

1360 S
APPENDIX A

APG Neuros Blower
Scope of Supply

[PAGE LEFT INTENTIONALLY BLANK]

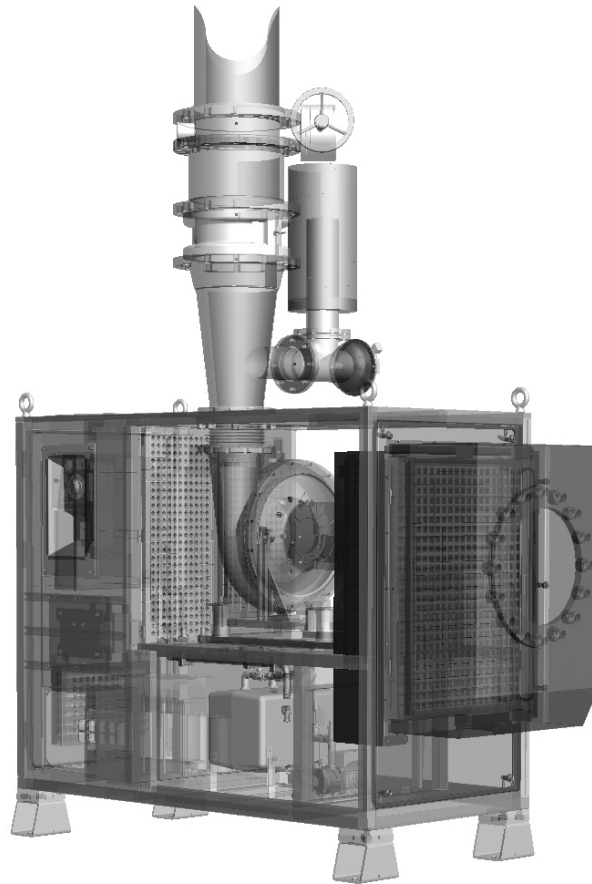


**Eastern Municipal Water District
Perris, CA
Regional Water Reclamation Facilities**

**Scope of Supply
Proposal # 10480-022119**

**Submitted by:
APGN Inc. *dba* APG – Neuros**

Issued on: February 26, 2019



APG-Neuros High Speed Turbo Blower

APGN Inc. *dba* APG-Neuros
1270 Michèle-Bohec, Blainville, Québec J7C 5S4, Canada, Tel : (450) 939-0799
www.apg-neuros.com

February 21, 2019

Mr. Bryce Danker
Hazen and Sawyer
7700 Irvine Center Drive, Suite 200
Irvine, California 92618

Subject: Proposal for the Supply of High-Speed Turbo Blowers (HSTB) for San Jacinto, Moreno and Temecula (EMWD)

Dear Mr. Danker,

APG-Neuros is pleased to submit its proposal in response to the recent request we received. This proposal is in compliance with the document **Specifications RWRF Blower Electrification Project – APG-Neuros Price Proposal** dated **September 2018**.

Two configurations of APG-Neuros High Speed Turbo Blowers are offered in this scope:

1. Single Core units: One (1) x NX350 ([San Jacinto Valley Regional Water Reclamation Facility](#)) – [Section 11184 – Part 1 – 1.01.B](#)
2. Dual Core units: Three (3) x NX600 ([Temecula Valley Regional Water Reclamation Facility](#)) – [Section 11183 – Part 1 – 1.01.B](#)

APG-Neuros Turbo Blower Scope of Supply:

A. APG-Neuros NX Turbo Blower system package rated for conditions as shown on the specification, complete with integrated components as follows:

- Blower Core; ([SJVRWRF & TVRWRF](#))
 - High Efficiency Forged Aluminum Impeller
 - Permanent Magnet Synchronous Motor
 - Dual Layer Bump-foil Air Bearings
 - Titanium Shaft
 - Sine-wave filter for cooler running motor
 - Input Line Reactor to minimize harmonics
 - Internal vibration and dynamic effect Absorption Mounts
 - Internal Expansion Joint
- Blower Local Control Panel; ([SJVRWRF](#)) – [Section 11184 – 2.12](#)
 - Allen-Bradley PanelView - 6" Touch Screen
 - Allen-Bradley L24 PLC - [Section 11184 – 2.12.B](#)
 - Voltage Surge Protection - [Section 11184 – 2.12.H](#)

APG-Neuros Proprietary Information Provided in Strict Confidence

- Uninterruptible Power Supply for PLC - Industrial grade (10 minutes)
- Provisions for Remote Control capability via Ethernet, LAN or Hard wiring

- Blower Local Control Panel: (TVRWRF) – Section 11183 – 2.13
 - Allen-Bradley PanelView - 10" Touch Screen – Section 11183 – 2.13. Q
 - Allen-Bradley CompactLogix L32 PLC - Section 11183 – 2.13.B
 - Voltage Surge Protection - Section 11184 – 2.13.H
 - Uninterruptible Power Supply for PLC - Industrial grade (10 minutes)
 - Provisions for Remote Control capability via Ethernet, LAN or Hard wiring

