



DEENDAYAL



PORT AUTHORITY



Office of the Executive Engineer,
Harbour Division, Nirman Building,
New Kandla (Kutch), Gujarat-370210.
kphdivision@gmail.com

Tel : (02836) 270325
Email ID :-

ISO 9001:2008 ISO 14001:2004

No: HW/WK/EOI/AMC-Sprinkling

Dated : 18.12.2023

Expression of Interest

**Sub:- Sprinkling system inside Cargo Jetty area for Coal dust Suppression
in Coal Yard. AMC for period of five year.**

Sir,

Deendayal Port Authority intends to invite e-tender for the subject work.

Kindly submit your Expression of interest along with budgetary-offer for the subject work on the basis of tentative requirements of material enclosed herewith.

The rates quoted must be inclusive of all taxes, & exclusive of GST.

Your budgetary offer for the above work should reach to the above mentioned address on or before 23.12.2023.

Address:-

Office of the Executive Engineer (H),
Harbour Division, First Floor,
Nirman Building, New Kandla,
Kutchh (Gujarat)
Email :kphdivision@gmail.com

Thanking you,

Encl. As above

Yours faithfully,

Executive Engineer (H)
Deendayal Port Trust

To,
The Executive Engineer (H)
Deendayal Port Authority
New Kandla

Date :-

Sub: Budgetary Offer for the work of "Sprinkling system inside Cargo Jetty area for Coal dust Suppression in Coal Yard. AMC for period of five year".

SR. No.	Description of item	Rate (in Rs.)	Qty	Unit
1	Supply, Installation, Testing and Commissioning of Cast iron Non- Return valve including companion flanges, gasket, nut-bolt & washer as per and Painting as per Client's Specifications.(Rates are including removing of existing valve and same should be deposited in main store new kandla)			
a	100NB		1.00	No
b	200 NB		1.00	No
2	Supply, Installation, Testing and Commissioning of Underground M.S ERW, Heavy duty pipe including fittings, flanges, gasket, nut-bolt & washer, wrapping-coating etc. as per specification The unit rate of pipe shall include the cost of fittings, Painting, wrapping-coating etc. Specifications.(Rates are including removing of existing pipe by excavating and refilling and same should be deposited in main store new kan			
a	250 NB		10.00	Mtr.
b	200 NB		500.00	Mtr.

c	150 NB		500.00	Mtr.
3	Sprinkler nozzles of capacity 3636LPM @ 9BAR pressure including compinion flanges and fixtures complete with all accessories as per Specification.		6.00	No
4	Supply, Installation, Testing and Commissioning of Motorised Gate Valve (Valve: Cast Iron Gate valve including companion flanges, gasket and painting) (Actuator: as per specification) as per specification. (Rates are including removing of existing valve and same should be deposited in main store new kandla)			
a	150 NB		4.00	No.
5	Supply, Installation, Testing and Commissioning of Cast iron Globe valve including companion flanges, gasket and painting as per specification. (Rates are including removing of existing valve and same should be deposited in main store new kandla)			
a	150NB		4.00	No
b	250 NB		1.00	No
6	Supply, Installation, Testing and Commissioning of gun metal air release valve with isolation globe valve including compinion flanges and all fixture accessories as per specification. (Rates are including removing of existing valve and same should be deposited in main store new kandla)			
a	50NB		1.00	No
7	Supply, Installation, Testing and Commissioning of Electrical motor driven		1.00	No

	Horizontal Centrifugal Sprinkler pump of Capacity : 273 cu.mtrs/hr, 105 MWC complete with motor, base frame, coupling, coupling guard etc. as per specification. (2W+1S)			
8	Supply, Installation, Testing and Commissioning of Cast Iron Gate valve including companion flanges, gasket and painting as per specification. (Rates are including removing of existing valve and same should be deposited in main store new kandla)			
a	350 NB		1.00	No
b	250 NB		1.00	No
C	200 NB		1.00	No
D	100 NB		1.00	No
E	80 NB		1.00	No
9	Supply of potable water through tanker for sprinkling system inside cargo jetty area at new kandla.		735000	Kl

Note:- The contractor shall quote the price exclusive of GST.

