

Bid No. N2.EB.(จช.)-25-2564

จัดซื้ออุปกรณ์โลหะ ตามโครงการพัฒนาระบบส่งและจำหน่าย ระยะที่ 2 แผนที่ 4
(จำนวน 13 รายการ) รายละเอียดดังนี้

รายการ	จำนวน (แผ่น)	เลขหน้า
Spec.No. RHDW-011/2556	26 แผ่น	02-27
ภาคผนวก ค่าความคลาดเคลื่อน	5 แผ่น	28-32
เอกสารเพิ่มเติม แนบท้ายรายละเอียดสเปค - การกำหนดระยะเวลาในการส่งรายงานผลการทดสอบเฉพาะแบบ (Type test report) และระยะเวลาในการจัดส่งตัวอย่างเพื่อประกอบการพิจารณาจัดหา	1 แผ่น	33
เอกสารเพิ่มเติม แนบท้ายรายละเอียดสเปค - การกำหนดการส่งรายงานผลการทดสอบเฉพาะแบบ (Type test report) เพื่อประกอบการพิจารณาจัดหา	1 แผ่น	34
เอกสารเพิ่มเติม แนบท้ายรายละเอียดสเปค - คุณสมบัติของสถาบันทดสอบ สำหรับการทดสอบเฉพาะแบบ (Type or Design tests)	2 แผ่น	35-36
- เงื่อนไขทั่วไปประกอบการจัดซื้อพัสดุ	6 แผ่น	37-42
- รายละเอียดเพิ่มเติมการจัดซื้อฮาร์ดแวร์	1 แผ่น	43
- แบบฟอร์มข้อเสนอที่แตกต่างจากรายละเอียดคุณลักษณะเฉพาะของ PEA	1 แผ่น	44
- เงื่อนไขจัดซื้อพัสดุที่ผลิตในประเทศไทย + แบบฟอร์ม	2 แผ่น	45-46
		รวม 46 หน้า

หมายเหตุ

- กำหนดยื่นราคา 120 วัน นับตั้งแต่วันที่เสนอราคา
- กำหนดส่งมอบ งวดเดียวภายใน 60 วัน นับถัดจากวันลงนามในสัญญาซื้อขาย
- ส่งของที่ แผนกคลังพัสดุ กฟจ.พิษณุโลก เลขที่ 350/9 หมู่ 7 ถนนมิตรภาพ ตำบลสมอแข อำเภอเมือง จังหวัดพิษณุโลก 65000

- กำหนดรับรองคุณภาพไว้ใช้งาน 1 ปี

- หลักเกณฑ์การพิจารณา

- ราคา การประเมินค่าประสิทธิภาพต่อราคา
 ราคาต่อหน่วย ราคาต่อรายการ ราคารวม

Invitation to Bid No. : N2.EB.(অস.)-25-2564

Specification No. : RHDW-011/2556

C Material, equipment, and specifications for OVERHEAD LINE HARDWARE

C1 General material and packing instructions

Additional to the general instructions, the following shall be observed :

1a Scope

These specifications cover line hardware for overhead line construction.

1b Standard

The overhead line hardware shall be in accordance with the latest TIS, VDE Regulations, DIN, and PEA Drawings attached to these specifications, or equivalent.

1c Principal requirement

The overhead line hardware shall be marked with manufacturer's name or trademark, except full thread double arming bolts, full thread stubbing bolts, and washers.

All ferrous materials shall be galvanized after manufacturing. Method of galvanizing and thickness of coating shall be according to the attached Table "THICKNESS OF ZINC COATING". Free samples shall be supplied on request. The samples will not be returned.

1d Packing

Each item should be packed in suitable packages in sets or pieces of 10, 50, 100, or that specified in Table "Packing Details for Overhead Line Hardware" (see page 3 of 3).

The gross weight of each package should not exceed 40 kg.

If there are several packages, the number of package shall be stamped on each package or each tag, as follows :

package number / total number of packages.

C2 Material and packing data to be given by bidder

2a For each item offered, the following details shall be submitted with the bid :

Catalogue number.

Description of materials used for the component parts.

Surface finishing of the component parts.

Zinc coating in g/m^2 or μm ($1 \mu\text{m} = 0.001 \text{ mm}$).

Minimum breaking strength in kgf.

Weight in kg/set or piece.

2b For each item offered, a detail drawing with dimensions in mm shall be submitted with the bid.

2c Packing details

Packing method.

Number of sets or pieces in each package.

Dimensions of each package in cm.

Gross weight of each package in kg (should not exceed 40 kg).

Net weight of each package in kg.

Number of packages.

If several packages are contained in one big case, further details are required :

Number of packages in each case.

Dimensions of each case in cm.

Gross weight of each case in kg.

Number of cases.

