



JEA Northside Generating Station (NGS)

Front-End Wheel Loader (Large & Small)

Bulldozer

Track Excavator

Procurement Technical Attachment

<i>Rev</i>	<i>Date</i>	<i>Revisions</i>	<i>Preparer</i>	<i>Reviewer</i>	<i>Approver</i>
<i>A</i>	<i>12/27/2024</i>	<i>Issue for Review</i>	<i>GDM</i>	<i>ZSS</i>	<i>JW</i>
<i>0</i>	<i>01/17/2025</i>	<i>Issue for Bid</i>	<i>GDM</i>	<i>ZSS</i>	<i>JW</i>
<i>1</i>	<i>02/28/2025</i>	<i>Issue for Review – Additional Equipment Added (Bulldozer, Track Excavator, Small Front Loader)</i>	<i>GDM</i>	<i>ZSS</i>	<i>JW</i>
<i>2</i>	<i>3/3/2025</i>	<i>Issue for Review – added dates to each equipment</i>	<i>GDM</i>	<i>ZSS</i>	<i>JW</i>
<i>3</i>	<i>3/14/2025</i>	<i>Issue for Bid</i>	<i>GDM</i>	<i>ZSS</i>	<i>JW</i>

Table of Contents

1.0	General	1
2.0	Technical Specifications and Features	6
3.0	Performance Requirements	12
4.0	Safety Requirements	14
5.0	Warranty/Service Requirements	17
6.0	Seller Qualifications	18
	Attachment 1 – Data by Seller – Large Front-End Loader	19
	Attachment 2 – Data by Seller – Small Front-end Loader	21
	Attachment 3 – Data by Seller – Bulldozer	22
	Attachment 4 – Data by Seller – Track Excavator	23

1.0 General

1.1. Scope

1.1.1. The Seller shall provide: Total of 8 pieces of equipment (FY2025 ends Sept. 30, 2025, FY2026 starts Oct. 1, 2025) (FY2028 Oct.1, 2027 – Sept.30, 2028)

1.1.1.1. Four (4) large front-end wheel loaders (2 in FY 2025 and 2 in FY 2028)

1.1.1.2. One (1) bulldozer (FY 2028)

1.1.1.3. One (1) track excavator (FY 2026)

1.1.1.4. Two (2) small front-end wheel loader (1 in FY 2026, 1 in 2027)

1.1.2. The equipment shall meet the performance requirements, safety requirements, technical specifications, warranty/service requirements, and seller qualifications detailed herein.

1.1.3. The large front-end loaders, bulldozer, small front-end loader, and track excavator shall be new.

1.1.4. Each shall be furnished completely assembled, fully serviced, and ready for immediate operation.

1.1.5. For duplicate equipment being provided (i.e., large front-end wheel loaders), each unit shall be furnished with identical equipment, options, and features listed below.

1.1.6. Exceptions, clarifications, and deviations to the specifications herein shall be clearly identified in the Seller’s bid documentation.

1.1.7. All documentation shall be provided in US customary units.

1.1.8. Preferred (Typical) manufacturers and models are listed in the table below. Alternative models that meet specific requirements shall be considered by the Purchaser.

Large Front-end Loader:

Manufacturer	Caterpillar	John Deere	Komatsu	Volvo
Model	980	824-X	WA475-10	L180H

Small Front-end Loader:

Manufacturer	Caterpillar	John Deere	Komatsu	Volvo
Model	938	624	WA320-8	L90H

Bulldozer:

Manufacturer	Caterpillar	John Deere	Komatsu	Case
Model	D6XE	850L	D65WX-18	2050M

Track Excavator:

Manufacturer	Caterpillar	John Deere	Komatsu	Volvo
Model	350E	470P	PC490LC	EC480E

1.1.6 For the Seller’s reference, the Purchaser will evaluate the bid based on a point system for competitive bid. The Seller shall refer to each section to determine how items are being evaluated.