Technical Specification

1.1 Technical specification for Sprinkler system equipments:

Provided data is minimum requirements. However contractor has to submit detailed data sheet with relevant information and G.A drawings during detailed engineering for client's approval.

A. Sprinkler Pumps

Sr.No	Description	Sprinkler Pumps
1.0	Number of Pumps	3 (2W+ 1S)
1.1	Drive	Electric motor
1.2	Location	Inside pump house
1.3	Design Capacity	273 Cu.m / hr.
1.4	TDH of pumps	105 MWC
1.5	Rated RPM	1500 max.
1.6	Operation	To be designed for continuous operation
1.7	Fluid to be handled	Circulating Portable water
1.8	Construction Features	
a)	Type	Horizontal Centrifugal Split casing Pumps
b)	Impeller	Closed
c)	Internal element	Removable
d)	Sealing	Self-liquid / Mechanical seal
e)	Lubrication	Oil / Grease / Self liquid
f)	Type of coupling	Flexible
g)	No. of Stage	As per mfg.std.
h)	Discharge level	Above the floor level
i)	Drive Transmission	Direct
j)	Type of Sealing	Mechanical Seal
1.9	Material of Construction	
a)	Base plate	Fabricated Mild steel as per IS: 2062 Epoxy painted / CI as per IS: 210 FG260 (Tested quality)
b)	Casing	C.I as per IS:210 Gr.FG260 (2.5% Ni)
c)	Impeller	Bronze to IS: 318, GR.II
d)	Wearing ring	Bronze to IS: 318, GR.II
e)	Shaft	SS410

f)	Shaft sleeve	SS410
g)	Shaft / Line bearing	Cut less Rubber in Bronze
h)	Shaft coupling	SS410
i)	Stuffing box	C.I as per IS:210 Gr.FG260
j)	Thrust bearing	As per mfg.std.
Note: The pumps shall be provided with common base plate, foundation bolts & nuts, sleeves, companion flanges with nuts, gasket, bolts etc., drain connection with valves, eye bolts, lifting tackles etc., special tools and tackles for operation and maintenance and painting protective coating as per client's specification.		

Pipe and Fittings

Sr.No	Item	Description
1.1	Pipe specification	MS ERW pipe as per IS: 1239, Part-I for sizes up to and including 150NB and IS: 3589, Gr.410 for sizes 200NB and above.
1.2	Pipe to pipe joints	Welded pipe joints
1.3	End connection	65NB & Above – Bevel end 50NB & Below – Plain end
1.4	Minimum Thickness of Pipe	
	Up to and including 150NB	As per IS:1239, Part-I, Heavy grade
	200NB & 250NB	6.3mm
	300NB	7.1mm
	350 & 400NB	8.0mm
1.5	Tolerance	Applicable as per relevant IS Codes.(No negative tolerance is acceptable)
1.6	Pipe fittings	
1.6.1	Sizes 40NB and Below	C.S socket welded fittings as per ASTM A105, Class 3000, Dimensional std. ASME/ ANSI B16.11
1.6.2	Sizes 50NB to 150NB	C.S Butt Welded as per ASTM A 234 Gr.WPB,Sch.40 DIMENSIONAL STD. CONFIRMING TO ASME/ ANSI B16.9 (Thickness to be match with parent pipe)
1.6.3	Sizes 200NB and 250NB	C.S Butt Welded as per ASTM A 234 Gr.WPB,Sch.20 DIMENSIONAL STD. CONFIRMING TO ASME/ ANSI B16.9 (Thickness to be match with parent pipe)

