

SCOPE OF WORK & TECHNICAL SPECIFICATIONS

- The scope of work includes the supply, installation, testing and commissioning of Mobile Compactor Storage Systems at the following Gujarat Energy Ltd. (erstwhile Gujarat Gas Ltd.) locations. The detailed system configuration, dimensions and quantities for Amritsar Office are provided below:

Systems	Installation Address
System – 1	Gujarat Energy Limited -Amritsar Office Address: HT Tower, SCO-132, 2nd Floor, B-Block, Ranjit Avenue, Amritsar – 143001, Punjab Single-Faced Fixed Unit (SFF) Size: 4170 mm (L) × 630 mm (D) × 2130 mm (H), complete with 5 shelf levels per compartment – Qty. 10 Nos. Double-Faced Mobile Unit (DFM) Size: 4170 mm (L) × 340 mm (D) × 2130 mm (H), complete with 5 shelf levels per compartment – Qty. 1 No. Single-Faced Mobile Unit (SFM) Size: 4170 mm (L) × 475 mm (D) × 2130 mm (H), complete with 5 shelf levels per compartment – Qty. 02 Nos.

IMPORTANT NOTE: THE FINAL DIMENSIONS & MEASUREMENTS FOR ALL SYSTEMS WILL BE AS PER THE ATTACHED LAYOUT ONLY (Amritsar: ANNEXURE – 1).

Supply, Installation, Testing and Commissioning of Mobile Compactor Storage Systems mounted on rails for efficient storage and retrieval of records, files and documents.

- Scope of work / Technical specification:** The scope of work includes the supply, installation, testing and commissioning of factory-finished, powder-coated, metal-body Mobile Compactor Storage Systems complete in all respects, including transportation, unloading, installation, testing and commissioning.
- General Description:** The Mobile Compactor Storage System should be an efficient space saving storage solution to cater to a variety of office storage requirements. It should consist of storage units of 315 mm/450mm deep fixed or movable – bolted to undercarriage which rolls onto the channels, which, are firmly embedded or Lip type to the ground with minimum 3/2 Rails and 1/2/3/4 Bay and Drive type where bay denotes side by side unit placement in a block.

The Mobile Compactor shall comprise the following type of units:

- Single-Faced Fixed Unit (SFF):** A stationary storage unit fixed at one end of the compactor block.
- Single-Faced Mobile Unit (SFM):** A movable storage unit having shelves accessible from one side only.

3. **Double-Faced Mobile Unit (DFM):** A movable storage unit comprising two storage bodies mounted back-to-back with shelving accessible from both sides.
4. **Shutter Unit:** A lockable shutter arrangement provided at the front of the compactor block for security and dust protection.

The following requirements (Sr. No. 1 to 10) are mandatory. The bidder shall confirm compliance on its letterhead. No deviation shall be permitted.

1. Base Frame: Shall be of rigid welded construction.
2. Superstructure: Shall be of knock-down construction.
3. SHELF DESIGN: Shelves shall be manufactured with a minimum of 12 bends and shall have 35 mm front and rear profiles with interlocking corners.
4. Slotted Angles: Use of slotted angles in the superstructure shall NOT BE PERMITTED.
5. Drive Mechanism: Chain and sprocket drive shall be provided within individual compactor units. No chains shall be visible or incorporated within the rail system.
6. Drive Cover Panel: Shall be of full height, extending up to the overall height of the unit.
7. Powder Coating Facility: The manufacturer shall have an in-house powder coating plant.
8. Each single face mobile unit will be provided with Anti tilt & Anti skew arrangement on the rear side of the unit.
9. Guide Rail (Rail Channel): Shall consist of a 30 mm diameter solid bright steel bar with ground finish, press-fitted into a cold-formed 'U' channel fabricated from 14-gauge steel.
10. Operating Handle: The compactor handle shall be of chrome-plated star hand-wheel type. PU-coated, rubber-coated, or round wheel types shall not be accepted.

GENERAL TECHNICAL SPECIFICATION FOR COMPACTOR STORAGE SYSTEM

DESIGN AND COMPONENTS:

The storage system components are based on IS 800/IS 801 design standards. The factor of safety is considered as 1.67 as per standard with respect to yield stress of material used.

RAW MATERIAL:

All components shall be manufactured from prime-quality mild steel conforming to IS 513, IS 10748, IS 1079, or equivalent applicable standards.

FASTENERS:

All fasteners shall be electro-galvanized and shall conform to IS 3655. Mechanical properties shall conform to IS 1367 (latest revision).

