ATTACHMENT 1

Specifications Document

1. General Requirement Overview
This document outlines the requirements for the procurement of a new two-ram industrial baler and an accompanying in-feed conveyor system. The equipment is intended to provide an efficient and automated solution for the compaction and baling of various materials. The primary objective of this procurement is to replace an ageing and unreliable baler, thereby reducing maintenance downtime and improving operational safety.
The system, as detailed in the subsequent sections, must be a turnkey solution, inclusive of the equipment specified, delivery, installation, and training. The procured system must be new and of current manufacture. The specifications outlined in this document for the Excel Model 2R63D Two Ram Baler Conveyor represent the minimum acceptable performance and features.

2. Applicable Regulations and Standards
Baler machine safety is primarily governed by **ANSI Z245.5** (Baling Equipment—Safety Requirements) and OSHA regulations, focusing on operator training, interlocked doors, and lockout/tagout procedures. Key requirements include mandatory training for operators, secured access points, and emergency stop controls.

- **ANSI Z245.5-2013 (or 2023):** The primary American National Standard covering the manufacture, installation, operation, maintenance, and modification of baling equipment, including vertical and horizontal balers.
- **OSHA 29 CFR 1910 Series:** General industry standards for machine guarding (1910.212), lockout/tagout (1910.147), and electrical safety.
- **Environmental Standards:**
  - EPA regulations for solid waste handling and recycling operations.
  - Hydraulic systems are designed to minimize risk of leaks and environmental contamination.
  - Compliance with applicable state and local environmental requirements.
- **Electrical & Mechanical Standards:**
  - NEMA-rated electrical enclosures.
- **Manufacturing & Quality:**
  - Materials compliant with applicable ASTM standards.
  - Manufactured using industry-standard materials and processes.

3. Salient Characteristics
Salient characteristics of a baler machine include robust hydraulic/mechanical compression for high-density baling, automated tying systems, and durable construction designed for continuous operation. Key features include adjustable compression ratios, bale ejection systems, and safety mechanisms like emergency stops and interlocks.

3.1 Excel Model 2R63D Two Ram Baler

- **Access Method:**
  - Compatible with manual loading or conveyor-fed system.
  - Includes an above-ground infeed conveyor, 48" wide by 15' in length, designed to deliver material directly into the baler hopper for continuing operation.
  - Conveyor is structurally integrated and compatible with the baler system and designed for consistent material flow.
  - Hopper access doors are equipped with safety interlocks to prevent operation when open.

- **Power Source:**
  - Electrical-powered hydraulic system.
  - 20 HP main motor, 3-phase, 60 Hz.
  - Voltage options: 208V, 230V, 460V or as specified.
  - Pressure-compensated piston pump for efficient hydraulic performance.
  - Energy-efficient motor compliant with DOE efficiency stands.
- **Compatibility:**
  - Designed for integration with conveyors and sorting systems.
  - Compatible with recycling streams including:
    -Office Paper, OCC, PET, HDPE, Aluminum Cans, Tin Cans, Textiles.
  - Accepts standard 12-gauge high-tensile baling wire.
  - Available with left-hand or right-hand bale ejection.
  - Compatible with recycling facilities with dust and debris exposure.
- **User Capacity:**
  - Throughput: 3-5 tons per hour, depending on material type.
  - Continuous operation with automatic cycling capability.
  - Reduced operator involvement via automatic bale formation and cycling.
- **Audit Logging:**
  - PLC-based control system with touchscreen interface
  - Capable of monitoring:
    -Bale Counts.
    -Machine cycle activity.
    -Fault conditions and maintenance alerts.
- **Security Compliance:**
  - Lockout/Tagout compliant.
  - Emergency stop controls are accessible at operator locations.
  - Interlocked guarding on access doors and maintenance panels.
- **Physical Design:**
  - Bale size 60"L x 48" W x 30"H.
  - Steel construction with four-sided solid chamber design.
  - Replaceable wear components in high-contact areas.
  - NEMA 12 rated enclosure protects electrical components from dust.
  - Sandblasted, primed, and painted finish for corrosion resistance.
  - Power unit mounted on rear of machine for space efficiency.
  - Integrated air/oil heat exchanger for hydraulic cooling.

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4. Performance Requirements

Performance requirements for a baler machine center on achieving high-density, consistent bales, with industrial models utilizing 800–6000 PSI hydraulic pressure and cycling 40–150 times per hour to process 1–30 tons/hour. Critical performance metrics include bale weight consistency, material type, throughput volume, energy efficiency (45–750 kW), and, for safety, ANSI-compliant guarding and interlocks.

- **Throughput & Cycle Performance:**
  - Capable of processing 3-5 tons per hour.
  - Main ram cycle time: 29 seconds.
  - Optional short stroke cycle time: 21 seconds.
  - Automatic photo-eye activation enables efficient continuous operation.
- **Bale Output:**
  - Bale dimensions 60"L x 48" W x 30" H.
  - Dense, uniform bales suitable for transport and storage.
  - Automatic bale formation and tying using multi-wire system.

- **Environmental Conditions:**
  - Operating Temperature Range: -20° F to 110° F when equipped with an optional heater, and 40° F to 110° F without heater.
  - Designed for industrial environments with dust and debris levels.
  - System tolerant of moisture exposure typical in recycling facilities.
- **Durability & Reliability:**
  - Designed for continue-operation (8-24 hours per day).
  - Heavy-duty hydraulic system with pressure-compensated pump.
  - Integrated air/oil heat exchanger maintains system temperature under load**.**
- **Factors Resistance:**
  - Resistant to dust, debris, and common recycling contaminants.
  - Electrical components are protected by NEMA 12 enclosures.
  - Wire tie system equipped with a dust cover to protect tying components and ensure consistent operation in dust environments.
- **Automation & Controls:**
  - Touchscreen control system for operator interface.
  - PLC- controlled system with real-time diagnostics.
  - Immediate system response to operator input.
  - Automatic shear jam correction system to prevent downtime.
- **Safety Performance:**
  - System will not operate when safety doors or guards are open.
  - Emergency stop functionality halts operation immediately.
  - Fully compliant with OSHA safety requirements for industrial machinery.

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6. Delivery and Installation Requirements

Baler should be delivered to Camp Hansen Okinawa Japan Bldg. 2463 Camp Hansen Recycle Center. M-F 0700-1600. POC will be Jovan Alexander DSN: 623-2140 or Christopher L Smith DSN: 621-1003

Installation should be done by MCIPAC Facilities Engineers Section or Contracted out