1.6.4	Sizes 300NB and Above	C.S Butt Welded as per ASTM A 234 Gr.WPB,Sch.30 /40 DIMENSIONAL STD. CONFIRMING TO ASME/ ANSI B16.9 (Thickness to be match with parent pipe)
1.7	Flanges	M.S Flanges as per IS: 2062, Gr.B, Drilling standard confirming to ANSI B16.5, Class 150.
1.8	Gasket	3MM Thk. EPDM Gasket (Champion make)
1.9	Bolts, nuts & washers	Bolt and Nut as per IS: 1367 (CL.4.0/4.6) and Washer as per IS: 2016 (2mmThk.) High strength bolts 8.8 grade, hot dip galvanised with 80-100 micron coating Nut bolt
1.10	Corrosion protection	<ul style="list-style-type: none"> Under ground: External wrapping coating as per client's specification. Aboveground: External painting as client's specification.

D. Gate valve

1	Item	Description
1.0	Type	Inside screwed, Non rising stem
2.0	Sizes	65NB to 350NB
3.0	Rating	PN 16
4.0	Design Standard	BS 5150
5.0	Operation	Hand wheel up to 250NB Gear Operated for 300NB and Above
6.0	Construction Features	
	Bonnet	Bolted
	Spindle	Inside Screwed, Non rising type
	Wedge	Solid
	Seat	Renewable
	End connection	Flanged
	Flange to flange distance	As per BS:5150
	Flange dimension and drilling	As per ANSI B16.5, Class-150, Flat face
7.0	Operation condition	
7.1	Working pressure	12kg/cm ²

7.2	Working temperature	Ambient (50Deg.C)
7.3	Service	Water
8.0	Material of construction	
8.1	Body, Bonnet, Wedge, Stuffing box gland and hand wheel	Cast Iron to IS:210, FG-200
8.2	Spindle	HT Brass to IS:320, HT-2
8.3	Body seat ring	Gun metal to IS:318, LTB-2
8.4	Wedge seat ring	Gun metal to IS:318, LTB-2
8.5	Back seat bush	Gun metal to IS:318, LTB-2
8.6	Wedge nut	Gun metal to IS:318, LTB-2
8.7	Gasket	EPDM Gasket 3mm Thk.
8.8	Gland packing	Graphite Asbestos
8.9	Bolt and Nut	Bolt and Nut as per IS: 1367 (CL.4.0/4.6) and Washer as per IS: 2016 (2mmThk.) High strength bolts 8.8 grade, hot dip galvanised with 80-100 micron coating Nut bolt
9.0	Pressure	
9.1	Body Pressure	24 kg/cm ²
9.2	Seat Pressure	18 kg/cm ²
9.3	Back seat pressure	18 kg/cm ²
10.0	Accessories	
10.1	Piston indicator	Yes
10.2	Drain plug arrangement	Yes
10.3	Locking facility with lock	Yes
10.4	Spur gear reduction unit for valve 300NB and above	Yes
10.5	Back seating arrangement	Yes
11	Painting	As per Client's specification.

: E. Globe valve

Sr.No	Item	Description
1.0	Type	Inside screwed, Non rising stem
2.0	Sizes	65NB to 350NB
3.0	Rating	PN 16
4.0	Design Standard	BS 5150
5.0	Operation	Hand wheel up to 250NB

6.0	Construction Features	
6.1	Bonnet	Bolted
6.2	Spindle	Inside Screwed, Non rising type
6.3	Wedge	Solid
6.4	Seat	Renewable
6.5	End connection	Flanged
6.6	Flange to flange distance	As per BS:5155
6.7	Flange dimension and drilling	As per ANSI B16.5, Class-150, Flat face
7.0	Operation condition	
7.1	Working pressure	12kg/cm ²
7.2	Working temperature	Ambient (50Deg.C)
7.3	Service	Water
8.0	Material of construction	
8.1	Body, Bonnet, Wedge, Stuffing box gland and hand wheel	Cast Iron to IS:210, FG-200
8.2	Spindle	HT Brass to IS:320, HT-2
8.3	Body seat ring	Gun metal to IS:318, LTB-2
8.4	Wedge seat ring	Gun metal to IS:318, LTB-2
8.5	Back seat bush	Gun metal to IS:318, LTB-2
8.6	Wedge nut	Gun metal to IS:318, LTB-2
8.7	Gasket	EPDM Gasket 3mm Thk.
8.8	Gland packing	Graphite Asbestos
8.9	Bolt and Nut	Bolt and Nut as per IS: 1367 (CL.4.0/4.6) and Washer as per IS: 2016 (2mmThk.) High strength bolts 8.8 grade, hot dip galvanised with 80-100 micron coating Nut bolt
9.0	Pressure	
9.1	Body Pressure	24 kg/cm ²
9.2	Seat Pressure	18 kg/cm ²
9.3	Back seat pressure	18 kg/cm ²
10	Painting	As per Client's specification.

