





 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)</p>							 	
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## 1. INTRODUCTION



Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

### GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – Manufacturing (w/Engineering & Material Supply) of Air Coolers
EPD/EPC CONTRACTOR (GC):	Petro Iran Development Company (PEDCO)
OWNER:	OWNER is collectively refer to National Iranian South Oil Company (NISOC) and Petro Iran Development Company (PEDCO)
EPC CONTRACTOR:	Joint Venture of : Hirgan Energy – Design & Inspection(D&I) Companies
VENDOR:	Aban Air Cooler (AAC)
EXECUTOR:	Executor is the party which carries out all or part of construction and/or commissioning for the project.
THIRD PARTY INSPECTOR (TPI):	Third Party Inspector
SHALL:	Is used where a provision is mandatory.
SHOULD:	Is used where a provision is advisory only.
WILL:	Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR.
MAY:	a provision is completely discretionary.

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## 2. PURPOSE

This procedure and instructions cover the requirements for Packing, Marking and Shipping of Project Material and Equipment in Shiraz Oil Refining Company.

## 3. GENERAL

EQUIPMENT and materials shall be export packed in compliance with the best-established practice for overseas construction jobs in accordance with the following directives. In the event of any divergence between this specification and the established practice, this specification shall govern.

3.1 "Seaworthy and tropical proof", according to international standard.

3.2 Packing and conservation of goods shall be sufficient to protect them from damage during transit from point of manufacture to after arrival at job site under conditions which may involve multiple handling, extended storage, exposure to moisture and the possibility of pilferage. The contents must withstand 1-year transit conditions without suffering damage and vendors shall give recommendations for a further two (2) years storage under site conditions.

Required storage facilities and procedures shall be advised by Manufacturer/CONTRACTOR in advance.

3.3 The packing of the equipment and materials shall be carried out in order to comply with transport conditions.

3.4 Individual packages shall be kept as small in bulk as possible.

3.5 Individual packages exceeding a gross weight of 3,000 kgs shall be avoided, if possible.

3.6 Kind and dimensions of packages shall be chosen to suit overseas transport in containers and to fully utilize the size of containers.

3.7 The following inside dimensions of containers are to be observed:

40-feet-containers: 1195 x 220 x 205 cms.

20-feet-containers: 595 x 220 x 205 cms.

## 4. GENERAL RULES FOR PACKING

4.1 Cases and crates shall be made from new, sound and seasoned lumber. Sheathing shall be of min 24 mm thickness.

If so required for static reasons, thicker sheathing shall be used, in accordance with size and weight of the package. Timber crates and boxes shall be strong enough to withstand without any damage, transport on ship board at sea and numerous handling between the works and the port of origin and between the port of destination and the SITE.

4.2 Cases and crates with gross weight up to 1,000 KGs shall be provided with bottom cleats of min 40 mm thickness to ensure clearance for handling by forklift.





Cases and crates exceeding gross weight of 1,000 KGs shall be provided with skid runners, number and size according to weight of package.

4.3 The contents of cases shall be protected by waterproof and strong plastic foil which shall be sealed by welding. An adequate quantity of moisture absorbent (silica gel) shall be added to protect the contents for sufficiently long time from corrosion.

4.4 Felt, cellophane paper, polyester cuttings, crepe cellulose and some equally efficient materials may be used for padding or cushioning.

Wood shavings and other paper shall not be used for padding or cushioning.

4.5 Materials shall be protected against corrosion during transit as necessary.

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All bright and machined parts shall be coated with a recognized rust preventative suited to the particular application concerned. All internal parts of machinery shall be treated with lubricant containing rust and oxidation inhibitors to protect equipment from any damage possible. Such lubricants shall be compatible with those which will subsequently be used in service and shall be identified by appropriate tagging.

4.6 When required, materials shall be painted or coated in accordance with the particulars contained in the purchase order and/or specifications.

4.7 All flanges, machined working surfaces and threaded parts of all equipment shall be suitably protected. All flanged connections of vessels shall be protected by metal plates correctly casketed by wooden plugs or plastic caps suitably secured in position.

4.8 Units or parts belonging to main EQUIPMENT but separately packed shall be clearly marked for easy identification with the main EQUIPMENT to which they relate.

4.9 Packages containing "FRAGILE" articles shall be appropriately packed and in addition to the words "Fragile-Handle with Care" being stenciled on two opposite sides, internationally recognized symbols shall also be used "This Side Up".

4.10 Pipe, structural steel sections and plates, shall be strapped in bundles of convenient size and weight for handling. Rolled and shaped plates shall be provided with suitable bracing to eliminate distortion during transit, and shall be bundled in uniform lengths.

The weight of each bundle shall be within the breaking strain of the steel wrapping. Each bundle shall be marked with a metal tag, hard stamped, secured under steel wrapping. A 2,000 kg limitation shall be imposed for lifts in this category. Where practicable long lengths shall be limited to 12.2 meters to avoid long length carriers. All small steel sections, handrail stanchions, gusset plates etc. shall be boxed.

