

Entity Name: South Dakota State Government
Event Number: 9823
Event ID: 24RFP9823
Event Name: Hammer Mill Air Assist Baghouse and Fan
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 9:11 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 - 24RFP9823

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2 SCOPE

The project will include the installation of a new Hammer mill with hammer mill air assist 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. The hammer mill will require an air assist system for proper operation.

4 PROCESS DESCRIPTION

An air assist baghouse filter and fan will provide a negative air draw to the hammer mill system. The bag filters inside of the baghouse will be purged with reverse air that will clean the bags of built up dust. The dust purged from the bags will fall into the hopper of the baghouse and be discharged from the baghouse through a rotary airlock. 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 supersack or other vessel.

5 BASIS OF DESIGN

5.1 Capacities

The hammer mill air assist shall meet the needed cfm and static pressure requirements of the chosen hammer mill. Typical values are roughly 400-500 cfm airflow at a static pressure of 4-8 inches of water.

5.2 Construction

The air assist baghouse filter shall be mounted on a steel support structure. The fan for the air assist shall be mounted on the filter. Requirements for the baghouse, support structure and other component parts will be defined by the baghouse supplier, in a pre-purchase detailed proposal and drawings.

5.3 Health, Safety and Environment (HSE)

The air assist baghouse will satisfy appropriate conformity assessment procedures and the controls shall carry the UL marking. Filter to be stressed for 17" WC (1.25" Hg). The selected unit shall be provided with rupture panel style explosion vent sized using explosion testing values of Kst 114 bar-m/s and Pmax 7.2 barg.

5.4 Operation, personnel and automation

The air assist baghouse will be set up to be operated by a single operator. All controls will be housed in a single panel for purge timer, fan and airlock start/stop and E-stop.

5.5 Materials of Construction

Materials of construction for the air assist baghouse will be carbon steel with epoxy coated product contact areas. Bag cages will be galvanized carbon steel.

5.6 Reliability & maintenance

The air assist baghouse will be designed to operate routinely during 8 -12 hour grinding shift operations. All wear parts shall be easily accessible and able to be replaced on a regular maintenance schedule. Filter bags, cages, purge timer and valve components shall be stock items that can be ordered and delivered in a timely manner.

Terms and Conditions

ESM Sourcing Terms

None

General Terms and Conditions

None

Event Specific Terms and Conditions

See attached document.