: F. Non-Return Valve

Sr.No	Item	Description
1.0	Type	Swing type
2.0	Size	65NB to 350NB
3.0	Rating	PN 16
4.0	Design Standard	BS: 5153
5.0	Operating condition	
5.1	Working Pressure	12 Kg/cm ²
5.2	Design temperature	50 Deg.C
5.3	Service	Water
6.0	Construction features	
6.1	Cover	Bolted
6.2	Flap	Swing Type
6.3	Seat	Renewable
6.4	End connection	Flanged
6.5	Flange to flange distance	As per BS:5153
6.6	Flange dimension and Drilling	As per ANSI B 16.5, 150#, Flat face
7.0	Material of construction	
7.1	Body, Cover and flap	Cast Iron to IS:210, FG-200
7.2	Body seat ring	Gun metal to IS:318, LTB-2
7.3	Flap seat ring	Gun metal to IS:318, LTB-2
7.4	Hing bracket	Cast Iron to IS:210, FG-200
7.5	Hinge pin and door pin	SS to ASTM A276, Type 410
7.6	Nut & Bolts	Bolt and Nut as per IS: 1367 (CL.4.0/4.6) and Washer as per IS: 2016 (2mmThk.) High strength bolts 8.8 grade, hot dip galvanised with 80-100 micron coating Nut bolt
7.7	Gasket	EPDM Gasket 3mm Thk.
8.0	Test pressure	
8.1	Body	24 kg/cm ²
8.2	Seat	18 kg/cm ²
9.0	Painting	As per Client's Specification

I. Gun metal Gate / Globe Valve :

Sr.No.	Description	Details
1.0	Type	Hand wheel operated, screwed in bonnet, inside screw, non-rising stem, Solid wedge, Integral seat rings
2.0	Size	50NB and below
3.0	Material of construction	
3.1	Body, Bonnet, Wedge, Gland and gland nut	Bronze as per IS 318 LTB-2.
3.2	Stem	Brass to IS:320 HT 2
3.3	Body seat rings and wedge face rings	Integral
3.4	Gland packing	Jute & Hemp to IS:5414
3.5	Hand wheel	C.I to IS:210 FG-200
4.0	Design, Testing standard	IS:778, PN1.6
6.0	End connection	Screwed to IS: 554 Parallel
7.0	Painting	As per Client's Specification

K. Specification for wrapping and coating for Mild steel Pipes

DESCRIPTION: Tape wrapping system for outside of buried steel pipe work.

SURFACE PREPARATION:

1. All pipes to be painted shall be thoroughly cleaned of all foreign matters adhering to the steel surface to Swedish Standard specification SA 2 ½ with 50-75 microns by means of shot blasting.
2. Use of scraper wire brush and pig hammer is acceptable wherever shot blasting is not possible due to lack of access,
3. The thoroughly cleaned surfaces shall receive the paint within 6 hours following the removal of rust. If this period of 6 hours is not observed, due to any reasons whatsoever, the surfaces intended to be painted shall have to receive a new cleaning by shot blasting before the coat of paint is applied.
4. Any removal of rust adherent to steel surfaces by means of chemical solvent is prohibited.
5. Subsequent to the removal of rust, oil and grease deposits shall be removed with chemical solvents. Wet surfaces shall be dried and painting shall generally be done immediately after cleaning. Welding areas shall not be painted until after the completion of welding operations.
6. However, wherever welding has to be carried out after erection at site, the shop coat of paint shall be removed thoroughly before welding and the adjoining steel surface including welding area shall be repainted after proper cleaning as specified herein.
7. In case of interrupted welding seams, the front points shall be thoroughly cleaned from rust.
8. The surfaces intended to be painted shall be inspected and approved by the Employer/ Employer's Representative prior to painting.

