

Entity Name: South Dakota State Government

Event Number: 9825

Event ID: 24RFP9825

Event Name: Milling Equipment Electrical Control Panel

Requested By: Missy Schuetzle

Created By: Missy Schuetzle

Due By Date: 01/26/2024 05:00 PM Central Time

Q&A Cutoff Date: 01/12/2024 9:40 AM Central Time

Invitation Type: Invitation Only

Assigned Commodities: 961-54 Milling Services: Asphalt, Grain, Cottonseed, Vegetable, Wood, etc.

Allow Supplier Terms and Conditions: No

Public Responses: No

Display Awardee: Display

Posting Board Status: Published

Event Status: Event Under Review

Section #: Name:

1 Section 1 - 24RFP9825

Do not submit responses through ESM Sourcing as this is for informational purposes only. Please download the attached document and follow submittal instructions.

2 SCOPE

The project will include the installation of a new Hammer Mill and Hammer Mill Plenum system. This document defines the requirements and deliverables for this system. It describes overall requirements that must be met to produce the specific equipment requested. Equipment procurement, delivery, and start-up support are included. No installation is required.

This URS is the input document for the:

- Equipment procurement purposes.
- Equipment sizing
- Functional and technical specifications.

3 BACKGROUND

The Dakota Bioproducts Innovation Institute is a research facility for the development of high-quality bioproducts. A hammer mill has been identified as one of the size reduction technologies that will be available for customer use. For ease of operation the milling equipment will be controlled from an electrical panel inside of the milling room.

4 PROCESS DESCRIPTION

The Hammer Mill will be used to grind a variety of products. It will be mounted on a steel structure that will position the hammer mill over a plenum and collection screw. An air assist filter and fan will provide a negative air draw to the Hammer Mill system. Dust collected from the air assist filter will join with the ground Hammer Mill product via a collection screw conveyor that will convey the sized material to a collection vessel or supersack. The control panel will be configured to start the milling equipment starting with the equipment at the end of the flow first, then starting sequentially towards the front of the process. Interlocks will be integrated so that if a piece of equipment trips out the upstream equipment feeding that device will be shut down as well.

5 BASIS OF DESIGN

5.1 Capacities

The milling equipment control panel will be powered from a breaker in the common MCC room. The panel itself will be placed in the milling room and will allow for stopping/starting of the mill feeder, mill, air assist fan, discharge screw and airlock, and transfer screw conveyor.

5.2 Construction

The milling equipment control panel shall be a two-door enclosure, Type 12 suitable for wall mounting. The control panel will house all transformers, relays, starters, VFD's, control buttons, etc. to control all devices. Potentiometers and start/stop buttons will be installed in the panel doors.

5.3 Health, Safety and Environment (HSE)

The milling equipment control panel will satisfy appropriate conformity assessment procedures and be UL508A compliant. The panel will have a disconnect switch on the door for lock out procedures as well as an E-stop configured to shut down all equipment.

5.4 Operation, personnel and automation

The milling equipment control panel will be set up to be operated by a single operator. Safety devices such as rotation switches, explosion vent switches, door switches, etc. will be wired to stop equipment when activated. Main equipment motors will be wired such that when a

device trips out the upstream equipment also stops.

5.5 Materials of Construction

Materials of construction for the control panel will be carbon steel sheet.

5.6 Reliability & maintenance

The control panel will be designed to operate routinely during 8-12-hour per day milling operations.

Terms and Conditions

ESM Sourcing Terms

None

General Terms and Conditions

None

Event Specific Terms and Conditions

See attached document