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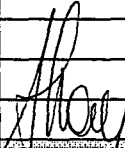
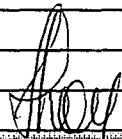
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  	PLANT	PHASING OUT OF ODS AT REFRIGERATOR PLANT OF HEFEI MEILING - CHINA
	CUSTOMER CONTRACT N. JOB N.	UNIDO FOR HEFEI MEILING UNIDO CONTRACT 97/181 PROJECT MP/CPR/97/078 5298520010

PHASING OUT OF ODS AT REFRIGERATOR PLANT OF HEFEI MEILING

TÜV REMARKS SOLUTION: INTERVENTION REPORT

D					
C					
B					
A	13/04/02	FIRST ISSUE	A. LONGONI		
Rev.	Dat.	Description	Prepared	Control	Approv.

  	PLANT	PHASING OUT OF ODS AT REFRIGERATOR PLANT OF HEFEI MEILING - CHINA
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1. INTRODUCTION

Cannon visited the Project Counterpart on 2002 April, 10th-11th -12th further to the correspondence and upon agreement with UNIDO and Project Counterpart.

The relevant reference documents are listed below:

1. Cannon Inspection Visit Report dtd. 25/10/2001
2. E-mail from Unido dtd. December 3rd 2001
3. E-mail from Unido dtd. January 2nd 2002 and attachment (Report from Project Counterpart)
4. E-mail to Unido dtd. January 10th – September 2002
5. E-mail to Meiling/Unido dtd. March 3rd 2002; April 2nd 2002

Scope of the visit has been a point-by-point check and solution of the remaining out standings according to what mentioned in Cannon Inspection Visit Report dtd. 25/10/01, which was based on TUV Commission List of Technical pre-Inspection doc. n° BB-NDD-ULM/ri-ka MeiComlist 10-00 dtd. 05/10/2000.

The attendants to the meetings on Counterpart side have been Mr. Wang Jian Yang, Mr. Ye Xiaosan, and Mr. Xu Guo Ping

The attendants to the meetings on Cannon side have been Mr. Angelo Longoni and Mr. Soh Boon Wah-Mr. Liu Fu Wen/ Cannon Far East.

2. RESULT OF THE INTERVENTION

The results of the intervention are described in the follow.

At first Cannon checked the modified C5 piping in Line 1 and the visual impression is satisfactory. Now the above installation is again according to Safety.



Project Counterpart has pressure test and welding certificates available for review by TUV experts. The approval obtaining of the above modified piping remains under Project Counterpart responsibility.

Furthermore Cannon checked the attachment to Unido e-mail dtd. January 2nd 2002 and found that unfortunately the schedule contained therein was not fully completed due to difficulties in properly debriefing TUV remarks and to Project Counterpart standard for production procedures. Project Counterpart, after technical clarifications with Cannon, will complete most of the above works by end of April 2002.

Notwithstanding that, Project Counterpart and Cannon could complete a relevant part of the necessary works and Cannon could perform some function tests during the brief production stops because both Line 1 and Line 3 were operating with 141b during the intervention. Generally, thanks to the mutual cooperation of Project Counterpart and Cannon, the major number of remarks had been solved according to TUV requirement.

Some remarks are still pending because their solution can be done by Project Counterpart only during long production stops being the modification very relevant (i.e. dry parts for both Lines).

The situation of the remaining outstanding is described in the following table.

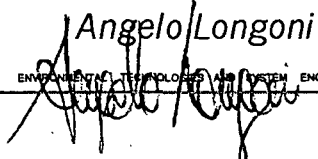
  SISTEMI	PLANT	PHASING OUT OF ODS AT REFRIGERATOR PLANT OF HEFEI MEILING - CHINA
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As conclusion of the intervention results description, Cannon unfortunately highlights that, due to a relevant change made by Project Counterpart in Line 1 (and consequently in Line 3, see remark after remaining outstanding table) cabinet plant, change made without any consultation with Unido or Cannon, it is possible Cannon will state relevant modification will be necessary in the ventilation system of Line 1 cabinet plant. The above possible modifications will be under Project Counterpart full responsibility.

Furthermore Cannon reject any responsibility arising from any accident that may be generated by the current arrangement, which is out of the Project design original conditions.

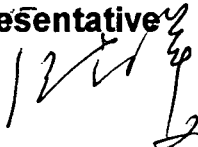
3. CONCLUSIONS

According to the below table, many points can be completed by end of April 2002. For the remaining point, Cannon will receive a tentative schedule for the completion of the works about which Project Counterpart received detailed instruction from Cannon. Upon receipt from Project Counterpart of completion schedule first and of works completion declaration at a latter stage, Cannon will inform about Project progress. The present report is sent to Unido and had been explained to Project Counterpart representatives at plant site during the final clarification meeting held on April 13th 2002.


