BID FORM (TECHNICAL SPECIFICATIONS)
National Food Authority - Central Office

PURCHASE REQUEST NUMBER:
END-USER:

ITEM/LOT INFORMATION

Item / Lot Description:	**Lot 1: Supply, Delivery, Installation, Testing, and Commissioning of Ricemill and Grain Dryer for the NFA Modernized Warehouses in Support to Buffer Stocking Program at NFA Compound in Rizal, Occidental Mindoro, Region IV**
Quantity:	**Two (2)**
Unit of Measurement (unit/pcs/lot):	**Items**
Enumeration / Inclusions:	**Item 1: Grain Dryer** **Item 2: Ricemill**

Bidders must state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of **ITB** Clause 3.1(a)(ii) and/or **GCC** Clause 2.1(a)(ii).

REQUIRED SPECIFICATIONS	**STATEMENT OF COMPLIANCE**	**REFERENCES** (include supporting documents) **(attach brochure / technical data / website, etc.)**
ITEM 2: 8 - 10 TPH CAPACITY RICEMILL		
I. General Specifications		
1. Ricemill features		
Input Capacity: 8 - 10 metric tons per hour (tph)		
Designed to process raw paddy into a high-quality polished rice.		
Operation: Sophisticated but easy		
Automated adjustments on machine components as to: - Feed rate - Rubber roll clearance		
Sensing Gauges for the following components for identification of current load on motor drives and with indication on operating pressure on the grain: - Abrasive whitener - Friction polisher - Mist polisher		
2. Follows the prescribed milling procedure below:		
a. At the start of milling operation, dry paddy from silos is conveyed into the **pre-cleaner** to remove impurities such as straw, chaff, and empty grains. If dry paddy is stored not in silos, the same shall be conveyed in an intake pit / feeding hopper before it is moved to the **pre-cleaner** to undergo the same process.		

BAC-SECRETARIAT NFA Quezon City

	b. From the pre-cleaner, pre-cleaned paddy is conveyed to the **mill day bin** to prepare the desired volume of input for the continuous milling activity.		
	c. From the mill day bin, paddy is conveyed to the **destoner** to remove particles such as small stones, mud balls and other impurities.		
	d. The pre-cleaned and de-stoned paddy is deposited in the **paddy collection bin** before it is subsequently conveyed to the **rubber roll type dehuller**. Attached below the dehuller is the **husk aspirator/separator** which removes the rice hull after dehulling.		
	e. From the dehuller, the grain output moves to the **paddy separator** to separate unhulled paddy from the brown rice.		
	f. Unhulled paddy is returned to the rubber roll de-huller while brown rice moves to the **brown rice millday bin.**		
	g. The brown rice moves to the **1st stage (abrasive) whitener.**		
	h. Partially milled rice moves to the **2nd and 3rd stage (abrasive) whitener,** then subsequent polishing using **friction and water mist type polisher.**		
	i. Rice bran is removed from the rice grain during the whitening and polishing process.		
	j. Milled rice is moved to the **sifter** (brewer rice removed by the sifter).		
	k. Then milled rice is moved to the **color sorter** to remove damaged and discolored kernels.		
	l. Polished rice is moved to the **length grader** (head rice is moved to **head rice bin** while broken rice is moved to **broken rice bin**).		
	m. Pre-selected amount of head rice and broken rice move to the **blending station.**		
	n. The pre-blended rice is then moved to the **2nd mist polisher.**		
	o. After the final mist polishing, the polished rice will transfer to the **packaging area** with semi-auto weighing machine for the desired package sizes (5kg, 10kg, 25kg, and 50kg).		
	p. The well-packed mist-polished rice shall be delivered either for storage or directly shipped out for distribution to intended NFA clienteles.		
II. Major Components			
	Component 1: Paddy Receiving & Pre-Cleaning Section		
	1.1 Paddy Millday Bin Paddy stored in the silos shall be moved to the mill day bin by top loading drag conveyor. It will serve as holding bin of paddy for milling. Paddy shall be moved to the feeding hopper using a bottom drag conveyor		
	Capacity: at least 40 MT		
	Auto discharge/shutter control and with level sensor		