The Compactor storage system comprises of broadly two parts,

1. Drive Assembly.
2. Superstructure

DRIVE ASSEMBLY:

Drive assembly is the foundation of a robust compactor system. Drive assembly comprises of:

- Guide rails
- Anti-tilt rails
- Base frames
- Drive mechanism
- Drive Wheel/Operating Wheel
- Drive cover panel

GUIDE RAILS:

The base frame shall move on guides rails. The guide rail is of solid round shaft of 30 mm (Bright bar) in ground finish, press fit in to cold formed 'U' channel made from 14 G thick material confirming to IS 10748/1079.

The channel has flanges on either side to provide smooth movement of men and material over it. Depending upon the length of the units, 2 or more guide rails are provided in a system. This type of channel is then anchored to the floor by means of dash-fasteners. Necessary packing/shims will be used to place the same in horizontal plane.

ANTI-TILT RAIL:

Under extreme loading conditions, a Single-Faced Mobile Unit (SFM) may be susceptible to tilting. Each Single-Faced Mobile Unit (SFM) shall therefore be provided with a dedicated anti-tilt rail arrangement.

BASE FRAME:

Base frame is fabricated from cold formed channel & angle sections of 10/14 gauge thick HRC material confirming to IS 10748/IS 1079. Sizes of sections are 25 x 100 x 25 mm, 25/45 x 100 x 25/45 mm, 45 x 45 mm or as may find suitable to meet with design requirements.

DRIVE MECHANISM:

- The drive to the unit is obtained by moving the hand wheel which in turns controls the chain sprocket arrangement on the system. This drive is transmitted to the sprockets - connecting rods, chain and wheel linkage. This moves the unit in the direction of movement desired.
- Each base frame unit is equipped with minimum two drive and two driven wheels of 128 x 28 mm. These wheels are made from cast iron duly machined and painted for longer life.
- Each wheel is supported by a pair of heavy duty self-aligning pillow block bearing. These bearings are lubricated and sealed for longer life.
- Each base frame houses, solid connecting rods of minimum 20mm, mounted with bearings, wheels, sprockets and chains.
- Chains used are ½" heavy duty traction chains of Diamond / Roll on / equivalent make.
- The drive mechanism outside of the base unit is mounted on the external side of the storage unit on the front side. This is entirely covered for safety and aesthetic purpose with a full height drive cover panel.

HAND WHEEL/ OPERATING WHEEL:

Driving wheel will comprise of a central hub resting on a pair of rollers bearing with 3 insertable arms engaging into the hub. The entire component will be chrome plated for better finish and longer life. The central hub will consist of the unit locking arrangement for preventing the unit from moving when in use.

DRIVE COVER PANEL:

Made out of 22 SWG thick C.R.C.A. prime quality steel confirming to IS 513 and of Box type to cover the entire drive mechanism completely. The Drive Cover Panel will be of full height i.e. it shall be of the full height of the unit.

SUPERSTRUCTURE:

Super structure of the Compactor storage system will be essentially collapsible or Knock down type. Each component of the compactor such as shelves, front panel, end panel, vertical rear panel, centre partition etc., will act as an integral member of the Unit as a whole.

SHELVES:

Shelf panels shall be designed to carry the designated load. The shelves are made from prime quality 22 G material. Each shelf is a 35 mm bend construction. Each shelf manufactured on special machines engaging special dies and fixtures. 12 bends are provided on each shelf with inter locking corners. This makes the shelves very robust. A special additional stiffener may be provided at the bottom of the shelves wherever required. Each shelf is provided with 4 nos. of shelf clips. These clips lock the shelves with the vertical panels at pitch of 25 mm.

VERTICAL PANEL:

Vertical panel consists of the front, intermediate vertical panel & rear panel will be made out of 22 SWG mm thick C.R.C.A. prime quality steel and designed to take the load of shelves on clip arrangement (for boltless shelving). The front and rear vertical panels will have 3 ribs in the centre along the height for additional strength. The intermediate vertical panels are special designed panels with 4 vertical shelves engaging members integrated with a common vertical body.

CENTER PARTITION:

The center partition is made out of 22 SWG prime quality C.R.C.A. sheet. The entire height of the unit is covered by multiple center partition member interlocking with each other vertically. Each center partition member will have special ribbing to minimize deflection & enhance the sturdiness of the unit as a whole.

INDEXING ARRANGEMENT:

The indexing arrangement is fixed on the drive cover panel of the compactor unit for easy identification and retrieval. The index is made from transparent acrylic sheet and has a Card inserted for numbering/ naming.

ANTI RUST TREATMENT & SURFACE COATING:

Proper anti-rust treatment is critically important for long life of any component. Anti-rust treatment followed by surface powder coating ensures proper aesthetics and durability.

ANTI RUST TREATMENT:

All the components will be supplied duly powder coated. All the components will be given 4-stage, 7-step anti-corrosive treatment for anti-rust property and longer life.

