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*for a sustainable future*

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ENVIRONMENTAL TECHNOLOGIES AND SYSTEM ENGINEERING

22391



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Subject:

**UNIDO Project MP/IRA/96/041 – Contract no. 96/120; PARS MACHINE MFG. CO.**


To the kind attention of:

**UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION**  
P.O. Box 300, A-1400 Vienna, Austria / Ms. Mounira Latrech, Contracts Officer

**DOCUMENTS TRANSMITTAL no. PARS MACHINE t 0607**

Pos	Doc. No.	Description
1	FR00/102/ES	FINAL REPORT – CONVERSION OF PARS MACHINE MFG. COMPANY TO PHASE OUT THE USE OF CFC-11 IN THE PRODUCTION OF DOMESTIC REFRIGERATORS AND FREEZERS
2	-	ACCEPTANCE PROTOCOL – ATTACHMENT TO THE FINAL REPORT
3	Mod. AA 97 09 002	SAFETY STATEMENT (IN THREE ORIGINALS)


**BONO SISTEMI S.p.A.**  
Ing. Sacha Scimone

	Job. N.	229622005	Doc. N.	FR00/102/ES
	Customer	U.N.I.D.O.	Rev.	0
	Plant	PARS MACHINE MFG. CO. TEHRAN, IRAN U.N.I.D.O. PROJECT MP/IRA/96/041 CONTRACT NO. 96/120	Sh	1 / 5

## FINAL REPORT

### CONVERSION OF PARS MACHINE MFG COMPANY TO PHASE OUT THE USE OF CFC-11 IN THE PRODUCTION OF DOMESTIC REFRIGERATORS AND FREEZERS


5					
4					
3					
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0	04/07/2000	Final issue	S.Scimone		
Rev.	Date	Description	Prepared	Checked	Approved

	Job. N.	229622005	Doc. N.	FR00/102/ES
	Customer	U.N.I.D.O.	Rev.	0
	Plant	PARS MACHINE MFG. CO. TEHRAN, IRAN U.N.I.D.O. PROJECT MP/IRA/96/041 CONTRACT NO. 96/120	Sh	2 / 5

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## 1.0 INTRODUCTION

With the present document the Contractor wants to describe the works performed at the plant site for the conversion of PARS MACHINE to phase out the use of CFC-11 in the production of domestic refrigerators and freezers.

The activities performed under this contract are briefly listed hereafter, accordingly to the TOR (Terms of Reference).

## 2.0 LAY OUT OF THE PLANT, TECHNICAL DOCUMENTATION (STEPS 1 AND 2 OF THE TOR)


After award of the order the Contractor visited the Counterpart in order to verify the conditions of the site and to identify the best engineering solutions for the conversion of the existing foaming lines.

During the visit the Contractor discussed the following main subjects:

- A. Technical details regarding the supply of the equipment; particular care has been pointed on the premix units, the polyol/cyclopentane blend and the isocyanate modules, the safeties of the plant (i.e.: gas sensors, ventilation groups, cyclopentane storage tank and relevant accessories).
- B. The suitable site where the new equipment had to be installed.
- C. The required modification to the new lay-out.

## 3.0 DELIVERY OF THE EQUIPMENT (STEP 5 OF THE TOR)

The delivery on site and the opening of the crates has been done accordingly to the Progress Report dated 26<sup>th</sup> of November 1997.

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#### 4.0 INSTALLATION AND COMMISSIONING (STEP 6 OF THE TOR)

The Contractor's engineers followed the installation phase by supervising the activities that have been done by the Counterpart.

Following zones of the plant have been inspected many times by the Contractor:

- Cyclopentane storage tank area
- Wet area
- Process chemicals connecting pipes between wet and dry area
- Foaming area


The commissioning and the on-the-job training has been done as reported in the acceptance protocol attached to the 2<sup>nd</sup> progress report dated 30<sup>th</sup> of November, 1998.

#### 5.0 TRIAL PRODUCTION AND TEST RUN PRODUCTION (STEPS 7 AND 9 OF THE TOR)

After the installation and the commissioning phase the Contractor assisted the Counterpart in the design of the first prototype.

The trial production of the remaining models has been done with cyclopentane as blowing agent while our technicians were on site.

Find attached the acceptance protocol signed by the Counterpart, dated 29<sup>th</sup> of May, 2000.

 polyurethane technology	Job. N.	229622005	Doc. N.	FR00/102/ES
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## 6.0 SAFETY CERTIFICATION (STEP 10 OF THE TOR)

The Contractor states that the equipment supplied is in accordance with the standards of quality and safety and the codes in use in the European Countries of origin at the time of purchasing.

Find attached the Safety Statement Form for the above.

## 7.0 FINAL REPORT (STEP 11 OF THE TOR)

The Contractor, by means of the transmission of this Final Report, carried out all the contractual agreements as for the Terms of Reference.

Collaudo eseguito da /Start-up carried out by: POZZI ENRICO

in data / on: 29/05/2000

Cliente/ Customer: PARS MACHINE

Sede in: TEHRAN

Address: .....

Alla presenza di/At the presence of: Eng. HAYATI

Contratto n./ Contract n.: UNIDO CONTRACT N° 96/120 ~~290879+550630~~

Conferma d'ordine n. / Order confirmation: .....

Matricola Macchina n/ Serial n. of the machine: ASYS 100 PBT/PEF 290879+550630

Rif. Piano Ass. "M-ASS-03" del: /Ref. to Assistance Plan Form "M-ASS-03" dated: .....

*In data odierna è stato completato il collaudo del macchinario sopra menzionato. Il macchinario è stato trovato conforme al contratto e se ne accetta il livello funzionale ai fini dell'inizio del periodo di garanzia*

*Under today's date, the commissioning of the a.m. machinery has been completed. The machinery has been found in compliance with the above mentioned contract and the functioning level has been accepted in order to start the guarantee period.*

Firma Afros/Afros signature

M. Zorn

Firma Cliente/Customer signature

[Signature]

**Eventuali osservazioni sono qui di seguito riportate / Eventual remarks are below reported:**

1- Put in automatic cycle the mytrooper

2- IRD Indirection of 2nd head

3- TÜV remarks

The remarks above mentioned will be solved as soon as possible

Firma Tecnico Afros/Afros Technician Signature

M. Zorn

Firma Cliente/Customer Signature

[Signature]



# SAFETY STATEMENT

## CANNON GROUP

CERTIFIES THAT THE EQUIPMENT SUPPLIED WITHIN

**CONTRACT NO. 96/120**  
**U.N.I.D.O. PROJECT MP/IRA/96/041**

FOR THE CONVERSION OF THE EXISTING PRODUCTION PLANT IN

## PARS MACHINE

TO USE CYCLOPENTANE AS BLOWING AGENT

IS IN ACCORDANCE WITH THE STANDARDS AND THE CODES OF  
THE COUNTRIES OF ORIGIN OF THE GOODS

CANNON GROUP

Peschiera B. (MI), 27.06.2000