Hopper bottom for self flowing of grains		
Circular or rectangular in shape which ever is appropriate for ease of operation.		
It shall be made of all steel construction.		
1.2 Paddy Receiving Hopper / Dumping Pit Large impurities shall be strained/removed on the steel grating. The grain discharge port shall be provided with flow control valve and can be calibrated to achieve the desired flow rate of 8 to 10tph. The valve can be closed or opened without altering the calibrated flow rate.		
The paddy receiving hopper is made of all steel construction		
Flush-mounted on concrete floor - w/ angle-bar stiffener support - 35mm bar grating.		
With removable checkered plate cover for safety and protection when not in use		
Provided with dust suction hood to control proliferation of dust inside the mill.		
Minimum 10 tph discharge port.		
1.3 Paddy Pre-cleaner From feeding hopper, paddy is moved to the paddy cleaner to remove small, medium and large size impurities, and lightweight impurities		
Capacity: 8-10 TPH		
Minimum output cleaning efficiency: 90%		
Manual or Auto-feed control		
Multi-stage cleaning that can remove small, medium and large size impurities, and lightweight impurities		
With clog prevention mechanism		
Provided with magnetic separator		
1.4 One (1) Set Paddy De-stoner The machine separates particles by density. The machine will remove materials denser than paddy, such as stones, mud balls, and other small solid impurities..		
Capacity: 8-10 tph		
Manual or Auto-feed control		
1.5 Bulk Weigher		
With grain flow scale to monitor weight of cleaned paddy prior to dehulling.		
Capacity: 20TPH		
Touch pad control system		
Component 2: Dehulling Section		
2.1 Paddy Tank It will serve as holding bin of pre-cleaned paddy for dehulling.		
Capacity: 20MT		
Auto discharge/shutter control and with level sensor		

BAC - SECRETARIAT
NFA
Quezon City

Inclination of the discharge chute compatible to the angle of repose of the paddy for self-flowing of paddy.		
Provision of ladder and railings for inspection, repair and maintenance of the bin		
The bin should be painted with rust-proofing primer and with final paint color		
It shall be made of all steel materials which are brand new		
2.2 Three (3) sets De-Huller with Husk Aspirator - The three dehullers are use to remove husk of the paddy grain. The combined capacity of the dehullers should be enough to de-husk the paddy coming from the millday bin and the return of un-hulled paddy from the paddy separator. - The husk aspirator is added to separate and blow the husk out of the brown rice and paddy.		
With combined capacity of 8-10 tph		
Rubber roll type huller		
Minimum hulling efficiency: 79%.		
With automatic and pneumatic adjustment and control of rollers.		
With magnetic separator to remove ferrous particle from the product		
With husk aspirator: Rice hull discharge to rice hull tank via drag chain conveyor and bucket elevator		
Fitted with dust collection system		
Touch pad operation and electronic control system and with error indicator.		
Component 3: Separation Section		
3.1 One (1) set Paddy Separator It separates un-hulled paddy from brown rice. The un-hulled paddy is returned to the De-hulling machine while the brown rice is moved to the brown rice tank in preparation for whitening.		
Capacity: 7TPH		
With return elevator to the hulling mechanism and paddy separator		
With magnetic separator to remove ferrous particle from the product		
Push button operation and control system or better with error indicator		
Multi-layer, indented tray		
Adjustable tray inclination		
Component 4: Whitening and Polishing Section		
4.1 Brown Rice Tank It will serve as temporary holding bin of brown rice for whitening / polishing		
Capacity: 20 MT		
Auto discharge/shutter control and with level sensors.		

BAC - SECRETARIAT
NFA
Quezon City

4.2 Whitening and Polishing Section Whitening or polishing is the process of removing the bran layer and the germ from the kernel through either abrasive or friction polishers. To reduce the number of broken grains during the whitening process, rice is normally passed through two to three whitening machines connected in series.		
Capacity: 5-6TPH		
Manual or Auto feed control		
Three (3) whiteners (gravity type)		
Abrasive type or combination of abrasive and friction type whitener		
With magnetic separator to remove ferrous particle from the product		
With air cooling blowers to reduce rice temperature during processing		
With negative pressure air wind net system for bran extraction		
With analog or digital pressure meter and ammeter		
4.3 Sifter Separates brewer rice by oscillating or vibratory sifter		
Capacity: 5-6TPH		
With brewers removing device		
Oscillating tray-type sifter or a vibratory type		
Push button operation and control System or better with error indicator		
4.4 One (1) set Mist Polisher First pass. It is a friction type of whitening machine, which delivers a fine mist of water during the final whitening process. It is a process of mixing a fine mist of water with the dust retained on the whitened rice. The output improves the luster of rice without significantly reducing milling yield.		
Push button operation and control System or better with error indicator		
With magnetic filters		
Fully Automatic with Sensors		
4.5 Color Sorter A machine that is used to remove damaged and discolored kernels including particles other than white rice kernels.		
Intelligent optical selector and sorting for rice and with color and defects profiling		
Intelligent individual defect detection up to 99% (minimum) defect removal		
Intelligent automation: optical sorter consistently adjust to the incoming product		
LED lighting technology		
Able to reject discolored and damaged kernel and eject impurities even during high capacity processing (6 TPH minimum)		

