

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک ( قرارداد BK-HD-GCS-CO-0008_03 )</p>							 
شماره پیمان:  053 – 073 – 9184	FAT PROCEDURE (BARE-BLOCK MRT)							6 از 1 :شماره صفحه
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	BK	GCS	HY	120	QC	PR	0007	
							V00	

## طرح نگهداشت و افزایش تولید 27 مخزن

## FAT PROCEDURE -BARE BLOCK MRT

### نگهداشت و افزایش تولید میدان نفتی بینک

V00	27.02.2024	IFR	Havayar Co.	M.Fakharian	S. Faramarzpour	
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Status:

IFA: Issued For Approval  
IFR: Issued For Review  
IFI: Issued For Information  
AFC: Approved For Construction

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک ( قرارداد BK-HD-GCS-CO-0008_03 )</p>							 
شماره پیمان: 053 - 073 - 9184	FAT PROCEDURE							6 از 2 :شماره صفحه
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	HY	120	QC	PR	0007	V00

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 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)</p>							 
شماره پیمان: 053 – 073 – 9184	FAT PROCEDURE							6 از 3 :شماره صفحه
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	
	V00	0007	PR	QC	120	HY	GCS	
	BK							

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 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)</p>							 	
شماره پیمان: 053 – 073 – 9184	FAT PROCEDURE							6 از 4 : شماره صفحه	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	HY	120	QC	PR	0007		V00

## 1.0 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.

As a part of the Project, a New Gas Compressor Station (adjacent to existing Binak GCS) shall be constructed to gather of 15 MMSCFD (approx.) associated gases and compress & transfer them to Siahmakan GIS.

## 2.0 General Definition

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – Surface Facilities; New Gas Compressor Station
EPD/EPC CONTRACTOR (GC):	Petro Iran Development Company (PEDCO)
EPC CONTRACTOR:	Joint Venture of: Hirgan Energy – Design & Inspection (D&I) Companies
VENDOR:	HAVAYAR
THIRD PARTY INSPECTOR (TPI):	The firm appointed by EPD/EPC Contractor (GC) and approved by Client (in writing) for the inspection of goods.
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:	Is used where a provision is completely discretionary.

Mechanical running test of full package also shall be done at havayar shop with Job motor and relevant auxiliary, so the below statement is just refereed to performance of bare block compressor. so the procedure of performance of bare block shall be added here  
 HY: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.

نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض							 <b>HAVAYAR</b> INDUSTRIAL GROUP	
خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک ( قرارداد BK-HD-GCS-CO-0008_03 )								
FAT PROCEDURE								
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	6 از 5 : شماره صفحه
	GCS	HY	120	QC	PR	0007	V00	

## Running Test

Test:

mechanical operation as complete unit (only Bare Body). Shop motor shall be used.

- 1.1.2. The compressor shall be pressure loaded for suction/discharge dismantled. Voltage, current and temperature shall be checked

please clarify based on which reference these tolerances mentioned.  
 SO shaft-speed irregularity shall be specified.  
 HY: Its due to difference between Iran and Korea electrical network frequency (50 and 60 Hz)

### 1.2. Test Condition:

- Compressor shall be tested at the specified number of revolutions.
- The testing may be performed at a number of revolutions within +10% and 5% of the specified number of revolutions.

Standard discharge point shall be defined and guaranteed at the terminal outlet of the package.  
 HY: Please note that its MRT test report and it is not Performance test.

## 2.0 Inspection and Test Item

- 2.1. The compressor will be operated at rated RPM for 4 hours without cylinder valve and it will be checking every 1 hours. Following parameters shall be check:

- Voltage & Current
- Operation Speed
- Vibration
- Bearing temperature and oil temperature



## 3.0 Acceptance criteria

- 3.1 Number of Revolutions The measurement shall be carried out by using a preliminary calibrated hand tachometer. The measurement of the number of revolutions shall be carried out of 2 or 3 times under the same condition and the average value shall be taken.

- 3.2 The testing may be performed at a number of revolutions. specified

- 3.3 Vibration  
 As a rule, vibration shall be measured at three directions (Axial/Vertical/Horizontal)  
 Applicable code: ISO 20816-8

Reference standard No. for compressor shall be added  
 such as API618, ISO1217 , ISO5176-1,...  
 HY: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p>	
<p>053 - 073 - 9</p>	<p>Vibration value after final assembly with main components and compressor bed and supports shall be measured and shall be in the range specified by vendor.</p> <p>HY reply: Measured values are for MRT and base on MRT conditions such as Test Bed stiffness, electrical network frequency, etc. Mentioned values in alarm set point list, GAD (for foundation vibration) are valid (and mentioned value in ISO 20816 (chapter 8)</p>	<p>6 از 6 شماره صف</p>

PART	mm/s (RMS)	PART	mm/s (RMS)
FOUNDATION BOLT	2.0	CYLINDER LATERAL	8.7
FRAME (TOP)	5.3	CYLINDER ROD	10.7

Note: The vibration measurement value measured by KWANDSHIN is a reference value because it is a project that supplies only the Bare Body without the compressor bed and support.

### 3.4 Temperature

During mechanical running test, bearing temperature shall be below ambient + 40 °C.

During mechanical running test, check the lube oil temperature and record it on the check sheet.

Following bearing:

- 1- Main bearing t
- 2- Main bearing t

### 4.0 BAR-OVER Check

#### 4.1 Piston clearance check

Rotating coupling bearing clearance at the top and bottom is as below:

Bottom = to be later

Instrument list shall be added in procedure

HY Reply: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.

The measuring instrument (analogue or digital) shall have an accuracy of  $\pm 1\%$  at the measured value. please add a note and relevant certificate shall be attached to Test report.

HY Reply: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.

Transmitters and gauges shall be calibrated under pressure and temperature conditions similar to those prevailing during the test, using dead-weight or electrical testing equipment of an equivalent accuracy. please add here.

HY Reply: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.

Shaft speed shall be determined by using methods that have an accuracy of  $\pm 0.5\%$  or better.

HY Reply: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.

HY Reply: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.

Maximum deviations from specified values and fluctuations from average readings based on standard shall be added.

HY Reply: Due to NISOC acceptance on MRT procedure document and also successful MRT with confirmation of all clients (include EPC contractor, general contractor and owner), please drop the comment. All test will be done according to approved ITP.