Bid Evaluation Point System	
General	0-20 points
Technical Specification	0-20 points
Performance Requirements	0-20 points
Safety Requirements	0-10 points
Warranty/Service Requirements	0-10 points
Seller Qualifications	0-20 points
Total	100 points

1.2. Deliverables

1.2.1. The following details and documentation shall be provided with the proposal:

- 1.2.1.1. Pricing and lead times for four (4) front-end wheel loaders, two (2) small front-end wheel loaders, one (1) track excavator, and one (1) bulldozer
- 1.2.1.2. Completed Attachment 1 – Large front-end wheel loader data by Seller
- 1.2.1.3. Completed Attachment 2 – Small front-end wheel loader data by Seller
- 1.2.1.4. Completed Attachment 3 – Bulldozer data by Seller
- 1.2.1.5. Completed Attachment 4 - Track excavator data by Seller
- 1.2.1.6. The following items shall be provided as optional pricing:
 - 1.2.1.6.1. Remote diagnostics software
 - 1.2.1.6.2. Limited slip differential for the large front-end wheel loader
 - 1.2.1.6.3. Grade control software and 3D geo-positioning system for bulldozer and track excavator
 - 1.2.1.6.4. Equipment service agreement
- 1.2.1.7. Detailed technical datasheet of the offered equipment
- 1.2.1.8. Delivery schedule

1.2.2. The following documentation shall be provided for each equipment with delivery of the equipment:

- 1.2.2.1. Operations, parts, and maintenance manual, including two (2) hard copies and one (1) digital copy
- 1.2.2.2. Training documentation

1.3. Code, Specifications, and References

The proposed equipment shall be in compliance with the latest version of the following standards.

Codes and standards are applicable to equipment as marked per the following:

- (A) – All Equipment
- (B) – Bulldozer
- (E) – Excavator
- (L) – Large front-end loader
- (S) – Small front-end loader

International Organization for Standardization

ISO 3450	Earth-moving machinery – Wheeled or high-speed rubber-tracked machines – Performance requirements and test procedures for braking systems (S), (L)
ISO 6016	Earth-moving machinery – Methods of measuring the masses of whole machines, their equipment and components (A)
ISO 7457	Earth-moving machinery – Determination of turning dimensions of wheeled machines (S), (L)
ISO 12100	Safety of machinery – General principles for design – Risk Assessment and risk reduction (A)
ISO 10968	Earth-moving – Operator’s controls (A)
ISO 18752	Rubber hoses and hose assemblies – Wire or textile-reinforced (L)
ISO 6165	Earth-moving machinery-Basic Types-ID and terms (L)
ISO 14396	Reciprocating internal combustion engines (L)
ISO 15550	Internal combustion engines (L)

ISO 7546	Earth-moving machinery – Loader and front-loading buckets (S), (L)
ISO 9248	Earth-moving machinery – Units for dimensions, performance (L)
ISO 14397-1	Earth-moving machinery – Loaders & backhoe Part 1 (S), (L)
ISO 14397-2	Earth-moving machinery – Loaders & backhoe Part 2 (S), (L)
ISO 6396	Earth-moving machinery – Determination of emission sound pressure level at operator’s position (A)
ISO 6395	Earth-moving machinery - Determination of sound power level (A)
ISO 3450	Earth-moving machinery – Wheeled or high-speed rubber-tracked (A)
ISO 3471	Earth-moving machinery – Roll-overprotective structures (A)
ISO 3449	Earth-moving machinery – Falling-object protective structures (B), (L), (S)
ISO 9249	Earth-moving machinery – Engine test code – Net Power (A)
ISO 10567	Earth-moving machinery – Hydraulic excavators – Lift capacity (E)
ISO 12117-2	Earth-moving machinery -Tip-over protection structure for excavators (E)
ISO 10262	Earth-moving machinery – Hydraulic excavators – protective guards (E)
ISO 14567	PPE for protection against falls from a height – single-point anchor devices (B), (E)
ISO 7451	Earth-moving machinery – Vol ratings for hoe-type and grab-type buckets of hydraulic excavators and backhoe loaders (E)
ISO 16754	Earth-moving machinery – Determination of avg ground contact pressure for crawler machines (B)
ISO 14396	Reciprocating internal combustion engines (S), (E), (L)
ISO 22241-1	Diesel engines – Nox reduction agent (S)

ISO 7131 Earth-moving machinery – Loaders – Terms and Commercial Specs (S)

SAE International

J169 Design Guidelines for AC Systems for Off-Road Operator Encl. (L)

J1503 Performance Test for AC, Heated, and Ventilated Off-Road (L)

J1166 Sound Measurement – Off Road Self-Propelled Work Machines (L)

J1473 Brake Performance – Rubber Tired Earthmoving Machines (S), (L)

J386 Occupant Restraint System for Off-Road Work Machines (E), (S), (L)

J1995 Engine Power Test Code Gross Power and Torque Rating (B), (E), (S)