BAC - SECRETARIAT
NFA
Quezon City

Operation and control system: easy-to-use touch panel (with display that shows status and error messages)		
With Infrared camera for glass removal		
4.6 Length Grader and Rotary Sifter A machine that is used to separate grains into head rice, large and small broken rice, tips and brewers.		
Capability to sort short, medium and long grains		
Provision of inspection window		
Transition pipes are equipped with sampling outlets (every stage)		
Component 5: Blending and Mixing Section		
5.1 Three (3) Sets Blending tank (Headrice tank, large broken tank and small broken tank)		
Capacity per tank: 13 tons each		
with three (3) automatic flow balancer / volumetric mixer		
Works with any variety of rice		
Pneumatically controlled proportioning gate with automatic closing in case of a power failure		
Measurement system with an impact plate and electronic force transducer		
5.2 One (1) set Mist Polisher Second pass. It is a friction type of whitening machine, which delivers a fine mist of water during the final whitening process. It is a process of mixing a fine mist of water with the dust retained on the whitened rice. The output improves the luster of rice without significantly reducing milling yield.		
Push button operation and control System or better with error indicator		
With magnetic filters		
Full Automatic with Sensors.		
Component 6: Bagging/Packaging Section		
6.1 Two (2) Units Holding Bin/Tank		
Capacity per tank: 8 tons each		
Provided with two discharge ports integrated with two lines of milled rice packaging system.		
Two lines shall be semi-automatic with manual bagging, with built in flow scale function that can accurately bag 5kg, 10kg, 25kg, and 50 kgs.		
With bag sewing machine and belt conveyor.		
6.2 Rice Hull Compactor		
Capacity: 60-100 Bales per hour		
Bale weight: 20-30 kg per bale		
It shall be used to compress rice husks into bales to reduce space for transport or storage.		
6.4 Laboratory Equipment		

BAC-SECRETARIAT
NFA
Quezon City

6.4.1 One (1) Unit Grader		
Dimensions : 19-23" x 14-18" x 16-20"		
Weight : 30-40 lbs		
Material : Aluminum, stainless steel, or brass		
Timer : Digital		
Indent Cylinder : Cylinder no. 12		
Power Source : 220-240 V, 50/60Hz		
OTHER REQUIREMENTS: Should include the following parts and features: - Variable speed control - Collection pan tilt adjustment with angle indication - With at least one (1) year warranty and after-sales services (e.g. preventive maintenance)		
6.4.2 One (1) Unit Huller		
Model / Type : Table Top / Rubber Roll Type		
Hopper Capacity : 250 grams paddy sample (minimum)		
Size of Rubber Roll : 35 mm x 100 mm (width x diameter) ±3mm		
Hulling Capacity : 40 - 50 kilogram/hour		
Power Source : 220-250V, 50-60 Hz		
Motor Power : 0.50 - 0.75 H.P., Single Phase		
Dimensions : 700 x 300 x 700 mm (L x W x H) (minimum)		
Weight : 70 kilogram (maximum)		
Hulling Efficiency : 75% in the first pass of the sample (minimum)		
Other requirements -Must have a spare pair of rubber rolls -Must bear the following: a. Identification or trademark of the manufacturer b. Model and serial number c. Guarantee certificate or marks -With detachable husk collector -Easy to operate -Heavy duty / sturdy -Be able to provide consistent and accurate results -With transparent observation window to monitor the hulling operation		
6.4.3 One (1) Unit Rice Polisher		
Model / Type : Table Top / Abrasive		
Hopper Capacity : 200 grams brown rice (minimum)		
Polishing Capacity : 10 kilogram/hour (minimum)		

Power Source : 220-250V, 50-60 Hz		
Motor Power : 0.50 – 0.75 H.P., Single Phase		
Dimensions : 400 x 250 x 300 mm (L x W x H) (minimum)		
Weight : 60 kilogram (maximum)		
Grit Size of Abrasion Roller : No. 36 or 40		
Timer Setting : Automatic; adjustable in seconds		
Polishing Efficiency : 79% if WMR; 81% if RMR (minimum)		
Other requirements - Must have one spare abrasive roller - Must bear the following: a. Identification or trademark of the manufacturer b. Model and serial number c. Guarantee certificate or marks - Easy to operate - Heavy duty/sturdy - Capable of processing rice samples to different milling degrees		
6.4.4 One (1) Unit Ductless Fume Hood		
Dimension (W x D x H) : Interior - 700-950 x 500-700 x 600-850 cm Exterior - 800-1000 x 500-800 x 900-1300 cm		
Weight : 100-150 kg		
Blower : Centrifugal blower		
Volume of Air Treated : 320 ± 10 m3/h		
Voltage / Frequency : 230 Vac, 50/60 Hz		
Material : Frame - Powder-coated steel Glass – Tempered or laminated safety glass		
Type of Filter : Organics - Gases or vapors		
Other Requirements Should include the following features: -User's manual -Easy to install replaceable filters -Includes universal electric outlet -With light source -With at least one (1) year warranty and after-sales services (e.g. preventive maintenance)		
6.4.5 One (1) Unit Digital Thickness Gauge		
Dimensions (W x H) : 90-120 x 140-160 mm		
Weight : 250-450 g		
Operating Temperature : 0-40°C		
Gauge Type : Digital		
Digital : LED or LCD		
Range : 0-25 mm		
Accuracy : ± 0.001		
Resolution : 0.01 mm		
Measuring Force : 1.5 less N		