- Harmonic Filter; (SJVRWRF & TVRWRF)
 - Installed inside the blower enclosure
 - Integral Passive Type Harmonic Filter to reduce total harmonic distortion to 5% in compliance with IEEE 519

- KEB Variable Frequency Drive; (SJVRWRF & TVRWRF)
 - UL, CE & CSA certified
 - Built in Speed measurement
 - Voltage Surge Protection
 - 3ph/60Hz/480 Volts

- Equipment Sensors & Instruments; (SJVRWRF & TVRWRF)
 - Temperature sensors for motor, bearing, inlet and discharge air flow
 - Pressure sensors for Ambient pressure, inlet and discharge conditions
 - Pressure sensor and alert for air filter condition
 - Built in Flow Indication
 - Built in vibration sensor and transmitter

- All above components, for SJVRWRF, within a sound attenuating NEMA 3R equivalent enclosure with; Section 11184
 - Louvered inlet
 - 16" Discharge Cone - Section 11184 – 2.23. A
 - One (1) set of Anchor Bolts - Section 11184 – 2.05. D
 - One (1) set of Hi-Flow Synthetic pleated inlet filter with 98% efficiency @ 10-microns - Section 11184 – 2.22. B
 - Ten (10) sets of pre-filter with 90% by weight per ASHRAE 52-76 and MERV 8 rating per blower - Section 11184 – 2.22. B

- All above components, for **TVRWRF**, within a sound attenuating NEMA 3R equivalent enclosure with; (**TVRWRF**) – Section 11183
- Integral Air Conditioning unit to cool the dual core blower VFD, PLC, and other electrical components - Section 11183 – 2.06
 - Two (2) 14" Discharge Cones – Section 11183 – 2.23. A
 - 30" Flanged inlet - Section 11183 – 2.18
 - Two (2) sets of Anchor Bolts - Section 11183 – 2.05. D
 - One (1) set of Hi-Flow Synthetic pleated inlet filter with 98% efficiency @ 10-microns - Section 11183 – 2.22. B
 - Ten (10) sets of pre-filter with 90% by weight per ASHRAE 52-76 and MERV 8 rating per blower - Section 11183 – 2.22. B

B. Ship loose items per blower:

The **SJVRWRF** blower is complete with following ship loose items:

- One (1) Blow-off bypass valve to blow off air flow during start/shutdown sequence – Section 11184 – 2.21
- One (1) Blow-off silencer to silence air flow during start/shutdown sequence – Section 11184 – 2.21
- One (1) Blow-off silencer directly bolted to the blow off valve – Section 11184 – 2.21. A
- One (1) Discharge Check valve, 16" – Section 11184 – 2.19. A
- One (1) Discharge Motorized Isolation valve with handwheel operator and remote control station, 16" – Section 11184 – 2.20. A
- One (1) Stainless Steel flexible connector for discharge (w/retaining rings and control rods), 16" – Section 11184 – 2.18. A
- One (1) Discharge pressure gauge for installation on the discharge piping – Section 11184 – 2.10

Each **TVRWRF** dual core blower is complete with following ship loose items:

- Combined header to join both core discharges – Section 11183 – 2.23.B
- Two (2) Blow-off bypass valve to blow off air flow during start/shutdown sequence – Section 11183 – 2.21
- Two (2) Blow-off silencer to silence air flow during start/shutdown sequence – Section 11183 – 2.21
- Two (2) Blow-off silencer directly bolted to the blow off valve – Section 11183 – 2.21. A
- One (1) External filter Endustra Tri-Vent® Series TKZ 30-inch Side Outlet Manifold Intake Filter Silencer with Enduralast® Hi-Flow Synthetic Medium – Section 11183 – 2.22. F
- Two (2) Discharge Check valves, 14" – Section 11183 – 2.19. A
- One (1) Discharge Motorized Isolation valve with handwheel operator, 24" –

[Section 11183 – 2.20. A](#)

- One (1) EPDM flexible connector for discharge (w/retaining rings and control rods), 24” – [Section 11183 – 2.18. A](#)
- One (1) EPDM flexible connector for the inlet (w/retaining rings and control rods), 30” – [Section 11183 – 2.18. A](#)
- One (1) Discharge pressure gauge for installation on the discharge piping – [Section 11183 – 2.11](#)

MVRWRF blower is complete with following ship loose items:

- One (1) Discharge pressure gauge for installation on the discharge piping – [Section 11184 – 2.11](#)
- One (1) Stainless Steel flexible connector for discharge (w/retaining rings and control rods), 16” – [Section 11184 – 2.18. A](#)
- One (1) On/Off Actuator with remote control station
- One (1) Two Blow-off silencer directly bolted to the blow off valve

C. Master Control Panels

- a. Master control panel – **TVRWRF** [Section 11183 – 2.14](#)

MCP panel brief features:

- Free-Standing Panel
- Approximate dimension: 72” H x 36” W x 18” D
- NEMA Type 12 – Indoor Installation
- PLC type: AllenBradley ControlLogix L74
- 10” Touchscreen HMI – PanelView Plus 7
- Uninterruptable Power Supply (UPS)
- Industrial Ethernet Switch
- Redundant Power Supplies
- Surge Protection on PLC I/O’s for Analog field signals
- Air Conditioning Unit
- One (1) PLC/HMI Software License
- One (1) Spare PLC I/O module of each type used