J1349 Engine Power Test Code Net Power Rating (B), (E), (S)

J1308 Fan Guard for Off-Road Machines (E)

J368 High Strength, Quenched, and Tempered Structural Steels

J994 Alarm – Backup – Performance Testing (E)

J1179 Hydraulic Excavator and Backhoe Digging Forces (E)

J1097 Hydraulic Excavator Lift Capacity and Test Procedure (E)

J1265 Capacity Rating-Dozer Blades (B)

J1040 Performance Criteria for Rollover Protection (ROPS) (S)

J732 Specification Definitions – Loaders (S)

J742 Capacity Rating – Loader Bucket (S)

J818 Rated Operating Load for Loaders (S)

Code of Federal Regulations

40 CFR Part 1039 Tier 4 emission standards and certification requirements (A)

Occupational Safety and Health Administration

1926.1001	Rollover Protection Structures; Overhead Protection (A)
1926.104	Personal Protective and Life Saving Equipment (A)
1926.602	Material Handling Equipment (A)

2.0 Technical Specifications and Features

2.1 General

All proposed equipment shall have the following features:

2.1.1 Paint

2.1.1.1 Paint/coating shall be applied for corrosion protection and shall be suitable for the equipment's environment (exposure to ash, limestone).

2.1.2 Reversible Cooling Fan

2.1.2.1 Hydraulic driven

2.1.2.2 Auto-reversing

2.1.3 Gauges/readings shall be provided in US units for the following, at a minimum. The Seller shall clarify in the bid documentation whether each gauge/reading is analog or digital.

2.1.3.1 Fluid temperatures

2.1.3.2 Hydraulic Oil Pressure

2.1.3.3 Travel Speed

2.1.3.4 Fuel Level

2.1.3.5 Hour Meter

2.1.3.6 Battery Voltage

2.1.3.7 Transmission oil temperature

2.1.3.8 Transmission speed indicator

2.1.3.9 Water Temperature

2.1.3.10 Diesel Exhaust Fluid Level

2.1.4 Miscellaneous cab features:

2.1.4.1 Air Conditioner

2.1.4.1.1 Air conditioning system shall not affect operator entering or exiting the cab or operating the equipment.

- 2.1.4.1.2 The system shall have at least two-level air filtration system suitable for the equipment's environment containing airborne ash and other similar contaminants.
- 2.1.4.1.3 Bi-Level
- 2.1.4.1.4 Controlled
- 2.1.4.2 Cloth Seats, unless otherwise noted for specific equipment
- 2.1.4.3 LCD Touch Screen Display
 - 2.1.4.3.1 Minimum 7-Inch screen unless otherwise noted for specific equipment
- 2.1.4.4 Radio System
 - 2.1.4.4.1 AM/FM and Bluetooth
- 2.1.5 Remote diagnostics test ports, as required

The following features and technical requirements specific to each equipment shall be provided and met in the Seller's proposal.

2.2 Large Front-End Loader

- 2.2.1 Joystick Steering
 - 2.2.1.1 Articulated type, fully hydraulic power steering
 - 2.2.1.2 Shall have a primary steering system
 - 2.2.1.3 Shall have a secondary steering system for speeds greater than 12MPH
- 2.2.2 Payload Scales
 - 2.2.2.1 Shall have a weight display in both pounds and kilograms
 - 2.2.2.2 Shall be able to identify overload warning and adjust overload value
 - 2.2.2.3 Shall have ability to track production by generating a report of operating loads daily
- 2.2.3 Electro-Hydraulic Implement Controls
- 2.2.4 Air Suspension
 - 2.2.4.1 Shall have ability to adjust suspension
- 2.2.5 Automatic lubrication (greasing) system
- 2.2.6 Large Fuel Tank
 - 2.2.6.1 Greater than 90-gal tank size
- 2.2.7 Bucket
 - 2.2.7.1 Straight-edge type