BAC-SECRETARIAT
NFA
Quezon City

Units : Metric		
Power Source : Battery Operated		
Other Requirements Should include the following parts and features: -Anvil with groove -User's manual -With at least one (1) year warranty and after-sales services (e.g. preventive maintenance) -Certificate of Calibration from DOST or any accredited Calibration Laboratory.		
6.4.6 One (1) Unit Tyler Sieve		
Dimensions (H x D) : 2-5 x 12"		
Weight : 100-500 g per piece		
Material : Stainless Steel		
Mesh Size : U.S.A. mesh no. 10-20		
Other Requirements: Should include the following features: - Tyler Sieve U.S. mesh no. 10,12,14,16,18 and 20 - User's Manual - With at least one (1) year warranty and after-sales services (e.g. preventive maintenance) - Certificate of Calibration from any accredited Calibration Laboratory		
6.4.7 One (1) Unit Rice Sieve		
SIEVE		
Material : Stainless steel (SS) or Aluminum Gauge 20 (0.035" / 0.89 mm)		
Perforation : 5.5/64" round or 2.18 mm		
Frame Diameter : 13.0 - 13.5" or 330 - 343 mm (upper rim) 12.0 - 12.5" or 304 - 318 mm (lower rim)		
BOTTOM PAN (RECEIVING PAN): Should match the sieve and could easily be removed		
Material : Stainless steel (SS) or Aluminum Gauge 20 (0.035" / 0.89 mm)		
Diamter : 13.0 - 13.5" or 330 - 343 mm		
Height : 2.5 - 3.0" deep or 64.0 - 76.0 mm		
Other requirements -Heavy duty construction -Smooth surface on joints -Corrosion resistant -Ease of cleaning		
6.4.8 Two (2) Units Indented Plate		
Capacity : 100-300 g		
Material : Stainless steel		
Indent Size : 4.5 - 5.5 mm		
Indent Distance : 5-12 mm (center-to-center)		

BAC - SECRETARIAT
NFA
Quezon City

Dimensions (L x W) : 30-35 cm x 25-30 cm		
Other requirements -Heavy duty construction -Smooth surface on joints -Corrosion resistant - Ease of cleaning		
6.4.9 Two (2) Units Triangular Pan		
Dimensions (W x H) : 10-13 x 10-13 x 2.5-6"		
Weight : 1-2.5 lbs		
Material : Plastic		
Other Requirements Should include the following features: - Molded plastic - With at least one (1) year warranty and after-sales services (e.g. preventive maintenance)		
6.4.10 One (1) box Disposable Petri Dishes		
With 480 units in one (1) box		
Diameter : 90 mm		
Height : 10-20 mm		
Metarial : Polystyrene		
Lid Type : Non-vented		
Sterilization : Sterile		
Other Requirements Should include the following features: -With transparent lid -Perfectly flat and smooth surface		
6.4.11 Ten (10) Units Forceps		
Length : 5.5"		
Jaw Curvature : Curved		
Working Surface : Serrated		
Handle : Finger rings		
Material : Stainless steel		
Usage : Reusable		
6.4.12 One (1) Unit Chiller (Two-door)		
Capacity : 14 cu. ft.		
Dimensions (L x W x H) : 57-61 x 65-69 x 206-210 cm.		
Technology Type : Inverter		
Wattage : 190 watts		
Shelves : Four (4) adjustable coated wire shelves		
Temperature : ± 2 °C to +8 °C		
Plug Type : Type A – 2 Flat prong plug		
Other Requirements -With 7-level temperature control, fan-cooled system, adjusted leveling feet, double glass door with recessed handle and key lock. -At least one (1) year warranty for parts and services		

BAC-SECRETARIAT NFA Quezon City

6.4.13 One (1) Unit Portable Rice Mill		
Capacity : 150 – 180 g		
Husking Rate : 99%, minimum		
Weight : 20 kg, maximum		
Time Setting : Digital		
Voltage : AC 220 V		
Surface Material : Hard plastic		
Feed Hopper / Bucket : Stainless steel		
Other Requirements -With brochures and user manual -Ease of cleaning -Heavy duty		
6.4.14 One (1) Unit Laboratory Sample Divider		
Material : Stainless steel		
Number of Chutes : 14		
Width of Chutes : 3/8" (9.50 mm) ±5%		
Sample Pans : 4		
Hopper Size : 8" x 6-3/4" (203 mm x 171 mm) ±5%		
Other requirements -Heavy duty construction -Smooth surface on joints -Corrosion resistant -Ease of cleaning		
6.4.15 One (1) Unit Top Loading Balance		
Capacity : 2,200 g		
Weighing Units : Gram (g) and Kilogram (kg)		
Linearity : ± 0.02 g		
Readability : 0.01 g		
Repeatability : 0.01 g		
Adjustment : Internal		
External Calibration : 2 kg, F1		
Leveling : Manual		
Stabilization Time : < 0.9 s		
Data Interface : RS232; USB – C		
Dimensions (WxDxH): 190-220 x 310-330 x 70-100 mm		
Display : LCD / LED Display		
Language : English		
Power Requirements : 100-240 VAC, ± 10%, 50-60 Hz, 0.2 A		

