

Air Actuated Chain Hoist
USER REQUIREMENT SPECIFICATIONS

Dakota Bioproducts Innovation Institute
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Revision No.: 0

APPROVED

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2 SCOPE

The project will include the installation of a new Air Actuated Chain Hoist. 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 chain hoist has been identified as one of the lifting devices that will be available for customer use.

4 PROCESS DESCRIPTION

The chain hoist will be utilized in the hammer mill area. The hoist will be capable of lifting a super sack of grain or other material from the floor to a height above the infeed hopper of the hammer mill. The hoist will have independent controls to allow for lifting the super sack and then moving the hoist trolley along an I-beam to position the super sack for unloading. The chain hoist and trolley motors will be air actuated with air supplied from the facility compressed air system. The chain hoist will have a lifting chain with a hook that will attach to a super sack lifting frame. The lifting frame will be adjustable to various sizes of super sacks.

5 BASIS OF DESIGN

5.1 Capacities

The chain hoist capacity will be 2 tons (4000 lbs) with a minimum 20 ft of lifting chain. The hoist will be attached to a lifting frame suitable for attaching the loops of a super sack. Air consumption to be roughly 60 cfm at 90 psi.

5.2 Construction

The chain hoist and trolley shall be mounted on a steel I-beam capable of supporting the hoist, chain, trolley, lifting arm, and super sack combined weight. Requirements for the I-beam size and other component parts will be defined by the chain hoist supplier in a pre-purchase detailed proposal and drawings.

5.3 Health, Safety and Environment (HSE)

The chain hoist will satisfy appropriate conformity assessment procedures and shall be rated for a dusty environment (Class II, Div II). The selected unit shall be provided with a dedicated control system. Built in overload protection and overtravel limit controls are preferred.

5.4 Operation, personnel and automation

The chain hoist will be set up to be operated by a single operator. All controls will be housed in a single control pendant for lifting/lowering and for movement of the trolley along the I-beam. The hoist will be manually operated by push button controls—no automation included.

5.5 Materials of Construction

Materials of construction for the chain hoist and lifting frame will be carbon steel sealed construction.

5.6 Reliability & maintenance

The chain hoist will be designed to operate routinely during 8 to 12-hour milling operations. Air filter, regulator, and lubricator must be provided with the hoist as well as manufacturer recommended oil for proper lubrication.

6 ABBREVIATIONS, ACRONYMS & DEFINITIONS

Acronyms	Description
BEA	Business Essential Attribute
BMS	Building Management System
ASME-BPE	American Society of Mechanical Engineers BioProcessing Equipment
BSL-1	Bio-Safety Level 1
C&Q	Commissioning & Qualification
CIP	Clean In Place
QCA	Quality Critical Attribute
cGMP	current Good Manufacturing Practices
HVAC	Heating Ventilation & Air Conditioning
OA	Optional Attribute
PLC	Programable Logic Controller
SCADA	Supervisory Control and Data Acquisition
SOP	Standard Operating Procedures

URS	User Requirements Specification
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7 USER REQUIREMENT SPECIFICATIONS

URS TABLE – Air Actuated Chain Hoist		
Designation	Description	Type
URS-F1	Air operated chain hoist capable of lifting 4000 pounds. Hoist to have trolley motor that is also pneumatic (air operated). Lift length to be 20 ft.	BEA
URS-F2	Chain hoist to be constructed of carbon steel.	BEA
URS-F3	Chain Hoist to be suitable for intermittent, 12 hours per day operation. Hoist must be suitable for operation in a dusty environment (Class II, Div II)	BEA
URS-F4	Chain Hoist to come complete with pendant style controls to operate up/down and movement along trolley. Pendant control length to be roughly 18 ft.	BEA
URS-F5	Lifting speed at full load to be roughly 9 ft/min.	OA

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URS-F6	Hoist to have internal brake mechanism capable of holding load in a static position if load is not being raised or lowered.	BEA
URS-F7	Chain Hoist to have chain reservoir to keep chain neatly stored.	OA
URS-F8	Chain Hoist to come complete with air filter, air regulator, and air lubricator and oil. Hoist to be operational at 85-90 psi air pressure and roughly 50 cfm air consumption.	BEA
URS-F9	Chain hoist to be capable of attaching to an armature style lifting frame that can lift a super sack by the four loops. Frame to be capable of lifting 4000 pounds and handle super sacks from 32 inches to 47 inches square.	BEA
URS-F10	Chain hoist to have internal overload protection and chain over run protection.	BEA
URS-F11	Chain hoist trolley to have wheels suitable for flat or tapered I-beam. Recommended trolley speed will be roughly 45 ft/min. Trolley to have rubber stop bumpers suitable for contacting metal stops welded on each end of the I-beam.	OA
URS-F12	Full system documentation shall be provided, including instruction and maintenance manuals, safety instructions, and dimensional drawings.	BEA