- 2.2.7.2 Edge shall be bolt-on for ease of replacement after wear
- 2.2.8 Steering System – with load sensing variable displacement pump
- 2.2.9 Ride Control – with load sensing variable displacement pump
- 2.2.10 Standard Lifting Arms Z-Bar
- 2.2.11 Tires
 - 2.2.11.1 Minimum 29.5R25
 - 2.2.11.2 L-5 deep tread
 - 2.2.11.3 Must be able to support the weight of the loader fully serviced with Operator and maximum operating load.
- 2.2.12 Headlights
 - 2.2.12.1 LED headlamps
 - 2.2.12.2 Work equipment lights
- 2.2.13 Vandalism/Theft Protection
 - 2.2.13.1 Battery Box
 - 2.2.13.2 Lockable Engine
- 2.2.14 Remote diagnostics software option
 - 2.2.14.1 The proposed equipment shall be furnished with necessary condition-monitoring features and software that allows for remote data collection and diagnosis of operational issues.
 - 2.2.14.2 The system shall be capable of diagnosing controls, electronics, and emissions problems, at a minimum.
- 2.2.15 Limited slip differential option
 - 2.2.15.1 Traction system shall shift the power to be delivered to wheels with greater traction when another wheel is slipping.

2.3 Small Front-end Loader

- 2.3.1 Joystick Steering
 - 2.3.1.1 Articulated type, fully hydraulic power steering
 - 2.3.1.2 Shall have a primary steering system
 - 2.3.1.3 Shall have a secondary steering system for speeds greater than 12MPH
- 2.3.2 Electro-Hydraulic Implement Controls
- 2.3.3 Air Suspension
 - 2.3.3.1 Shall have ability to adjust suspension
- 2.3.4 Automatic lubrication (greasing) system
- 2.3.5 Bucket
 - 2.3.5.1 Straight-edge type

- 2.3.5.2 Edge shall be bolt-on for ease of replacement after wear
- 2.3.6 Ride Control – with load sensing variable displacement pump
- 2.3.7 Standard Lifting Arms Z-Bar
- 2.3.8 Miscellaneous cab features:
 - 2.3.8.1 Radio system additional requirements
 - 2.3.8.1.1 Weather band
 - 2.3.8.1.2 Auxiliary port
 - 2.3.8.2 Footrest
- 2.3.9 Wheeled Steering
- 2.3.10 Hydrostatic Transmission
- 2.3.11 Tires
 - 2.3.11.1 Minimum 20.5R25
 - 2.3.11.2 Must be able to support the weight of the loader fully serviced with Operator and maximum operating load.
- 2.3.12 DEF Tank
 - 2.3.12.1 Minimum 3.7 gallons
- 2.3.13 Alternator, Heavy-Duty
- 2.3.14 Additional lights required
 - 2.3.14.1 Back-up
 - 2.3.14.2 Stop and Tail
 - 2.3.14.3 Turn signal
 - 2.3.14.4 Working lights Cab (2)
 - 2.3.14.5 Working lights Fender (2)
 - 2.3.14.6 Working lights Rear (2)
- 2.3.15 Remote diagnostics software option
 - 2.3.15.1 The proposed equipment shall be furnished with necessary condition-monitoring features and software that allows for remote data collection and diagnosis of operational issues.
 - 2.3.15.2 The system shall be capable of diagnosing controls, electronics, and emissions problems, at a minimum.

2.4 Bulldozer

- 2.4.1 Electro-Hydraulic Implement Controls
- 2.4.2 Large Fuel Tank
 - 2.4.2.1 Greater than 90-gal tank size
 - 2.4.2.2 Fast Fueling
- 2.4.3 Steering System – with load sensing variable displacement pump
 - 2.4.3.1 Tilt steering control shall provide automatic adjustment of blade for straight line travel assistance.

- 2.4.4 Ride Control – with load sensing variable displacement pump
- 2.4.5 Slope Indicator
- 2.4.6 Adjustable Operator Controls
- 2.4.7 Ladder for Rear Access
- 2.4.8 Shovel Holder
- 2.4.9 Independent Steering
- 2.4.10 Load Sensing
 - 2.4.10.1 Lift and tilt sensing
- 2.4.11 Undercarriage
 - 2.4.11.1 Roller
 - 2.4.11.2 Heavy duty underguards
 - 2.4.11.3 Sealed
 - 2.4.11.4 10-roller fine grading
- 2.4.12 DEF Tank
 - 2.4.12.1 Minimum 7 gallons
- 2.4.13 Blade
 - 2.4.13.1 Semi-Universal
- 2.4.14 Shoes
 - 2.4.14.1 Extreme service
 - 2.4.14.2 High track
 - 2.4.14.3 Minimum width 24 inch
- 2.4.15 Oil Sampling Ports
 - 2.4.15.1 Engine
 - 2.4.15.2 Transmission
 - 2.4.15.3 Hydraulics
- 2.4.16 Additional lights required
 - 2.4.16.1 Under hood
- 2.4.17 Fresh Air Pre-Cleaner
- 2.4.18 Remote diagnostics software option
 - 2.4.18.1 The proposed equipment shall be furnished with necessary condition-monitoring features and software that allows for remote data collection and diagnosis of operational issues.
 - 2.4.18.2 The system shall be capable of diagnosing controls, electronics, and emissions problems, at a minimum.
- 2.4.19 Smart operations software option
 - 2.4.19.1 Trimble, Topcon, or Leica smart-grading and 3D geo-positioning software shall be proposed as an option.