BAC-SECRETARIAT
NIA
Quezon City

Other Requirements Should include the following: -One (1) unit Data Printer -Ribbon cartridge: exchangeable, black ink -Paper roll -AC adapter -With calibration certificate from a PAB-accredited calibration laboratory; and -With at least one (1) year warranty and after-sales service's (e.g. preventive maintenance)			
6.4.16 One (1) Unit Laboratory Working Table			
Dimensions (WxDxH) : 230-250 x 140-160 x 85-95 cm			
Material : Granite			
Frame : Coated stainless steel			
Weight capacity : 150-250 kg			
Drawer : 15-20 cm deep per compartment, recessed handles			
Utility : Built-in retractable outlet			
Other Requirements -Should include the following: -Rounded edge -Cable management tray for power outlet -With at least one (1) year warranty and after-sales services (e.g. preventive maintenance)			
6.4.17 One (1) Unit Analytical Balance			
Capacity : 100-300 g			
Weighing Units : Gram (g) or milligram (mg)			
Linearity : ± 0.02 mg			
Readability : 0.0001 g or 0.1 mg			
Repeatability : ± 0.01 mg			
Adjustment : Internal			
External Calibration : 200-300 g, F1			
Leveling : Manual			
Stabilization Time : < 3 s			
Data Interface : RS232; USB – C			
Dimensions (WxDxH): 190-250 x 300-400 x 300-450 mm			
Draft Shield : Anti-static glass shield with sliding doors, minimum 3 doors			
Display : LCD / LED Display			
Language : English			
Power Requirements : 100-240 VAC, ± 10%, 50-60 Hz, 0.2 A			

Other Requirements Should include the following: -One (1) unit Data Printer -Ribbon cartridge: exchangeable, black ink, and paper roll -AC adapter -With calibration certificate from a PAB-accredited calibration laboratory; and -With at least one (1) year warranty and after-sales services (e.g. preventive maintenance)		
6.4.18 Ten (10) Units Temperature and Humidity Data Logger		
Dimension (L x W x H) : 80-100 x 90-120 x 15-40 mm		
Weight : 100-200 g		
Measurement Parameter : Temperature and humidity		
Measuring Range : -30-65 °C and 0-100% RH		
Accuracy : ± 1 °C and ± 4 RH		
Material : ABS		
Resolution : 0.1 °C and 0.1% RH		
Power Source : Battery operated		
Communication Interface : Micro USB / Type C		
Display : LED / LCD		
Other Requirements Should include the following features: -Waterproof . -Easy to install -With at least one (1) year warranty and after-sales services (e.g. preventive maintenance)		
6.4.19 One (1) Unit Magnifying Lens with Stand & Light Source		
Light Source : LED		
Lens Configuration : Single		
Material : Lens/optical glass, Strut/brass (chromium plating) Shaft/brass (black plating)		
Power supply : DC12V		
Dimension : Body/90 x 250 x 140mm Base/80 x 100 x 6mm : Strut/ϕ19 x 370mm Shaft/ϕ13 x 160mm ± 20 mm per part		
Weight : 500-700 g		
Magnification : 2.0-3.0 x		
Lens diameter (ϕmm) : 45-55		
Operation distance : 150 mm		

BAC - SECRETARIAT
NHA
Quezon City

Other Requirements Should include the following features: -Includes AC adapter -User's manual -The lens unit comes with angle adjustment joint -Shaft can be moved up and down, back and forth by adjusting nut -With at least one (1) year warranty and after-sales services (e.g. preventive maintenance)		
6.4.20 One (1) Unit Refrigerator		
Capacity : 10 cu. ft.		
Dimensions (L x W x H) : 59-61 x 54-56 x 166-168 cm.		
Technology Type : HD Inverter		
Wattage : 130 watts		
Refrigerant Type : R600A Refrigerant		
Shelves Type : Two (2) tempered glass shelves		
Plug Type : Type A – 2 Flat prong plug		
Other Requirements -Independent Temperature Control -At least one (1) year warranty for parts and services		
6.4.21 One (1) Unit Rice Whiteness Tester		
Product Measured: Milled rice, Brown rice and Pre-washed rice (glutinous and non-glutinous)		
Measurement Value: Whiteness		
Measurement Range: 5.0-69.9		
Accuracy : +/- 0.5 or better		
Display Type: Flourescent LED		
Sample Value: approx. 60mL		
Ambient Temperature: 0-40 °C		
Ambient Humidity: 0-85% RH (non-condensing)		
Light Source: Blue LED		
Power Source: 100-240VAC (50/60Hz) Maximum 35W/60W		
Dimensions (mm) : W= 285-295; H=180-190; D=290-300		
Accessories: Samples cases, optical standard, quantitative sample dish, sample filler, cover glass cleaner, 3 replacement glass filters, fuse, power cord, instruction manual and thermal printer with cable		
Warranty: One (1) year manufacturer's warraty on parts and labor		
6.5 Inventory CCTV System		

