMTR shall reference, at a minimum, the manufacturer's name and address, chemical and physical properties of the material, a unique, traceable heat lot number or manufacturing lot number, applicable manufacturing

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standards (AMS, ASTM, ANSI, etc.) and the name of an authorized representative of the company, signature, title and date.

DFARS - The CMTR must also include the country of original melt and certification to DFARS clause 252.225.7009. If supplier cannot comply with this requirement please contact TGC Purchasing immediately.

2.2 Gold Purchase:

Certifications must document the actual amount of gold present and the amount of impurities in each batch of gold. Impurity content must be reported in parts per million.

2.3 Heat Lot Note:

Vendor shall make every effort to produce material from one heat lot. If more than one heat lot is provided in a single shipment the material shall be positively identified by heat lot number and segregated in a manner to preclude mixing of lots. At no time shall less than 5000' of material be supplied from a unique heat lot without written approval from Technetics.

2.4 Springs:

Raw material and spring must be segregated by heat lot number and properly identified. No mixing of heat lots is permitted.

2.5 ITAR:

This purchase order may be subject to the International Traffic in Arms Regulations (ITAR). If ITAR control is required, it will be noted on the purchase order.

2.6 PTFE Commercial:

Teflon coat to the requirements of AMS 2515 Latest Rev.

Testing is for Thickness and Appearance Only

Pigmented (green) primer & topcoat

Certified Material Test Reports shall be provided for each batch of raw material used.


A C of C referencing the purchase order number, TGC part number, Manufacturer / PTFE part number and lot number shall be provided.

Parts shall be packaged to avoid damage to coated surface.

2.7 PTFE per MIL-P 24074B:

This is a rated order certified for national defense, emergency preparedness and energy program use. The contractor shall follow all requirements of the Defense Priorities and Allocations System (DPAS) Regulation 15CFR700.

Teflon coat to MIL-P-24074B & Interim Change 1 Requirements

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Pigmented (Green) primer and topcoat

Laboratory Testing & Certification Required

The Original Certificate of Test must accompany the parts or be mailed to Technetics-Attn: Quality Control

Visual inspection shall be performed at a minimum of 5X magnification.

Certified Material Test Reports shall be provided for each batch of raw material used.

A C of C referencing the purchase order number, TGC part number, Manufacturer / PTFE part number and lot number shall be provided.

Parts shall be packaged to avoid damage to coated surface

Quality Assurance Provisions: The coating thickness inspection per MIL-P-24074 Para. 4.4.1.1. shall be conducted as follows: dimension "E" shall be measured and recorded on each sample ring in 5 locations uniformly spaced around the circumference. The identity of the samples shall be maintained and the measurement of dimension "E" repeated after coating. The after-coat measurements shall fall within a range determined by taking the minimum specified pre-coat dimension "E" plus two times the minimum coating thickness for the lower limit and by taking the maximum specified pre-coat dimension "E" plus two times the maximum coating thickness for the upper limit. All after coat readings shall fall within this range.

2.8 Quality Requirements Strip/Sheet:

A Certificate of Conformance per Clause 1 is required.

A certified material test report (CMTR) shall be provided per note 2.1 above.

Quality requirements for this order are contained in HMS-004 Rev. 2

2.9 Tubes 718 Nuclear #1:

A Certificate of Conformance per Clause 1 is required.

A certified material test report (CMTR) shall be provided per note 2.1 above.

Vendor shall provide a 9 foot sample of the ordered material, as well as a 3 foot sample in the annealed condition, in advance of the production shipment. These samples shall be shipped via overnight method.

REQUIREMENTS:

CMS-1718 Rev. 7 applies to this order.


LENGTHS REQUIRED:

TGC would like all tubes at the longest possible length (30-40ft preferred).

Minimum tube length requirements:

- 85% Greater than 25 ft
- 10% 20 - 24 ft
- 05% 17 - 19 ft

Supplier should aim for the following lengths:

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- 25% 35 - 37 ft
- 40% 30 - 34 ft
- 20% 25 - 29 ft
- 15% 20 - 24 ft

Note: Supplier should notify TGC of any tubes not meeting these length requirements. TGC reserves the right to accept short lengths.

Tube OD measurements shall be taken 8" - 12" inward on each end of the tube and the results recorded.

Tube Wall Thickness measurements shall be done on both ends of the tube and the results recorded.

Quality personnel must be afforded the opportunity to be present during the following functions:

- UT
- Age Hardening
- Final inspection

TGC personnel will be available on site within 72 hrs (or as agreed) of notification by supplier.

Tubing shall be packaged individually in plastic or paper sleeves. Maximum box/crate weight shall not exceed 300 lbs.

No stenciling of the tubing is allowed.

2.10 Tubes SS Nuclear:

- SS304 Tubing.
- 0.500" OD +0.005 / -0.000"
- 0.050" Wall +/- 0.005"

Material to be supplied per ASME SA 213 Latest Revision

Testing shall be per ASME SA 450 Latest Revision

100% Ultrasonic Testing required


A Certificate of Conformance per Clause 1 is required.

A certified material test report (CMTR) shall be provided per note 2.1 above.