END OF SPECIFICATION**8 SELECTION CRITERIA**

Vendors will be evaluated based on the following criteria:

Evaluation Criteria		
Description	Ranking	Weight
Mandatory Technical Requirements A review of your proposal to determine adherence with the REQ specifications and technical requirements.	1-10	30%

Proposal Pricing Review of your proposal in relation to the services offered in the proposal. Proposals will be evaluated against competing proposals for cost effectiveness. Proposals will be evaluated to be reasonable and appropriate.	1-10	20%
Technical Response The technical response in your proposal portrays knowledge, experience, and professionalism. Relevant product features and/or specifications are available with your equipment other than those mandatory specifications allotted above.	1-10	10%
Lead Time A review of your product's lead time to meet business objectives.	1-10	15%
Product Warranty The available warranty, in scope, duration, and value, proposed with your product.	1-10	5%
Experience and Demonstrated Results Our evaluation will include a review of your history, your experience as it relates to the requirements within this RFP, evidence of past performance, quality and relevance of past work, references, and related items.	1-10	20%

9 RETURN BIDS TO

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10 OTHER PROVISIONS

Must meet 200 CFR buy America Provision□ Title 49 Subtitle B Chapter VI [Part 661](#)

Federal Participation Disclosure – “This project will be partially funded with Federal funds from the United States Department of Commerce,

Economic Development Administration and therefore is subject to the Federal laws and regulations associated with that program.”

Must meet Federal Contract provision 200 CFR Title 2 subtitle A Chapter II [Part 200](#)

Certification Relating to Prohibited Entity

For contractors, vendors, suppliers, or subcontractors who enter into a contract with the State of South Dakota by submitting a response to this solicitation or agreeing to contract with the State, the bidder or offeror certifies and agrees that the following information is correct:

The bidder or offeror, in preparing its response or offer or in considering proposals submitted from qualified, potential vendors, suppliers, and subcontractors, or in the solicitation, selection, or commercial treatment of any vendor, supplier, or subcontractor, is not an entity, regardless of its principal place of business, that is ultimately owned or controlled, directly or indirectly, by a foreign national, a foreign parent entity, or foreign government from China, Iran, North Korea, Russia, Cuba, or Venezuela, as defined by South Dakota Executive Order 2023-02. It is understood and agreed that, if this certification is false, such false certification will constitute grounds for the State to reject the bid or response submitted by the bidder or offeror on this project and terminate any contract awarded based on the bid or response. The successful bidder or offeror further agrees to provide immediate written notice to the contracting executive branch agency if during the term of the contract it no longer complies with this certification and agrees such noncompliance may be grounds for contract termination.

RESTRICTION OF BOYCOTT OF ISRAEL

For contractors, vendors, suppliers, or subcontractors with five (5) or more employees who enter into a contract with the State of South Dakota that involves the expenditure of one hundred thousand dollars (\$100,000) or more, by submitting a response to this solicitation or agreeing to contract with the State, the bidder or offeror certifies and agrees that the following information is correct:

The bidder or offeror, in preparing its response or offer or in considering proposals submitted from qualified, potential vendors, suppliers, and subcontractors, or in the solicitation, selection, or commercial treatment of any vendor, supplier, or subcontractor, has not refused to transact business activities, has not terminated business activities, and has not taken other similar actions intended to limit its commercial relations, related to the subject matter of the bid or offer, with a person or entity on the basis of Israeli national origin, or residence or incorporation in Israel or its territories, with the specific intent to accomplish a boycott or divestment of Israel in a discriminatory manner. It is understood and agreed that, if this certification is false, such false certification will constitute grounds for the State to reject the bid or response submitted by the bidder or offeror on this project and terminate any contract awarded based on the bid or response. The successful bidder or offeror further agrees to provide immediate written notice to the contracting executive branch agency if during the term of the contract it no longer complies with this certification and agrees such noncompliance may be grounds for contract termination.

CERTIFICATION OF NO STATE LEGISLATOR INTEREST

Offeror (i) understands neither a state legislator nor a business in which a state legislator has an ownership interest may be directly or indirectly interested in any contract with the State that was authorized by any law passed during the term for which that legislator was elected, or within one year thereafter, and (ii) has read South Dakota Constitution Article 3, Section 12 and has had the opportunity to seek independent legal advice on the applicability of that provision to any Agreement entered into as a result of this RFP. By signing an Agreement pursuant to this RFP, Offeror hereby certifies that the Agreement is not made in violation of the South Dakota Constitution Article 3, Section 12