The CCTV system shall improve inventory accuracy, enhance security, and optimize operations. It consists of an integrated cameras and sensors to monitor inventory movement and status, providing real-time insights. Creating a digital "eye" on inventory		
With manufacturer's, distributor's or bidder's certification that the proposed rice mill brand, particularly its major components, would only be from a single brand		
III. Auxiliary Components		
1. Grain bucket Elevators		
a. Shall be provided in all appropriate components of the ricemill to transport grains from one machine to another machine.		
b. Capacities must be sufficient/compatible to the rated capacities of each machine.		
c. Buckets for paddy shall be made from stainless steel (at least 304 grade) while buckets for brown rice and milled rice shall be made of heavy duty food grade plastic cups.		
d. Elevator leg material must be of appropriate standard thickness to withstand a seizmic zone 4 earthquake.		
e. Provision of downspout with two-way valve, or three-way valve if necessary, attached to bucket elevator to divert grain flow from a certain stage of processing.		
f. Installed with inspection port at the elevator leg and access port at the elevator booth for inspection and cleaning.		
2. Ricehull Tank and Husk Collection System Integrated with Rice Hull Compactor		
a) The ricehull tank shall be made of 2mm MS plate supported by angle/steel bars.		
b) Rectangular tank with hopper bottom. Discharge chute is provided with pneumatic control gate/shutter for ease of operation.		
c) With capacity to hold ricehull accumulated over an 8-hour ricemill operation.		
d) Minimum height must be 5 meter from the ground to the lowest part of the discharge chute to accommodate large cargo trucks during unloading and hull disposal.		
e) Inclination of the hoppered bottom/discharge chute should comply to the angle of repose of the rice hull (35 – 50 degrees) to achieve complete emptying of the tank.		
f) Provision of service ladder and railings for the unloading of rice hull, repair and maintenance of the rice hull tank.		
g) The rice hull bin should be painted with rust-proofing primer and with final paint color		
h) Provision of appropriate rice hull compactor system to compress rice husks to bales to reduce space during transport or storage.		
3. Dust Collection System		

a) All sections where dust can be generated or emitted due to flowing or moving grains shall be fitted with dust-collection system (starting from the dumping or intake pit, mill day bin, pre-cleaner, de-stoner, huller, paddy separator, whitener, mist-polisher, color sorter, length grader, sifter, and grain elevator/conveyors)		
b) With dust filter for dust and rice bran		
c) With negative suction air wind net system		
d) Sheet metal ducting		
e) All connectors shall be airtight		
4. Rice Bran Collection System		
Collects bran generated at the whitener, polisher, sifter and mist polisher machines. It consists of dust collecting filter, bran suction blower, and air ducting.		
5. Main Control Center		
The rice mill shall be provided with appropriate air-conditioned control room that houses the main control panel and it will serve as office of the rice mill operator. Walls shall be provided with fixed glass window for the operator to monitor the milling operation. Shall be provided with two glass doors.		
6. Electrical/Motor Control System		
Provision inside the main control center of centralized electrical control panel using an integrated Programmable Logic Control (PLC) and Supervisory Control and Data Acquisition (SCADA) or equivalent technology and functionalities.		
Automation system that houses all related motor control components such as circuit breakers, magnetic contactors and alarm system.		
The control panel shall be provided with mimic flow chart where the running status and control of each milling component is shown and represented by pilot lights.		
With interlocking system and emergency button.		
With individual magnetic starter and overload protection for all electric motors.		
All motors shall be 3 phase, 60 hz,220 or 440 volts or as maybe appropriate for the given overall rice mill plant design.		
All electrical wires, sub-feeders and feeder lines shall be in conduits and run through wire trays from electric motors to the motor control center.		
Pull boxes shall be provided for every branch circuit.		
An Emergency Manual Switch Button (ESMB) shall be provided for every motor/equipment near the working area for emergency shut-off to avoid accident.		