- b. Master control panel – **MVRWRF**

MCP panel brief features:

- Free-Standing Panel
- Approximate dimension: 72” H x 60” W x 12” D
- NEMA Type 12 – Indoor Installation
- PLC type: AllenBradley ControlLogix L74
- 10” Touchscreen HMI – PanelView Plus 7
- Uninterruptable Power Supply (UPS)

- Industrial Ethernet Switch
- Redundant Power Supplies
- Surge Protection on PLC I/O's for Analog field signals

D. Warranty:

- The blower and appurtenances (parts and labor), for SJVRWRF, will be warranted for a period of two (2) years from the date of full completion and acceptance by owner [Section 11184 – 1.04. C](#)
- Blowers and appurtenances (parts and labor), for TVRWRF, will be warranted for a period of two (2) years from the date of full completion and acceptance by owner [Section 11183 – 1.04. C](#)

E. Spare parts:

- Two (2) set of replacement inlet filter per blower
- One (1) set of replacement external air filter elements
- One (1) tool boxes and tool kit
- One (1) set of External filter elements for Endustra Tri-Vent® Series TKZ
- MCP spares:
 - One (1) ControlLogix Power Supply
 - One (1) ControlLogix Processor
 - One (1) ControlLogix Enhanced Ethernet Module
 - One (1) ControlLogix 24VDC input module isolated
 - One (1) ControlLogix relay output module isolated
 - One (1) ControlLogix isolated voltage/current analog input module
 - One (1) ControlLogix isolated voltage/current analog output module
- Blower LCP spares:
 - One (1) Power Supply - QUINT-PS/1AC/24DC/10
 - One (1) Fully pre-programmed shelf-spare PLC for the Process Air Blower (Temecula)

F. Factory Inspection and Tests:

- Factory Acceptance Performance Test to ASME PTC-10 'Type 2' standard
- Factory Witnessed Engineer Testing

G. Submittal Information: Copies as required

- Qualifications of APG-Neuros
- Quality of construction

APG-Neuros Proprietary Information Provided in Strict Confidence

- Power Guarantee
- Product Data
- Detailed Drawings
- Quality Control
- Certified Blower test
- Operation and Maintenance Manuals

H. Payment Terms:

- PAYMENT TERMS SHALL CONSIST OF 15% OF PO VALUE UPON SUBMITTAL APPROVAL WITH BALANCE DUE UPON RECEIPT AND ACCEPTANCE OF GOODS WITH A NET 30 DAY TERM. INVOICE FOR EACH SITE SHALL BE SUBMITTED UPON SUBMITTAL APPROVAL AND SHALL HAVE A NET TERM OF 30 DAYS.

I. Proposal Validity and Seller Terms and Conditions

- Unless otherwise specified elsewhere in the Sales Agreements, the prices are valid for ninety (90) days from the issue date on the cover page
- This proposal, unless otherwise specified herein this document, is subject to the Seller's General Terms and Conditions of Sales available upon request

J. Quality Assurance / Certifications

- APG-Neuros Turbo Blower is UL1450 certified
- APG-Neuros production system is certified to ISO 9001

K. Price.....USD 2,325,740.....

- Price is Net F.O.B. shipping destination, and Excludes Taxes
- Price covers Items A through J above

Price adders can be provided when requested or required in specifications at following additional cost (*not included* in the price above):

- NX600 Local Control Panel upgrade to Allen Bradley ControlLogix L74 \$ 40,000 / blower

L. Delivery Lead time

- Submittals shall be issued within two (2) weeks from manufacturers acceptance of PO
- Blowers shall be shipped within twelve (12) weeks from approval of shop drawings

APG-Neuros Proprietary Information Provided in Strict Confidence

M. EMWD – Standard Terms and Conditions

- APG-Neuros confirms to adhere to EMWD’s standard terms and conditions taking the exception on the “installation of the goods” – Under the Engagement of Company – section that is not in APG-Neuros scope of supply.
- The below paragraph is extracted from EMWD’s Standard Terms and Conditions with the intended corrected language:

ENGAGEMENT OF COMPANY

Company agrees to furnish ~~and install~~ the goods and/or services as stipulated herein, in accordance with the terms and conditions contained herein. Company will supply all labor, tools, equipment, materials and expertise required to complete the work in a timely and workmanlike manner consistent with industry standards. Company agrees to perform the work in accordance with the terms and conditions of this contract, the exhibits attached hereto and incorporated herein by reference, and all applicable local, District and federal laws, rules and regulations in effect at the time the services are provided.

We appreciate the opportunity to quote APG-Neuros Turbo Blowers and look forward to a successful project.

For any questions regarding Sales, Procurement, Service and Warranty information, please contact:

APG-Neuros Sales Department
1270 Michèle-Bohec
Blainville, Québec J7C 5S4
Phone 450-939-0799
Fax 450-939-2115
sales@apg-neuros.com