Table
Packing Details for Overhead Line Hardware

PEA Material No.	Quantity Per Package	Packing Method
00120004, 01000103	18	Bundle
01200001, 01200002	20	Bundle
01010100, 01200004, 01200005	50	Bundle
01200007	150 (15 per layer)	Bundle
01110200, 01110201, 01140000, 01170001, 01180001	150	Sack
01110202, 01110203	100	Sack
01110204, 01110205, 01140001, 01140002	75	Sack
01110206, 01110207, 01110208, 01110401, 01120000, 01120001, 01120002, 01130000, 01130001, 01130002, 01140003	50	Sack
01180100, 01180201	500	Sack
01180301	5,000	Sack
02440102	30	Sack
02440103	60	Sack

PACKING DETAIL

Specification No.: -

Approved date: 14/08/2558

Rev. No.: -

Form No. -

Page 1 of 3

Addendum

This addendum is made to be a part of specifications it's attached.

1. Replace the packing detail only for the specific items in the specifications by the packing detail specified in **Table A1** below:

Table A1: Packing Detail

Item	Equipment	PEA's material No.	Packing method	Quantity per package/case	Number of packages/cases per pallet
Connectors and cable accessories:					
1	Hot line bail clamp (hot line stirrup clamp), for main aluminium conductor size 25 mm ² to 50 mm ²	1-02-033-0000	Sealed package	40	49
2	Hot line protected thread clamp for main aluminium conductor size 25 mm ² to 50 mm ²	1-02-033-0100	Sealed package	50	100
3	Hot line protected thread clamp for main aluminium conductor size 50 mm ² to 120 mm ²	1-02-033-0101	Sealed package	50	50
4	Compression splicing sleeve, full tension, for aluminium conductor size 50 mm ²	1-02-040-0002	Suitable package	100	100
5	Compression splicing sleeve, full tension, for aluminium conductor size 95 mm ²	1-02-040-0004	Suitable package	50	100
6	Compression splicing sleeve, full tension, for aluminium conductor size 185 mm ²	1-02-040-0007	Suitable package	30	50
7	Compression splicing sleeve, full tension, for aluminium conductor size 400 mm ²	1-02-040-0009	Suitable package	30	50
8	Compression splicing sleeve, partial tension, for aluminium conductor size 50 mm ²	1-02-041-0002	Suitable package	100	100
9	Terminal connector (lug), compression type, for aluminium conductor size 185 mm ²	1-02-041-0106	Suitable package	50	50
10	Pin terminal, for aluminium conductor size 50 mm ²	1-02-042-0400	Suitable package	50	100
Overhead line hardware:					
11	Angle steel crossarm, size 150x100x12 mm, length 4,500 mm	1-00-012-0002	Bundle	10	-
12	Channel steel crossarm, size 100x50x5 mm, length 4,200 mm	1-01-000-0103	Bundle	20	-
13	Channel steel crossarm, size 100x50x5 mm, length 4,500 mm	1-01-000-0104	Bundle	20	-
14	Channel steel crossarm, size 150x75x6 mm, length 2,800 mm	1-01-000-0300	Bundle	20	-
15	Channel steel crossarm, size 150x75x6.5 mm, length 4,000 mm	1-01-000-0301	Bundle	20	-



PROVINCIAL ELECTRICITY AUTHORITY

TECHNICAL SPECIFICATION DIVISION

PACKING DETAIL

Specification No.: - Approved date: 14/08/2558 Rev. No.: - Form No. - Page 2 of 3