2.5 Track Excavator

2.5.1 Air Suspension

2.5.1.1 Shall have ability to adjust suspension

2.5.2 Boom Operation

2.5.2.1 Auto dig boost

2.5.2.2 Auto heavy lift

2.5.2.3 Auto hydraulic oil warmup

2.5.2.4 Two-speed

2.5.3 Boom Stick Regeneration Circuit

2.5.4 Miscellaneous cab features:

2.5.4.1 Keyless Push-to-Start

2.5.4.2 DC Outlets (12V)

2.5.4.3 High-Resolution 10” LCD Touchscreen Monitor

2.5.4.4 Document Storage

2.5.4.4.1 Overhead

2.5.4.4.2 Rear Storage w/ nets

2.5.4.5 Beverage Holder

2.5.4.6 Openable, Two-Piece Window

2.5.4.7 Openable, Polycarbonate Skyhatch

2.5.4.8 Additional lights required

2.5.4.8.1 Overhead cab dome light

2.5.4.8.2 Floor welcome light

2.5.4.9 Washable Floor Mat

2.5.4.10 All weather cab

2.5.5 Sunscreen

2.5.5.1 Roof

2.5.5.2 Roller-front

2.5.5.3 Roller-rear

2.5.6 Undercarriage

2.5.6.1 Counterweight – 20,000lbs (removable)

2.5.6.2 Towing eyes

2.5.7 Track Shoes

2.5.7.1 Minimum 35”

2.5.7.2 Triple grouser

2.5.7.3 Minimum 49 shoes each side

2.5.8 Operator Control

- 2.5.8.1 Adjustable
- 2.5.8.2 Levers to seat
- 2.5.8.3 Levers to pedals

2.5.9 Console

- 2.5.9.1 Height-adjustable
- 2.5.9.2 Tilt-up, left side

2.5.10 Track

- 2.5.10.1 Adjustable
- 2.5.10.2 Hydraulic
- 2.5.10.3 Minimum 2 carriers each side
- 2.5.10.4 Minimum 8 tracks each side

2.5.11 Main Control Valve

- 2.5.11.1 Electronic

2.5.12 Parking Brake Boom

- 2.5.12.1 Auto Swing

2.5.13 Hydraulic Return Filter

2.5.14 Bio Hydraulic Oil Capacity

2.5.15 Universal Coupler

2.5.16 X-Shaped Frame

2.5.17 Guides, front and center

2.5.18 Sealed and Lubricated Chain

2.5.19 DEF Tank

- 2.4.12.1 Minimum 18.8 gallons

2.5.20 Batteries

- 2.5.20.1 Minimum quantity of 2
- 2.5.20.2 Minimum 1,000 CCA

2.5.21 Jog Dial

2.5.22 Monitor Control with Short Cut Keys

2.5.23 Parallel Windshield Wipers

2.5.24 Beacon Ready

2.5.25 Smart operations software option

- 2.5.25.1 Trimble, Topcon, or Leica smart-grading and 3D geo-positioning software shall be proposed as an option.

3.0 Performance Requirements

3.1 General

All proposed equipment shall have the following features:

3.1.1 Engine

- 3.1.1.1 Must pass U.S. EPA Tier 4 (Catalytic particulate filters and NOx absorbers)
- 3.1.1.2 Must be fuel efficient
- 3.1.1.3 6 Cylinder – 4 Valves per Cylinder
- 3.1.1.4 Air Cleaning – 2 Stages

3.1.2 The materials that are to be commonly handled by the new equipment are as follows:

- 3.1.2.1 Limestone: 120 lb/cu. ft.
- 3.1.2.2 Bottom ash: 65-70 lb/cu. ft.
- 3.1.2.3 Fly ash: 40-45 lb/cu. ft.

The following features and performance requirements for specific equipment shall be provided and met in Seller’s proposal.