Rigid steel conduit shall be used from the motor/equipment to the ESMB.		
With **three (3) units distribution transformer** in bank to provide power for the rice mill's three-phase load.		
All electrical related accessories such as but not limited to primary metering, current transformer, potential transformer, lightning arrester, etc. needed to energize the rice mill plant as required by the local electric cooperative shall be included in the rice mill plant.		
All electrical works shall be in accordance with the Philippine Electrical Code and rules and regulation of the Bureau of Product and Standard.		
The contractor shall provide all supplies, materials and equipment and perform all the works necessary for the complete execution of all electrical works.		
7. Emergency Power Generating Set		
Provision of **One (1) unit diesel stand-by power generating set (gen-set)** dedicated only to energize the whole rice mill facility.		
The gen-set must provide sufficient electrical power that is compatible with the power requirement of the whole rice mill facility, including the transformer and the pieces of ancillary equipment.		
Provided with automatic transfer switch (ATS) for smooth and easy operation during occurrence of power interruption from the local electric cooperative.		
A concrete power house shall be built to protect the gen-set and its electrical accessories from inclement weather.		
8. Air Compressor Source		
Centralized compressed air room with line filters, air dryers, air tanks and with variable permanent magnet motors.		
IV. Additional Requirements		
1. The rice mill facility should conform to the following performance criteria:		
Input Capacity: 8-10 tons per hour (tph)		
Hulling efficiency: 79%, minimum		
Milling recovery index: 0.95, minimum		
Percent Head rice index: 0.90, minimum		
Milling degree: Regular Grade to Premium Grade Milling		
No. of paddy per kilogram milled rice: 15 Grains Maximum		
2. The rice mill shall be designed and built rigidly, making it suitable for heavy-duty operation and it can withstand extreme weather conditions to which it can be exposed.		

BAC-SECRETARIAT
NHA
Quezon City

3. The construction shall be durable without major breakdown of the major components within the first year of operation. Warranty shall be provided for parts and services within one year or 1920 hours operation whichever comes first after the installation and acceptance of the procuring entity except on consumable parts such as rubber rolls, emery stones and screens. General requirements of the warranty shall be in accordance with PNS/PAES 138:2004 – Agricultural Machinery – Guidelines on After Sales Service.		
4. Major components of the rice milling system shall be installed on a rigid metal mounting platform with a minimum elevation of 2.5 meters from the warehouse floor. Only the receiving pit shall be built below ground and all other rice mill components and auxiliary equipment shall be installed on-floor level and on elevated platforms. Rice mill personnel can stand and walk freely under the platform to monitor the operation of the rice mill.		
5. All equipment, bucket elevators, conveyors bins/tanks are serviceable with good accessibility around each machine (service platform, ladder and catwalk). There are provisions for lubrication of the sealed type bearings and belt tightening. When necessary, diverter or overflow valves are provided to divert the flow of grains.		
6. Ease of access for maintenance, repair, and monitoring works for all components and parts of the rice mill. Path walks with markings/direction and borders. Stairs and risers fitted with safety railings.		
7. Surge tank or control tank with level sensor and pneumatic-auto discharge shall be installed in such machine component of the rice mill.		
8. All major components and parts of the rice mill should be painted powder coated or regular paint with rust-proofing primer and final paint color (minimum of 2 coatings)		
9. Spare parts and tool room shall be built to safe keep all tools and inventory of easily worn out parts of the rice mill.		
10. Special tools needed to fix critical machine component should be provided.		
11. The following standard set of heavy duty tools appropriate for the conduct of repair and maintenance of the facility which is made of tempered steel and chrome vanadium should be provided;		
a. One (1) set socket wrench (No. 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 27, 30, 32, minimum)		

BAC - SECRETARIAT
NHA
Quezon City

b. One (1) set combination wrench (open and box, 10 pcs-size appropriate to the rice milling system)		
c. Adjustable wrench: 300 mm, minimum		
d. Electrical plier: 200 mm, minimum		
e. Screwdriver: Philips and flat head, 300mm, minimum		
f. Grease gun: 250mm cylinder length, minimum		
g. Mechanical pliers: 200mm, minimum		
h. Heavy duty toolbox and roll up tools holder. Size that can accommodate the required tools		
12. Copy of Equipment Manufacturer's Manual with Parts List of each ricemill system component and all accessories such as pre-cleaner, hulling and husk aspiration system, abrasive whitener, friction polisher, mist polisher color sorter, length grader and blending tank, packaging machine, and bucket elevator written in English or Filipino Vernacular to be presented during post qualification evaluation.		
13. The Contractor/Manufacturer's/ Dealers shall provide comprehensive training to NFA personnel with the following topics:		
a.Fundamentals of Rice milling		
b.System operation and management of rice milling.		
c.Operation, trouble shooting, repair and maintenance of Rice mill plant		
14. The rice mill shall be tested in accordance with PNS/PAES 207:2015 – Agricultural Machinery –Rice mill – Methods of Test.		
15. With the following markings and labeling, which shall conform with PNS/PAES 201:2015		
• Registered trademark of the manufacturer • Name and address of the manufacturer • Name and address of the importer/distributor • Country of manufacture/ Made in the Philippines • Type; Serial number • Load capacity, metric tons • Rated power/voltage/ frequency/ phase, in metric units • Shipping information • Dry weight in metric units • Dimensions in metric units • Safety/Precautionary markings		
16. Factory acceptance test prior to delivery of items.		
17. Supplier may include other features not mentioned but are necessary for efficient milling of rice.		