Item	Equipment	PEA's material No.	Packing method	Quantity per package/case	Number of packages/cases per pallet
16	Channel steel beam, size 150x75x6.5 mm, length 4,500 mm	1-01-000-0302	Bundle	20	-
17	Channel steel beam, size 150x75x6.5 mm, length 6,000 mm	1-01-000-0303	Bundle	20	-
18	Channel steel beam, size 150x75x6.5 mm, length 2,500 mm	1-01-000-0304	Bundle	20	-
19	Channel steel crossarm, size 150x75x9 mm, length 3,000 mm	1-00-012-0004	Bundle	20	-
20	Angle steel beam, size 65x65x6 mm, length 1,000 mm	1-01-001-0000	Bundle	100	-
21	Bolt, machine, M 16 x 170 mm	1-01-011-0201	Sack	100	56
22	Bolt, machine, M 16 x 300 mm	1-01-011-0204	Sack	80	56
23	Bolt, machine, M 16 x 350 mm	1-01-011-0205	Sack	80	56
24	Bolt, machine, M 16 x 450 mm	1-01-011-0207	Sack	40	56
25	Bolt, machine, M 16 x 500 mm	1-01-011-0208	Sack	40	50
26	Bolt, machine, M 16 x 600 mm	1-01-011-0209	Sack	40	50
27	Bolt, machine, hexagon head, M 16 x 75 mm	1-01-011-0400	Sack	200	56
28	Bolt, machine, hexagon head, M 16 x 550 mm	1-01-011-0401	Sack	40	50
29	Bolt, machine, hexagon head, M 16 x 600 mm	1-01-011-0402	Sack	40	50
30	Bolt, machine, hexagon head, M 16 x 650 mm	1-01-011-0403	Sack	30	50
31	Bolt, double arming, full thread, M 16 x 450 mm	1-01-012-0001	Sack	40	50
32	Bolt, double arming, full thread, M 16 x 500 mm	1-01-012-0002	Sack	40	50
33	Bolt, double arming, full thread, M 16 x 550 mm	1-01-012-0003	Sack	40	50
34	Bolt, double arming, full thread, M 16 x 600 mm	1-01-012-0004	Sack	40	50
35	Bolt, double arming, full thread, M 16 x 650 mm	1-01-012-0005	Sack	30	50
36	Bolt, double arming eye, M 16 x 450 mm	1-01-013-0001	Sack	40	56
37	Bolt, double arming eye, M 16 x 500 mm	1-01-013-0002	Sack	40	50
38	Bolt, double arming eye, M 16 x 650 mm	1-01-013-0005	Sack	30	50
39	Bolt, round eye, M 16 x 200 mm	1-01-014-0001	Sack	80	56
40	Bolt, round eye, M 16 x 250 mm	1-01-014-0002	Sack	80	56
41	Bolt, round eye, M 16 x 300 mm	1-01-014-0003	Sack	50	56
42	Bolt, oval eye, M 16 x 150 mm	1-01-015-0000	Sack	80	56
43	Bolt, oval eye, M 16 x 200 mm	1-01-015-0001	Sack	80	56
Insulators and accessories:					
44	Insulator, pin-post type, TIS 1251, Type 56/57-2	1-03-001-0101	Export package	2	30
45	Clevis-eye	1-03-014-0000	Suitable package	40	56
46	Ball-clevis, ANSI Type K	1-03-014-0001	Suitable package	30	56



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PACKING DETAIL

Specification No.: - Approved date: 14/08/2558 Rev. No.: - Form No. - Page 3 of 3

Item	Equipment	PEA's material No.	Packing method	Quantity per package/case	Number of packages/cases per pallet
47	Ball-hook, ANSI Type B	1-03-014-0002	Suitable package	40	56
48	Ball-clevis, ANSI Type B	1-03-014-0005	Suitable package	40	56
Surge arresters:					
49	LV surge arrester, 480 V, 5 kA	1-04-000-0300	Suitable package	100	5
Meters:					
50	Watt-hour meter, 15(45) A, 3-phase 4-wire	1-06-005-0107	Suitable corrugate-paper package	50	-
51	Watt-hour meter, 30(100) A, 3-phase 4-wire	1-06-005-0108	Suitable corrugate-paper package	50	-

2. Sacks used for packing equipment shall have enough durability and shall be made of hemp rope.
3. Bundle packing shall be using galvanized steel wires with diameter not less than 4 mm.
4. Pallets supplied to PEA shall have dimension not more than 1.1 m x 1.1 m (Width x Length) and the total height after containing the packages/cases shall be less than 1.5 m.

invitation to Bid No. : N2.EB.(จข.)-25-2564

Specification No. : RHDW-011/2556

C3 Schedule of detailed requirement

Item	PEA Material No.	Quantity	Description
(13) 1	01200001 (1010200001)	5,300 ชิ้น	Brace, flat, for crossarm, of flat steel 30x6x760 mm, see Drawing No. K 31-09063.
2	01200002 (1010200002)		Ditto as Item 1, but 40x6x1,000 mm, see Drawing No. K 31-09063 .
3	01200003 (1010200003)		Ditto as Item 1, but 50x10x1,950 mm, see Drawing No. SA2-015/39005.
4	01200004 (1010200004)		Brace, alley arm, of angle steel, 40x40x5 mm, 2,120 mm long, see Drawing No. K 31-09064.
5	01200005 (1010200005)		Ditto as Item 4, but 50x50x6 mm, 2,350 mm long, see Drawing No. K 31-09064 .
6	01200007 (1010200007)		Brace , for crossarm . of hot - rolled equal angle steel , 50x50x6 mm , 1,800 mm wide , 450 mm drop . hot - dip galvanized not less than 50 micrometer , see Drawing No. SB1-015/22014.
7	01110000 (1010110000)		Bolt, machine, of mild steel, square head, similar to DIN 601, M 8, 25 mm long, length of thread 22 mm, complete with one (1) square nut, see Drawing No. I50-015/140367.
8	01110101 (1010110101)		Ditto as Item 7, but M 12, 50 mm long, length of thread 40 mm, see Drawing No. I50-015/140367.
9	01110200 (1010110200)		Ditto as Item 7, but M,16, 130 mm long, length of thread 35 mm, see Drawing No. K31-09072.
(1) 10	01110201 (1010110201)	102,000 ชิ้น	Ditto as Item 7, but M 16, 170 mm long, length of thread 50 mm, see Drawing No. K31-09072.
(2) 11	01110202 (1010110202)	63,300 ชิ้น	Ditto as Item 7, but M 16, 200 mm long, length of thread 50 mm, see Drawing No. K31-09072.