Note: minimum operating weights do not include counterweights.

3.2 Large Front-end Loader

- 3.2.1 Minimum 350 HP Engine
- 3.2.2 Speed Forward – Reverse Wheel Drive
 - 3.2.2.1 4 Forward speeds
 - 3.2.2.2 4 Reverse speeds
 - 3.2.2.3 Single lever control
- 3.2.3 Minimum Breaking Force – 51,000 LBF
- 3.2.4 Lifting Arms Clearance Minimum 12.5 FT
- 3.2.5 Hinge Pin Clearance Minimum 15 FT
- 3.2.6 Minimum Bucket Size – 7 cu-yd
- 3.2.7 Minimum Operating Weight 66,000 LBS

3.3 Small Front-end Loader

- 3.3.1 Minimum 165 HP Engine
- 3.3.2 Minimum Operating Weight – 35,000 lbs
- 3.3.3 Minimum Break Force – 24,000 lbs
- 3.3.4 Minimum Bucket Size – 5 cu-yd

3.4 Bulldozer

- 3.4.1 Minimum Engine 215 HP
- 3.4.2 Minimum 4-speed Transmission
- 3.4.3 Minimum Operating Weight – 48,000 lbs
- 3.4.4 Minimum Ground Pressure – 7.9 psi
- 3.4.5 Minimum Ground Clearance – 14 inches
- 3.4.6 Minimum Blade Capacity: 7.5 yd

3.5 Track excavator

- 3.5.1 Minimum 359 HP
- 3.5.2 Minimum Performance Modes
 - 3.5.2.1 Eco
 - 3.5.2.2 Smart
 - 3.5.2.3 Power
- 3.5.3 Minimum Operating Weight – 105,100 lbs
- 3.5.4 Minimum Ground Pressure – 35 inches
- 3.5.5 Minimum Digging Depth – 27 feet
- 3.5.6 Minimum Reach at Ground Level – 39 feet
- 3.5.7 Maximum Cutting Height – 35 feet
- 3.5.8 Loading Height
 - 3.5.8.1 Minimum – 7 feet
 - 3.5.8.2 Maximum – 24 feet
- 2.5.26 Minimum Bucket Size – 4.3 yd
- 3.5.9 Minimum Bucket Digging Force – 60,000 lbf
- 3.5.10 Minimum Stick Digging Force – 41,000 lbf
- 3.5.11 Minimum Boom Reach – 22 feet
- 3.5.12 Minimum Stick Reach – 13 feet

4.0 Safety Requirements

4.1 General

All proposed equipment shall have the following features:

- 4.1.1 Fully enclosed cab with the following features:

- 4.1.1.1 Sound suppression
 - 4.1.1.1.1 Withstand 101 dB maximum exterior
 - 4.1.1.1.2 Withstand 72 dB maximum interior
- 4.1.2 Parking brake, with the following requirements:
 - 4.1.2.1 Automatic Spring
 - 4.1.2.2 Oil-Cooled
 - 4.1.2.3 Released Hydraulic
 - 4.1.2.4 Multi-Disc
- 4.1.3 Seat Belt
 - 4.1.3.1 Retractable
 - 4.1.3.2 Indicator Light
 - 4.1.3.3 Minimum 3-inch thickness
 - 4.1.3.4 3-point harness
- 4.1.4 Rear Vision Camera
 - 4.1.4.1 Color
 - 4.1.4.2 Monitor included
- 4.1.5 The following warning lights shall be provided, at a minimum:
 - 4.1.5.1 Fuel level
 - 4.1.5.2 Transmission malfunction
 - 4.1.5.3 Hydraulic oil temperature
 - 4.1.5.4 Hitch malfunction
 - 4.1.5.5 High exhaust temperature
 - 4.1.5.6 Air Filter
 - 4.1.5.7 Engine Oil
 - 4.1.5.8 DEF fluid level
 - 4.1.5.9 Service soon
- 4.1.6 Warning System
 - 4.1.6.1 Engine Fault
 - 4.1.6.2 Computer Fault
 - 4.1.6.3 Low fuel
 - 4.1.6.4 Transmission charge pressure
 - 4.1.6.5 Temperature
- 4.1.7 Backup Alarm
- 4.1.8 Electric Warning Horn
- 4.1.9 Rear view mirrors
- 4.1.10 Slip-resistant access steps and platforms with handrails
- 4.1.11 Fire Extinguisher inside Engine Compartment
- 4.1.12 In-Cab Fire Extinguisher