BAC SECRETARIAT
NFA
Quezon City

18. The ricemill and its ancillary shall be designed and built to be strong and sturdy to withstand seismic zone 4 earthquake		
Other Technical Requirement:		
1.Valid AMTEC test report of the Multi-Pass Rice Mill of the same model as to basic parts and major components and the results should conform to PNS/BAFS PABES 303:2020 Postharvest machinery- Rice mill Specifications.		
2. Valid Permit To Operate (PTO) or certification from Bureau of Agricultural and Fisheries Engineering (BAFE) of their application for PTO.		
3. Process flow layout and schematic diagram including 3D perspective of illustration of the Rice Milling System drawn in A3 size paper duly signed and sealed by a licensed Agricultural and Bio-systems Engineer for post-qualification evaluation.		
4. Electrical plan and layout duly signed and sealed by a licensed Professional Electrical Engineer as a condition for Payment. - From transformer to main switch to control panel to machine components.		
5. Brochures of the offered Equipment (written in English/Filipino)		
CERTIFICATIONS:		
1. Certification from the bidder that the rice milling unit and each component are branded and have part numbers.		
2. National Agricultural and Fisheries Machinery Assemblers, Manufacturers, Importers, Distributors and Dealers Accreditation and Classification (NAMDAC) Certification for the Bidder.		
3. Provision of after sales services:		
- Certification of two (2) years warranty for services and parts of the rice milling system and other components		
- Valid Certificate of Distributorship/ Authority to sell, and Commitment to Supply directly issued by the manufacturer		
-Certification that the supplier will conduct at least 40 hours of training on the proper handling, operation and maintenance of the unit for all NFA MPOs and Engineers.		

BAC - SECRETARIAT
NFA
Quezon City

-Manufacturer's, distributor's or bidder's certification that the proposed Ricemill brand have been sold in the Philippine market for the last thirty (30) years from the date of bid opening, accompanied or duly supported by documentary proof. The documentary proof must be verifiable through phone call, ocular inspection or both. a) Record of sales (Official receipt); or, b) Bill of lading, and/or other similar records indicating shipment or delivery of the grain dryer brand to the Philippines (if applicable)		
4. Certification of guaranteed spare parts availability for at least five (5) years.		
5. Certification of Very Satisfactory Performance of the Multi-Stage Rice Mill being offered as to: i) Machinery Performance; ii) Machinery Durability; and, iii) Availability of Parts and Service. Who may issue: - The Bidder shall provide list of five (5) customers/clients within the Philippines with addresses and contact numbers, and a certification from at least one (1) customer/client. - Any government or private Agency/Company within the Philippines, duly signed by the Current Head of agency. Excluding the following: - Bidder's Dealers and Authorized Service Centers		
Warranty shall be provided to parts and services within **two (2) years** after the date of acceptance of the unit by the end-user, except on fast moving and easy to wear parts such as fan belts and grain buckets. General requirements of the warranty shall be in accordance with PNS/PAES 138:2004 – Agricultural Machinery – Guidelines on After Sales Service		
Delivery Period: Delivery within **one hundred eighty (180) calendar days** from receipt of Notice to Proceed; Installation, testing, and commissioning is within **one hundred twenty (120) calendar days** from successful delivery.		
Place of Delivery: **NFA Warehouse in Region IV:** Brgy. Sto. Niño, Rizal, Occidental Mindoro		

BAC - SECRETARIAT
NFA
Quezon City

Payment Terms: 1. Advanced payment of **15 %** of the contract price upon submission of necessary documents for Advanced Payment. 2. Progress payment of the remaining 85% of the contract amount upon each milestone, as follows: a. Delivery of Main Equipment i. Grain Dryer (**25%** of contract amount) ii. Ricemill (**25%** of contract amount) b. Installation i. Grain Dryer (**10%** of contract amount) ii. Ricemill (**15%** of contract amount) c. Testing & Commissioning of Grain Dryer, Ricemill, and other works (**10%** of the contract amount)		

In compliance with Republic Act No. 9184, Section 18, and the 2016 Revised Implementing Rules and Regulations, Section 18, brand names are only used because of compatibility with existing platforms or equipment which will maintain performance, functionality and useful life.

I hereby certify that the Statement of Compliance to the foregoing technical specifications are true and correct, otherwise, if found false either durin the bid evaluation or post-qualification, the same shall give rise to automatic disqualification of our bid.

Signed and Sealed: _____

_____ Bidder Name/Owner/Authorized Representative	_____ Agricultural and Bio-systems Engineer
_____ Signature	_____ Signature
_____ Name and Designation	_____ Name and Designation
_____ Date	_____ Date

BAC - SECRETARIAT
NEA
Quezon City