- Lengths Required:
- 85% Greater than 25 feet
 - 10% 20-25 feet
 - 05% 17-20 feet

2.11 Wire Alloy 718:

- Material shall meet the requirements of AMS 5962 latest revision.
- Individual coils shall not exceed 5 pounds (unless otherwise specified on the PO).
- Coils shall be packaged to prevent damage during shipping.
- Coils shall be identified with the purchase order number, alloy, physical dimensions, heat lot number and supplier's name.
- A Certificate of Conformance per Clause 1 is required.

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A certified material test report (CMTR) shall be provided per note 2.1 above.

2.12 Wire Nimonic 90:

Material shall meet the requirements of HMS 010 Rev. 1

A Certificate of Conformance per Clause 1 is required.

A certified material test report (CMTR) shall be provided per note 2.1 above.

Individual coils shall not exceed 5 pounds (unless otherwise specified on the PO).

2.13 Wire X750:

Material shall meet the requirements of HMS-003 Rev. 3.

Individual coils shall not exceed 5 pounds (unless otherwise specified on the PO).

A Certificate of Conformance per Clause 1 is required.

A certified material test report (CMTR) shall be provided per note 2.1 above.

2.14 Tubes Commercial:

CMS 1246 Rev. 9 applies to this purchase order.

No stenciling of the tubing is allowed.

A Certificate of Conformance per Clause 1 is required.

A certified material test report (CMTR) shall be provided per note 2.1 above.

Tubes to be supplied cut to length as follows:

When tube OD is:

Up to 0.060" 5-7ft long random lengths

0.061" to 0.087" 7-12ft long random lengths;

0.088" or greater 17-20ft long random lengths;

(These lengths to be observed unless otherwise specified on this order).


2.15 Silver Strip:

Flatness is critical – No canting or radius

.020MM Max Grain Size Required

CHEMICAL COMPOSITION: The materials used for making this product shall be of such quality and purity that the finished material will conform to the requirements prescribed in the latest revision of ASTM B742. Unless otherwise specified by the purchase order, all material must be of the same heat lot.

MECHANICAL PROPERTIES: The mechanical properties and dimensional tolerances of this product shall meet the properties of "annealed" material as referenced in the latest revision of ASTM Specification B742 (Tensile properties shall be between 24-30 ksi with elongation of 25% minimum). TECHNICS GROUP

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COLUMBIA understands that the hardness of the material will be noted as "Typical" because of the difficulty of testing for hardness in the thicknesses that will be procured by TECHNETHICS GROUP COLUMBIA.

PACKAGING: Material shall be supplied in rolls or sheet with all dimensional tolerances in accordance with the latest revision of ASTM Specification B476. Rolled silver shall be supplied on a 3" ID cardboard core with side flanges. The material shall be separated by size and prepared for shipment to ensure acceptance by common carrier for transportation and to afford protection from the normal hazards of transportation. Each shipping unit shall be clearly marked with the purchase order number, metal or alloy designation, temper, size, shape, gross and net weights and name of supplier.

CERTIFICATION: Certifications shall be supplied with each shipment of material. The certification shall be legible and signed by an authorized representative of the manufacturer. The certification shall contain at a minimum the following:

- a) Chemical Test Reports
- b) Physical Test Reports
- c) TECHNETHICS GROUP COLUMBIA Purchase Order Number
- d) Unique Lot Number of Material
- e) This Purchase Order Number
- f) Date of Certification
- g) Certification to the following ASTM Specifications:
 - 1) ASTM B742
 - 2) ASTM B476
 - 3) ASTM B413 (Certify the bullion used to manufacture strip on this order)

A Certificate of Conformance per Clause 1 is required.

A certified material test report (CMTR) shall be provided per note 2.1 above.

2.16 10CFR50 Appendix B Applicable

The materials to be provided in accordance with this purchase order are intended for use at a nuclear power plant. The supplier shall provide the material / services in accordance with the supplier's 10CFR50 Appendix B Quality Program, which has been approved in writing by the Technetics Group Columbia Quality Department. The required certifications shall reference the supplier's Quality Program and Revision level. The requirements of this purchase order shall be extended to lower tier subcontractors to the extent necessary to provide a Quality Program consistent with the applicable provisions of 10CFR50 Appendix B.

2.17 PTFE – AMS 2515


Teflon coat to the requirements of AMS 2515 Latest Rev.

Test results for all applicable tests required by AMS 2515 to be provided with shipment.

Pigmented (green) primer & topcoat

Certified Material Test Reports shall be provided for each batch of raw material used.

A C of C referencing the purchase order number, TGC part number, Manufacturer / PTFE part number and lot number shall be provided.

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Parts shall be packaged to avoid damage to coated surface.

2.18 Future use (Placeholder)

2.19 10CFR21 Applicable

The provisions of 10CFR21, Reporting of Defects and Noncompliance, shall apply to the supplier of these materials / services. Required notifications shall be reported to Technetics Group Columbia, Attn: Quality Manager.