- 4.1.12.1 UL Rating 1A-10B:C
- 4.1.12.2 Readily accessible by the Operator
- 4.1.13 Roll and Flip Protection (ROP)
 - 4.1.13.1 Steel construction
- 4.1.14 High visibility cab
 - 4.1.14.1 Must provide Operator 360-degree view of equipment surrounding
 - 4.1.14.2 Large front and rear glass windshields
 - 4.1.14.3 Windshield wipers for front and rear windshields
 - 4.1.14.4 Windows shall be tinted for adequate glare reduction and UV sunlight protection.

The following features and safety requirements for specific equipment shall be provided and met in Seller's proposal:

4.2 Large Front-end Loader

- 4.2.1 Heated Mirrors
- 4.2.2 Sun Visor for front and rear
- 4.2.3 Defroster
 - 4.2.3.1 Vents to defrost windows
- 4.2.4 Fenders for front and rear
- 4.2.5 Tiedowns
- 4.2.6 Falling Object Protection System
- 4.2.7 Emergency Stop

4.3 Small Front-end Loader

- 4.3.1 Sun Visor front and rear
- 4.3.2 Heated Mirrors
- 4.3.3 Emergency Shutdown
- 4.3.4 Rearview Mirrors
- 4.3.5 Electric Defroster
- 4.3.6 Fenders for front and rear
- 4.3.7 Tiedowns

4.4 Bulldozer

4.4.1 Machine Overspeed Protection

4.5 Track Excavator

- 4.5.1 E-Fence
- 4.5.2 Auto Hammer Stop
- 4.5.3 Lockable External Toolbox
- 4.5.4 Lockable Fuel and Hydraulic Tanks
- 4.5.5 Lockable Drain Compartment
- 4.5.6 Service Platform
 - 4.5.6.1 Anti-skid plate
 - 4.5.6.2 Recessed bolts
- 4.5.7 Secondary Engine, Emergency Shutoff
- 4.5.8 Lockable Disconnect Switch
- 4.5.9 Inspection Light
- 4.5.10 Rear Window Emergency Exit
- 4.5.11 Operator Protective Guard
- 4.5.12 Additional alarms
 - 4.5.12.1 Swing
 - 4.5.12.2 Low-DEF indication

5.0 Warranty/Service Requirements

- 5.1 Seller must not have any pending or threatened actions, proceedings or investigations, or any other legal or financial conditions.
- 5.2 Seller shall provide training or certification requirements for equipment operation.
- 5.3 Seller shall provide an engine warranty, if available.
- 5.4 Seller shall provide a Powertrain warranty, if available.
- 5.5 The equipment service agreement option shall include the following:
 - 5.5.1 Seller shall have the ability to monitor equipment status, diagnose problems, and update equipment software remotely.
 - 5.5.2 Seller shall provide preventative, corrective, and condition-based maintenance on the proposed equipment.
 - 5.5.3 Seller shall a technician available for providing service.

6.0 Seller Qualifications

Minimum Seller qualifications are listed below:

- 6.1. Seller shall be a Sales and service/parts business and shall have been in business for greater than 5 years.
- 6.2. Seller shall be within 60 miles of the Purchaser's facility (4437 Heckscher Dr. Jacksonville FL 32226).
- 6.3. Seller shall supply three (3) references of business services and services agreements with an annual amount of \$300,000.
- 6.4. Seller shall be able to have a Service/repair response time to the NGS Site within 24 hours of receiving a service request.
- 6.5. Seller shall have emergency replacement equipment available as required within 72 hours.
- 6.6. Seller shall have field service technicians within 60 miles of the Purchaser's facility. (Refer to Attachment 1)
- 6.7. Seller shall have a repair facility within 60 miles of the Purchaser's facility. (Refer to Attachment 1)
- 6.8. Seller shall have shop technicians at the repair facilities located within proximity of the Purchaser's facility.
- 6.9. Seller must have heavy equipment parts inventory located within proximity of the Purchaser's facility. Spare parts are not to be kept at the Purchaser's facility.
- 6.10. Seller shall have the ability to ship and deliver parts within 24 hours.

Attachment 1 – Data by Seller – Large Front-End Loader

The Seller shall provide the requested value or a description of the feature/characteristic listed below. If the listed feature is not included, the Seller shall clarify this. The Seller shall provide cost of adding items not included in the Seller’s offering.