Invitation to Bid No. : N2.EB.(จพ.)-25-2564

Specification No. : RHDW-011/2556

C3 Schedule of detailed requirement

Item	PEA Material No.	Quantity	Description
(3) 12	01110203 (1010110203)	100,900 ชิ้น	Ditto as Item 7, but M 16, 250 mm long, length of thread 75 mm, see Drawing No. K31-09072.
13	01110204 (1010110204)	-	Ditto as Item 7, but M 16, 300 mm long, length of thread 75 mm, see Drawing No. K31-09072.
(4) 14	01110205 (1010110205)	20,000 ชิ้น	Ditto as Item 7, but M 16, 350 mm long, length of thread 75 mm, see Drawing No. K31-09072.
(5) 15	01110206 (1010110206)	12,600 ชิ้น	Ditto as Item 7, but M 16, 400 mm long, length of thread 100 mm, see Drawing No. K31-09072.
16	01110207 (1010110207)		Ditto as Item 7, but M 16, 450 mm long, length of thread 100 mm, see Drawing No. K31-09072.
17	01110208 (1010110208)		Ditto as Item 7, but M 16, 500 mm long, length of thread 150 mm, see Drawing No. K31-09072.
18	01110209 (1010110209)		Ditto as Item 7, but M 16, 600 mm long, length of thread 200 mm.
19	01110300 (1010110300)		Ditto as Item 7, but M 20, 350 mm long, length of thread 100 mm.
20	01110301 (1010110301)		Ditto as Item 7, but M 20, 400 mm long, length of thread 100 mm, see Drawing No. SB1-015/22017.
21	01110302 (1010110302)		Ditto as Item 7, but M 20, 450 mm long, length of thread 100 mm, see Drawing No. SB1-015/22017.
22	01110303 (1010110303)		Ditto as Item 7, but M 20, 550 mm long, length of thread 150 mm, see Drawing No. SB1-015/22017.
23	01110400 (1010110400)		Bolt, machine, of mild steel, hexagon head, similar to DIN 601, M 16, 75 mm long, length of thread 75 mm; complete with one (1) hexagon nut, one (1) lock nut, and two (2) round washers, similar to DIN 555, DIN 936, and DIN 126 respectively; see Drawing No. SA2-015/39019.

Invitation to Bid No. : N2.EB.(จข.)-25-2564

Specification No. : RHDW-011/2556

C3 Schedule of detailed requirement

Item	PEA Material No.	Quantity	Description
24	01110401 (1010110401)		Bolt, machine, of mild steel, hexagon head, similar to DIN 601, M 16, 550 mm long, length of thread 150 mm; complete with one (1) hexagon nut, one (1) lock nut, and two (2) round washers, similar to DIN 555, DIN 936, and DIN 126 respectively; see Drawing No. S 01-015/18035 .
25	01110402 (1010110402)		Ditto as Item 24, but M 16, 600 mm long, length of thread 150 mm, see Drawing No. S01-015/18035 .
26	01110403 (1010110403)		Ditto as Item 24, but M 16, 650 mm long, length of thread 150 mm, see Drawing No. SA2-015/39019 .
27	01120000 (1010120000)		Bolt, double arming, full thread, of mild steel, M 16, 400 mm long, complete with four (4) square nuts, see Drawing No. K31-09069
28	01120001 (1010120001)		Ditto as Item 27, but M 16, 450 mm long, see Drawing No. K31-09069.
29	01120002 (1010120002)		Ditto as Item 27, but M 16, 500 mm long, see Drawing No. K31-09069.
30	01120003 (1010120003)		Ditto as Item 27, but M 16, 550 mm long.
31	01120004 (1010120004)		Ditto as Item 27, but M 16, 600 mm long, see Drawing No. K31-09069.
32	01120005 (1010120005)		Ditto as Item 27, but M 16, 650 mm long.
33	01130000 (1010130000)		Bolt, double arming eye, of mild steel, forged round eye having 22 mm diameter hole, M 16, 400 mm long, length of thread 350 mm; complete with three (3) square nuts, minimum breaking strength not less than 5,000 kgf; see Drawing No. S 01-015/17007 .
(6) 34	01130001 (1010130001)	12,890 ชิ้น	Ditto as Item 33, but M 16, 450 mm long, length of thread 400 mm, see Drawing No. S 01-015/17007.