2.20 Source Inspection

Source inspection / surveillance is required for this order. Technetics Group Columbia purchasing shall be notified in writing at least (7) days prior to performing the activities identified on the purchase order. If no activities are identified on the purchase order, notify Technetics Group Columbia purchasing immediately to clarify this requirement.

2.21 Supplier Audit Required

The supplier facility and Quality Program shall be audited and approved by the Technetics Group Columbia Quality department prior to shipment of this order.

2.22 Special Processes

Special process certifications shall be submitted with each shipment for these materials / services.

2.23 Government Inspection


Government inspection is required prior to shipment from supplier's facility. Upon receipt of this order, promptly notify the Government Representative who normally services supplier's facility so that the appropriate planning for Government inspection can be accomplished. In the event the representative or office cannot be located, contact Technetics Group Columbia purchasing immediately.

2.24 Mercury Prohibition

The material covered by this purchase order is subject to the prohibition of mercurial contamination during manufacturing, processing, testing, and inspection. The product shall not have come in direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundary of contamination without specific approval of Technetics Group Columbia. A Certificate of Compliance with these requirements shall be provided when required by material specifications or drawings. This requirement shall be passed down to all subcontractors.

2.25 Significant Out-of-tolerance Conditions

Contractors providing calibration services shall notify Technetics Group Columbia Quality of significant out-of-tolerance conditions so that appropriate action can be taken by Technetics Group Columbia to correct possible non-conforming products. This applies both to Technetics Group Columbia and contractor measuring and test equipment.

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2.26 Tubing PS1813 Nuclear

Material must be in accordance with Technetics Group Columbia Procedure PS1813 Rev 0

Contact the Technetics Quality Manager to receive a copy of PS1813 Rev 0

No stenciling of the tubing is allowed.

2.27 Fraud or Falsification

A. This Order and the activities hereunder are within the jurisdiction of the Department of Energy or the Department of the Navy. Any knowing and willful act to falsify, conceal or alter a material fact, or any false, fraudulent or fictitious statement or representation in connection with the performance of work under this Order may be punishable in accordance with applicable Federal Statutes.

B. Seller agrees that all employees engaged in the performance of this purchase order will be, if they have not been previously informed in writing prior to commencing performance of work under this purchase order that there is a risk of Federal criminal penalties associated with any falsification, concealment or misrepresentation in connection with work performed under this purchase order. Seller agrees that a signed statement shall be, if it has not been previously, obtained from said employees prior to their commencing performance of work under this purchase order that they have been so informed. Such statements shall be retained by the Seller for at least three years after final payment on this purchase order. An acceptable form for such a statement is substantially as follows: "This company/ division / department / branch performs work under contracts which are within the jurisdiction of departments of the United States Government. Some of the work performed under these contracts affects the national security of the United States and the requirements of these contracts are designed to ensure that essential attributes of the work are carefully checked or inspected and that records accurately reflect the results of all work. Any falsification, concealment or alteration of any material fact, or any false, fraudulent or fictitious statement or representation in connection with the work under any contract with in the jurisdiction of the Government is not only prohibited by company policy, but may also be punishable under Federal Law. Please acknowledge by your signature that you have read and understand the above."

C. Seller agrees to include the following pre-printed statement on manufacturing work instructions, manufacturing records, inspection, and/ or test forms generated by Seller to verify or report the performance of any work in conjunction with the subject order.


Applicable to Orders Issued by BWXT NOG

"NOTE: The recording of false, fictitious or fraudulent statements or entries on this document may be punishable as a felony under Federal Statutes."

Applicable to Orders Issued by NFS

"Knowingly or willfully falsifying or concealing a material fact on this form, or making false, fictitious or fraudulent statements or representations herein could constitute a felony punishable under Federal Statutes."

D. Seller agrees to include this article, including this paragraph D., in every subcontract or lower-tier purchase order for material, parts or services under this Order. Any inability or unwillingness of a lower-tier supplier to comply with this provision shall promptly be documented in writing and provided to, as applicable, BWXT NOG or NFS.

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➤ **CLAUSE 3: Commercial Terms:**

3.1 TGC Terms & Conditions

Email invoices to: columbia.ap@techneticsgroup.com


Please advise immediately if are unable to deliver item(s) to our dock by the "Delivery" date.

Note: "Delivery" date is not the "Ship Date".

Please be aware failure to comply with Technetics noted freight methods will result in back charging of all freight costs.

3.2 Freight Instructions

Freight and Shipping Instructions have been removed from QCE 228. Please see the purchase order for instructions or contact the Technetics Group buyer.

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REVISION RECORD

Revision: 0-12	Revision Date: Previous
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<u>SECTION</u>	<u>SUMMARY OF CHANGES</u>
Previous	Was controlled as a QCE Form – previous revision history not available

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<u>SECTION</u>	<u>SUMMARY OF CHANGES</u>
Clause 1.0	Added Safety-Conformity-Ethical Behavior per AS9100 8.4.3 section m
All	Re-formatted to new template

Revision:	Revision Date:
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<u>SECTION</u>	<u>SUMMARY OF CHANGES</u>

Revision:	Revision Date:
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<u>SECTION</u>	<u>SUMMARY OF CHANGES</u>