Model	_____
Manufacturer	_____
Transmission	_____
(No. of Speeds-Forward and Reverse)	_____
Engine (Minimum Horsepower – HP)	_____
Reversible Cooling Fan	_____
Bucket Type & Size (Cubic Yards)	_____
Tires (Manufacturer/Model & Size Number)	_____
Weight (LB)	_____
Sound Suppression	_____
Electro-Hydraulic Controls	_____
Air Suspension	_____
Implement Joystick Steering	_____
Turning Radius (FT-IN)	_____
Hydraulic Load Time for bucket (Seconds)	_____
Payload Scale	_____
Hydraulics – Implement System	_____
Variable Displacement Pump Steering	_____

Ride Control	_____
Lift Arms (Type)	_____
Lift Arm Clearance (FT-IN)	_____
Hinge Pin Clearance (FT-IN)	_____
Bucket Breaking Force (LBF)	_____
Lifting Capacity (LB)	_____
Lubrication System	_____
Limited Slip Differential	_____
Price, USD (EACH) **	_____
Lead Time, weeks (EACH)	_____
Remote Diagnostics Software Option Price	_____
Limited Slip Differential Option Price (EACH)	_____
Number of Technicians at Repair Facility	_____
Number of Repair Facilities	_____

** - Price to be added to bid form

Attachment 2 – Data by Seller – Small Front-End Loader

This information below is for proposed equipment for future procurement by Purchaser. Seller shall provide the completed attachment for budgetary purposes only.

The Seller shall provide the requested value, or a description of the feature/characteristic listed below. If the listed feature is not included, the Seller shall clarify this. The Seller shall provide cost of adding items not included in the Seller’s offering.

Model	_____
Manufacturer	_____
Operating Weight (LBS)	_____
Bucket Size (Cubic Yards)	_____
Minimum Engine (HP)	_____
Bucket Type & Size (Cubic Yards)	_____
Tires (Manufacturer/Model & Size Number)	_____
Sound Suppression	_____
Touch Screen Display	_____
Air Suspension	_____
Lift Arms (Type)	_____
Bucket Breaking Force (LBF)	_____
Lifting Capacity (LB)	_____
Price, USD (EACH) **	_____
Lead Time, weeks (EACH)	_____
Remote Diagnostics Software Option Price	_____
Limited Slip Differential Option Price	_____

** - Price to be added to bid form

Attachment 3 – Data by Seller – Bulldozer

This information below is for proposed equipment for future procurement by Purchaser. Seller shall provide the completed attachment for budgetary purposes only.

The Seller shall provide the requested value, or a description of the feature/characteristic listed below. If the listed feature is not included, the Seller shall clarify this. The Seller shall provide cost of adding items not included in the Seller’s offering.

Model	_____
Manufacturer	_____
Operating Weight (LBS)	_____
Blade Capacity (Cubic Yards)	_____
Engine Power (HP)	_____
Touch Screen Display	_____
Fuel Tank (Gallons)	_____
DEF Tank (Gallons)	_____
Shoe Type	_____
Blade Type	_____
Ground pressure (psi)	_____
Price (USD) **	_____
Lead Time (weeks)	_____
Remote Diagnostics Software Option Price	_____
Smart Operation Software Option (Trimble, Topcon, Leica, etc.)	_____

** -Price to be added to bid form

Attachment 4 – Data by Seller – Track Excavator

This information below is for proposed equipment for future procurement by Purchaser. Seller shall provide the completed attachment for budgetary purposes only.

The Seller shall provide the requested value, or a description of the feature/characteristic listed below. If the listed feature is not included, the Seller shall clarify this. The Seller shall provide cost of adding items not included in the Seller’s offering.

Model	_____
Manufacturer	_____
Operating Weight (LBS)	_____
Digging Depth (FT)	_____
Engine Power (HP)	_____
Bucket Size (Cubic Yards)	_____
Stick Dig Force (LBF)	_____
Bucket Digging Force (LBF)	_____
Boom / Stick Reach (FT)	_____ / _____
Track Shoes (Type)	_____
Counterweight (LBS)	_____
E-Fence	_____
Engine Performance Modes	_____
Price (USD) **	_____
Lead Time (weeks)	_____
Remote Diagnostics Software Option Price	_____
Smart Operation Software Option (Trimble, Topcon, Leica, etc.)	_____

** - Price to be added to bid form