4.11 Black steel pipes with an outer diameter of up to 168.3 mm shall be bundled by strapping cleats above and below the load, with boards between each pipe layer, and secured by through bolts.

Black steel pipes exceeding the above outer diameter shall be treated as an individual package and marked accordingly.

All black steel pipes shall be protected by means of Tectyl Spray. The pipe ends shall be closed with plastic caps.

If, in case of pipes with large diameters, the pipe ends cannot be closed with plastic caps, the interior of the pipes shall also be protected and sprayed with Tectyl or superior.

4.12 Bituminous coated pipes shall be prepared, packed and handled according to established practice.

4.13 Stainless steel pipes shall be packed in wooden cases.

Protection with Tectyl is not necessary.

4.14 All valves and fittings (pipe elbows, flanges, etc.) shall be suitably protected and their method of shipment shall be:

i. All valves and fittings shall be suitably packed and shipped in metal strapped or wood re-enforced waterproofed wooden cases with metal corner protection.

ii. All treaded fittings shall be greased and provided with plastic caps.

iii. Control valves shall be packed in wooden cases having adequately designed interior support with interior water proof protection.

4.15 Apparatus and vessels shall, where possible, be packed on skid constructions and secured with adjustable steel. All unprotected surfaces shall be sprayed with Tectyl. Manholes and other major openings shall be protected with either plastic caps or wooden lids, which shall be firmly secured. Smaller openings shall be closed with plastic plugs.

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4.16 All vessel internals and items not installed by the vendor at works including accessories such as small parts, bolts, nuts, gaskets etc. shall be packed in wooden cases separately for each vessel or apparatus and marked with the same item number as the vessel/apparatus in order to protect all parts from loss or damage in transit. Internals, bolts and gaskets for service/testing operations shall be supplied with the vessels/items by the vendor and all internals, boxed separately and marked according to marking procedures. Each item shall be supplied correctly and identified for field installation by others.

NOTE: It is imperative that all these items be clearly listed on the packing list.

4.17 Fire bricks, special tiles and insulation refractories shall be boxed after sealing in a polyethylene liner. These boxes shall be skid mounted. Instructions regarding storage prior to installation shall be stenciled on each box with particular reference to adverse weather/temperature/humidity conditions.

4.18 All electrical motors whether coupled or uncoupled, generators and electrical EQUIPMENT shall have all openings sealed with protective tape, shall be packed in suitable weather proof skid mounted boxes, and protected from moisture ingress by desiccant as described above.

Items with brushes shall be brushed and rust removed before shipment.

All electrical EQUIPMENT shall be suitably protected to withstand 1-year transit conditions and VENDORS shall give recommendations for a further 2 years storage under SITE conditions.

Batteries shall be shipped dry with electrolyte packed separately and shall include charging instructions.

4.19 All electronic and pneumatic instruments to be packed in accordance with given instructions and must be suitably protected to withstand 1-year transit conditions and VENDORS are to give recommendations for a further 2 years storage under SITE conditions.

4.20 Pipeline/vessel insulation shall be packed in double water-proof wooden plywood cases and secured to pallets.

Drums of insulation mastic and the like will also be shipped on pallets.

4.21 Spare parts for two years operation, which shall be individually tagged, must be covered with a suitable preservative and wrapped with greaseproof paper and be packed in separate cases from the prime item. The cases are to bear the markings as specified and in addition the words "SPARE PARTS FOR TWO YEARS OPERATION".

4.22 Commissioning spares shall be individually tagged and marked "COMMISSIONING SPARES" and shall be packed and shipped with the prime item.

4.23 All vessels/heat exchangers or items of such construction shall be dried, thoroughly cleaned inside and be free of all dirt and loose foreign materials.

4.24 Should any materials be scheduled to be freighted as deck cargo, additional packing instructions may be required of which the VENDOR will advise, for vessels and columns, shipment cradles will be used throughout the transportation. Cradles to be secured to vessels and columns, by strapping.

4.25 Paper bags suitably boxed, or water tight Steel Drums will be used for shipping cement, special aggregate, etc. Paper bags must not be less substantial than 60 lbs. outer wall, 40 lbs. inner wall and one moisture craft inner wall.

4.26 Unless otherwise specified, all export cases, boxes, bundles and containers are to be securely metal strapped with a minimum of two unannealed steel straps in each of two right angled and opposite directions, or where applicable wood re-enforced.

NOTE: Should consignments arrive at the shipment point of origin visually damaged, the shipping agent will advise and await instruction before onward shipping.

4.27 All bulk items, lighting, fittings cable glands, switches etc. are to be packed in batches sufficient for a specific Volume of WORK.

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4.28 Cases and crates shall, according to their weight and size, be provided with two or more steel straps made of unannealed steel, applied with a stretching tool and secured with crimped steel seals.

4.29 Fittings (valves, pipe elbows, flanges, etc.) must be packed in wooden cases and must be protected.

4.30 Accessories for apparatus and vessels (small parts, bolts, nuts, washers, gaskets, etc.) are to be packed in wooden cases, separately for each apparatus or vessel. These cases must be marked with the same item No as the apparatus/vessel to which it belongs (see also Item 5 - packing lists).