PRIMER COAT:

1. Two uniform Coat of Primer based on coal tar pitch, compatible with the type of Enamel, shall be applied immediately after surface preparation.
2. Wrapping tape material shall be from the same make as that of the primer and shall not react with calcium, magnesium etc from the soil. The vendor shall obtain soil analysis for its saline content. The wrapping tape shall be as specified in IS: 10221.
3. The procedure for wrapping & coating as specified in IS: 10221 shall be strictly followed.

WRAPPING :

1. All primer surfaces are to be wrapped with a layer of coal tar tape of 150mm width.
2. The Coal tar tape shall be applied in a helical manner with a tape overlap of 2 inch min to produce a double layer in one wrapping operation.
3. The application shall be free of wrinkles, creases and air voids. Special care shall be taken to ensure that correct tension is used while applying the tape and all overlaps shall be suitably smoothed by hand to produce a smooth and continuous wrapping
4. Thickness of wrap shall be $2\text{mm} \times 2 = 4\text{ mm}$ tape thickness.

		Minimum D.F.T. (μm)
PRIMER COAT	Coal tar epoxy primer	50
INTERMEDIATE COAT	Coal tar epoxy primer	50
FINAL WRAP	Wrapping tape of 4mm	4mm
	TOTAL D.F.T.	100+4mm

L. Sprinklers:



Integratore ad angolo variabile per alte portate, con funzionamento circolare o a settore, a ritorno lento. Costruito per irrigazione su macchine semovanti o per impianti mobili o fissi, è particolarmente indicato per irrigazione in zone a forte vento, in terreni percorsi da linee linee elettriche aeree e per fertirrigazione ecologica.

Slow reverse ranging with variable jet-angle for high capacity rotating at full or part circle. Suitable for watering machines or normal installations, particularly in wind-swept land, fields with low electric air-lines at high voltage and for fertilization.

Arroseurs à retour lent avec angle d'inclinaison variable, pour haute débit, à rotation circulaire ou à secteur. C'est l'arroseur particulièrement étudié pour l'arrosage dans les régions ventueuses, pour les terrains avec cable aérien à haute tension et pour l'irrigation fertilisante.

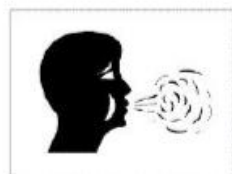
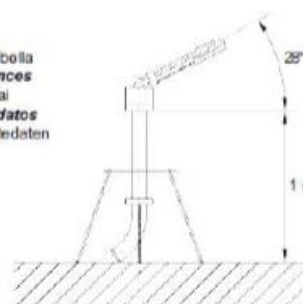
Aspersor de gran capacidad, con chorro a inclinación variable y funcionamiento circular y por sectores con retorno lento. Realizado para el riego mediante aparatos de riego automáticos y instalaciones fijas o móviles, especialmente en zonas con viento, en terrenos con líneas eléctricas aéreas bajas y para el riego con fertilizantes.

Beregner mit veränderlichem Winkel für lange Tragweite, mit Kreis- oder Sektorarbeitsweise, mit langsamer Rückfahrt. Erst für Beregnungsmaschinen oder festen Anlagen gebaut. Er ist besonders für Zonen mit starker Wind, für Böden mit niedrigen Hochspannungs- und für ökologische Düngung geeignet.