Before carrying out powder coating, pretreatment to steel surface will be carried out such as degreasing, pickling & phosphating

Degreasing will be carried out by using caustic soda, soda ash, Bi sodium phosphate & sulphuric metasilicate in proper concentration at closely controlled temperature. The component after degreasing will be rinsed in water.

Pickling shall be carried out by immersing the components in a sulphuric acid solution for a specified duration, followed by thorough washing with water.

The degreasing and pickling will be confirmed to requirement of IS 3194.

Phosphating shall be carried out by subjecting the components to treatment in a phosphoric acid solution with sodium nitrite as an accelerator to achieve a fine and uniform phosphate coating.

The procedure contained in IS-6005 and IS-3618 will be adhered to.

Passivation is done by subjecting the components to dilute chromic acid rinsing.

FINAL FINISH:

Each component of the system will be powder coated in required finish & curing through oven baking at 165-200° C in required shade

SECURITY FEATURES

INDIVIDUAL UNIT LOCK (UNI-LOCK):

The 'UNI-LOCK', or the individual unit lock is a specially designed mechanism embedded in the hand wheel body itself. This special locking mechanism, due to the virtue of its design does not demand any additional space for itself on the unit body & is housed in the hand wheel of all mechanically operated units. The UNI-LOCK when engaged locks the shaft of the sprocket & prevents the motion of units in either direction. This provides complete safety & security to the user.

CENTRAL LOCKING (TWO-POINT):

The Mobile Compactor Storage System shall be provided with a centralized multi-point locking arrangement. The locking arrangement is a spring-loaded mechanism controlled by 10 lever lock with keys in duplicate. It is axial in nature and is controlled by a handle on the drive cover panel of the end unit.

Once all the units are brought together, the end unit is locked at two locations with the floor at the bottom and with the second last mobile unit and the on the top end thus providing complete security and safety of the records or goods. Since no additional space is occupied on the external phase of the compactors for mounting the central lock. This also adds to the aesthetic value of the system.

STOPPERS:

Each system will be provided with stoppers on either ends of the rail to prevent the Compactor unit from moving away from the rail.

SAFETY FEATURES

ANTI-TOPPLING MECHANISM:

Each single sided mobile unit will be provided with a special folding type pivot mechanism anti toppling arrangement on the top side of the unit. One end of this mechanism will be anchored on the single mobile unit and the other end will be anchored will be adjoining unit. This is an additional unique safety feature.

ANTI TILT & ANTI SKEW ARRANGEMENT: (for Single-Faced Mobile Units only)

Each single face mobile unit will be provided with Anti tilt & Anti skew arrangement on the rear side of the unit. This will prevent the unit from toppling. Anti-tilt arrangement is a very essential arrangement of the mobile storage system, which are a pair of roller bearings, suspended from the base unit moving within ground rail and guide the unit while in motion.

i) Warranty: One (01) year comprehensive onsite warranty from the date of successful installation, including all parts and labour.

TERMS & CONDITIONS

01. Contract owner:

Name	Department	Contact Number	Email Id
Ranjit Lahol	Administration	9099953941	ranjit.lahol@gujenergy.com

02. Warranty Period: One (01) year from the date of successful installation and commissioning of the systems. The warranty shall include all labour, materials, spare parts, and services required for rectification of defects.

03. Mobilization Period / Delivery Period: within 6 to 8 weeks from the date of issuance of the Purchase Order (PO).

04. Installation Period: Installation and commissioning shall be completed within 30 days from the date of site clearance/intimation by the Officer-in-Charge (OIC).

05. Penalties:

Sr. No	Parameter	Service Agreement	Level	Penalty	Incentive
1	Delay in Supply / Delivery of Materials	Materials shall be supplied and delivered within the delivery period specified in the Purchase Order.		Rs. 5000/- for the first week of delay and thereafter Rs. 2500/- per day till the completion of delivery.	NIL



GUJARAT ENERGY

**Supply and Installation of Compactor Systems at Gujarat Energy Limited
(erstwhile Gujarat Gas Ltd.) – Amritsar Office**

2	Delay in Installation	Installation and commissioning shall be completed within 15 days from the date of intimation by the Officer-in-Charge (OIC).	Rs. 5000/- for the first week and thereafter Rs. 2500/- per day till completion of installation.	NIL
3	Supply of Non-Specified material	Supply of Non-Specified Materials / Supply of Materials Other Than Specified in the PO.	Rs. 10,000/-	NIL
4	Any damages to GGL Assets / Equipment or any other items during work	No damage shall be caused to the assets, equipment, buildings, furniture, records, or any other property of Gujarat Energy Ltd. during execution of the work.	Recovery of the full amount of damages.	NIL

- **Reference documents:**

Annexure – 1: Layout of Compactor Systems to be installed at Amritsar Office.

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Layout of Compactor Systems to be installed at Amritsar Office.