All commissioning spare parts to be packed separately, being the packing marked with the relevant main item.

## 5. MARKING OF PACKAGES

5.1 All packages shall be clearly stenciled on two opposite sides with black, indelible and seawater proof paint, as follows:

Wherever possible, the stencil led characters shall be 8 cm high.

In case the surfaces of a package are too small to permit stenciling, sheet metal tags shall be embossed with the above marking and shall be securely fastened on two opposite ends of the package.

5.2 If necessary, packages shall be additionally marked with cautionary symbols on two opposite ends. These symbols shall be in accordance with the attached sketch.

5.3 Packages which may be stored in the open, but under a tarpaulin, shall be marked with a red "double roof" symbol.

5.4 Packages which are to be stored in closed and dry places shall be marked with a red "double roof" symbol.

5.5 The system of package-numbering shall be intimated to the CONTRACTOR in due course of time.

5.6 The gross weight shall be determined by the party who is responsible for the packing of the items/materials.

## 6. VENDOR'S RESPONSIBILITY

The package will have to be suitable to support numerous handlings and shall guarantee the protection of the contents from the action of external agents (atmospheric and non-atmospheric) not only during the planned transport period, but also - if there aren't different specifications - for the possible outdoor storage, in the site of destination, for 12 months.

## 7. INSPECTION



All packing & crates shall be subjected to inspection of company inspector of the third-party inspection agent for their approval or certification prior to their shipment to the plant site. The manufacturer shall submit to the company the copy of packing list & schedule of inspection.

## 8. HANDLING AND SITE STORAGE RECOMMENDATIONS

This instruction covers the requirements and procedures to be followed by the purchaser for transport, handling and storage of the equipment at site.

All openings flange faces, threaded connections and other components, subject to mechanical damage and/or corrosion will be adequately protected at Aban Air Cooler Company and the protections shall be remained until the equipment are installed.

The equipment shall be supported by traverses for in-land transporting according to Aban's experience and purchaser specification.

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All flanges shall be protected with bolted wood or metal covers for the transportation of equipment by flatbed truck, they shall be properly secured to withstand the transport loads. Also, the center of gravity of the equipment shall be specified before shipment.

This instruction covers the requirements and procedures to be followed by the purchaser for transport, handling and storage of the equipment at site.

All openings flange faces, threaded connections and other components, subject to mechanical damage and/or corrosion will be adequately protected at Aban Air Cooler Company and the protections shall be remained until the equipment are installed.

-Before using handling tool and equipment, they will be inspected about their capability.

-Lifting: Experienced or trained personnel will be assigned to the operation of special handling and lifting equipment.

-Handling operation will be performed on specific location.

-The handling methods including devices & equipment will be determined by characteristics of the items to be handled such as size, weight, center of gravity. Type of handling such as lifting, turning, or positioning.

-Handling operation will be done with care to prevent damage to machined surface, deletion of identification and distortion of shape or dimension .

-Wire: The sling length will be chosen according to piece dimension. The angle formed by both sling strands must not exceed 60° in general.

## 9. PACKING LIST

The packing lists shall be prepared on OWNER'S standard forms and/or shall be agreed by OWNER in due course of time.

The necessary number of forms will be made available to CONTRACTOR, who shall advise about the quantity required.

The packing list forms shall be filled in ENGLISH language.

OWNER shall supply CONTRACTOR with a specimen packing list showing how it will be filled in.



At the same time CONTRACTOR shall be informed of the package numbers required for marking of packages.

One column of the packing list shall be filled in with OWNER "ITEM NO". These item numbers shall be taken from the order form. Special attention shall be paid to the order form that the item number is correctly attributed to the goods to which it belongs. If any question should arise in this respect, CONTRACTOR shall contact the OWNER'S Representative.

Special care shall be taken that all accessory parts, loose or detachable, belonging to the main item under dispatch, shall also be individually listed in the packing list. In the event these accessory parts are not listed in the packing list, they shall be considered by OWNER as not delivered.

Two copies of the packing list in a water-proof plastic envelope shall securely be mailed under a galvanized steel sheet on the outer surface of the package.





The final packing list in 2-folds shall be available in OWNER'S office 10 (ten) working days prior to dispatch of the goods from the manufacturer's premises.

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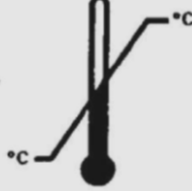






## 10. LIABILITY AND GUARANTEE

The party responsible for the packing shall be fully liable for and guarantee proper, sufficient and adequate packing, completeness of the contents, protection of the contents for a storage time of 12 months, and the correct preparation of the packing list.

All cost whatever resulting from inadequate or insufficient packing shall be fully charged to the responsible party.

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Attachment1

Standardized symbols:					
A This side up B Fragile goods C Keep dry D Protect from solar radiation E Use no hoks F Centre of gravity G Sling here H Do not put sack trolleys here J Clamp here K Maximum stack load L Tight package (do not pierce) M Admissibile range of temperature N No fork-lifts here					
A		F		L	
B		G		M	
C		H		N	
D		J			
E		K	