U	P	G	Q	C						
Diámetro 口径 Noms Диаметр Диаметр de la boca Диаметр der Hauptbohrung	Pressione Pressure Presión Wasserdruck im Beregner	Orbitale Jet angle Portée Chorro Tragweite	Portata Capacity Débit Capacidad Kapazität	Dati relativi a ingresso Values for a single orifice Daten für ein Loch Daten für ein Loch relativo al tubo Durchmesser						
				S	I					
				Superficie irrigata Irrigated area Superficie arrosada Irrigated area Beregnungs- fläche	Intensità irrig. Irriguité per hect. Pluviosité Irriguité Irriguité Irriguité					
mm	inch	kg/cm ²	Bar	m	feet	l/min	gph	G.P.M.	m ²	acres
30	1,18	4	36	54	177	152	828	29	1036	7,4
		5	45	68	220	200	1050	33	1262	9,1
		6	54	81	272	252	1296	39	1584	11,0
		7	63	95	324	304	1536	45	1920	12,8
32	1,26	4	36	57	182	160	864	31	1104	7,9
		5	45	71	235	215	1125	36	1368	9,8
		6	54	84	288	268	1392	42	1656	11,7
		7	63	97	341	321	1653	49	1992	13,9
34	1,34	4	36	60	193	170	900	33	1170	8,3
		5	45	74	256	236	1216	39	1504	10,7
		6	54	87	319	299	1539	46	1836	12,9
		7	63	100	382	362	1872	53	2208	15,4
36	1,42	4	36	63	204	180	936	35	1224	8,7
		5	45	77	277	257	1277	41	1617	11,5
		6	54	90	340	320	1620	48	1968	13,9
		7	63	103	403	383	1963	56	2313	16,4
38	1,50	4	36	66	215	190	972	37	1272	9,1
		5	45	80	288	268	1312	44	1656	11,7
		6	54	93	351	331	1653	51	1992	13,9
		7	63	106	414	394	2004	59	2336	16,4
40	1,57	4	36	69	226	200	1008	39	1320	9,5
		5	45	83	309	289	1359	46	1716	12,2
		6	54	96	372	352	1712	54	2064	14,7
		7	63	109	435	415	2063	62	2408	17,0
42	1,65	4	36	72	237	210	1044	41	1368	9,8
		5	45	86	320	299	1405	48	1800	12,8
		6	54	99	383	363	1766	56	2142	15,2
		7	63	112	446	426	2117	64	2484	17,5
44	1,74	4	36	75	248	220	1080	43	1416	10,1
		5	45	89	331	311	1481	50	1908	13,5
		6	54	102	394	374	1842	58	2250	15,9
		7	63	115	457	437	2193	66	2592	18,2
46	1,81	4	36	78	259	230	1116	45	1464	10,5
		5	45	92	342	322	1517	52	1908	13,5
		6	54	105	405	385	1878	60	2250	15,9
		7	63	118	468	448	2229	68	2592	18,2
48	1,96	4	36	81	270	240	1152	47	1512	10,8
		5	45	95	353	333	1553	54	1956	13,8
		6	54	108	416	396	1914	62	2300	16,1
		7	63	121	479	459	2265	70	2644	18,4
50	2,03	4	36	84	281	250	1200	49	1560	11,1
		5	45	98	364	344	1601	56	2004	14,1
		6	54	111	427	407	1962	64	2348	16,5
		7	63	124	490	470	2313	72	2692	18,7

CON ANGOLO BASSO RIDURRE LA GITTATA DAL 3% AL 15%.
REDUCE JET-LENGTH FROM 3% TO 15% WITH LOW ANGLE.
AVEC ANGLE BAS REDUIR LA PORTÉE DE 3% A 15%.
CON ANGOLO BAJO REDUIR RANGO DE LO CHORRO DE 3% A 15%.
MIT DEM NIEDRIGEN WINKEL, BEARBETEN SIE DIE TRAGWEITE VON 3% BIS 15%.

Altezza supporto per dati di tabella
Height of riser for performances
Hauteur du support pour l'essai
Altura del soporte para los datos
Höhe des Supports für Tabletdaten



Vento:
Wind:
Vent:
Viento:
Wind:
0 m/sec TEST