 Angelo Longoni
ENVIRONMENTAL TECHNOLOGIES AND SYSTEM ENGINEERING
BONO SISTEMI
 a Cannon company

For review and acceptance

HEFEI MEILING CO LTD
 Representative


 2002. 4. 13

Hefei, People's Republic of China; 2002-04-13

LINE 1 PENDINGS STATUS 10-11-12/04/2002 (Meiling witness: Mr. Ye Xiaosan-Mr. Xu Guo Ping)		
CHAPTER	STILL TO BE DONE	TO BE DONE BY
ACTION		
B1	2.8 b)	Meiling
	4	Both
	5	Meiling
B5	1.2	Meiling
	1.4 b2)	Meiling
	1.5 a)	Both
	1.5b)-e)	Meiling
	1.5 d)	Meiling
	1.5 f)	Both
	1.7 b)	N/A
	1.7 d) improvement	/
B6	2.2	Meiling
	2.3	Meiling
B7	1.a)	Both
	1.b)	Both
	2	Meiling

A Report will be submitted proving that the existing lightning system is covering the whole C5 piping in storage area; therefore a direct connection is not needed (Conclusion by end of April 2002)

Final documentation will be sent by Cannon within end of April 2002. Meiling to translate it and complete for its pertinent part.

Meiling to clarify with TUV the required actions

Cabling remake in a professional way

Meiling to explain TUV why they cannot fulfil the requirement in man-mode.

Final documentation will be sent by Cannon within end of April 2002. Meiling to translate it and complete for its pertinent part.

N2 injection nozzle re-arrangement, suitable for all models, is necessary.

Cabinet positioning modification on the loading carriage is necessary

Final documentation will be sent by Cannon within end of April 2002. Meiling to translate it and complete for its pertinent part.

See below remark

Jigs 9-10 had been removed

Meiling to explain TUV why they cannot fulfil the requirement

Replace the function; Meiling to explain TUV why they cannot fulfil the requirement

Final documentation will be sent by Cannon within end April. Meiling to translate it and complete for its pertinent part.

Final documentation will be sent by Cannon within end of April 2002. Meiling to translate it and complete for its pertinent part.

Submit marking

LINE 3 PENDINGS STATUS 10-11-12/04/2002 (Meiling witness: Mr. Wang Jian Yang)			
CHAPTER	STILL TO BE DONE	TO BE DONE BY	ACTION
C1	1.1 a)	Meiling	Change the flexible hose
	1.1 b)	Meiling	Rust protection execution (Conclusion by end of April 2002)
	1.1 c)	Meiling	Cracks sealing
	3.2	Both	Final documentation will be sent by Cannon within end of April 2002. Meiling to translate it and complete for its pertinent part.
C4	1.2 b)	Solved	Cannon will ship a full set of spare bulbs within end of April 2002
	1.2 c)	Solved	Meiling to repeat a full check of the batteries condition (Conclusion by end of April 2002)
	2.3	Meiling	Meiling to clarify with TUV the required actions
	2.4	Meiling	Change the pipe (Conclusion by end of April 2002)
C5	Points 1.1-1.2-1.4-1.5-1.6-1.7-1.8-1.10-1.11-2.4 are still pending like during TÜV inspection	Meiling	Submit a schedule for retrofitting completion
	1.9	Solved	Pouring operation is manual; Elobau sensor is not needed anymore according to TÜV standard requirements
	2.3	Solved	Cannon will ship a full set of new pumps within end of April 2002
C6	Points 1.1-1.3-2.1 are still pending like during TÜV inspection	Meiling	Submit a schedule for retrofitting completion
C7	1.a)	Both	Final documentation will be sent by Cannon within end of April 2002. Meiling to translate it and complete for its pertinent part.
	1.b)	Both	Final documentation will be sent by Cannon within end of April 2002. Meiling to translate it and complete for its pertinent part.
	2	Meiling	Submit marking

IMPORTANT REMARK:

In line 1 Cabinet plant (and consequently line 3 also) a very relevant modification had been introduced by Project Counterpart without any consultation with Unido/Cannon.

In detail two small jigs of the eight installed from Meiling by end 1999 early 2000 had been removed; also 2 existing Perros jigs had been removed.

The above jigs are currently in Line 3 in storage conditions.

Instead of them, 5 jigs from line 3 had been installed and put in operation. Cannon is not aware about when the above change was done, even obviously it was done after the visit paid by Cannon in October.


The above issue is very serious for two main reasons:

- 1) Cannon did ventilation design of cabinet enclosure on 10 jigs basis but now 11 jigs had been put in operation inside the enclosure. To that extent **Cannon**, in the same way as done in the report Inspection Visit Report dtd. 25/10/01 concerning C5 pipe, **reject any responsibility arising from any accident due to the possible lack in the ventilation flow rate in the current modified arrangement.**

Cannon will verify the current situation and will inform about results; any change that may become necessary will be under Project Counterpart full responsibility.

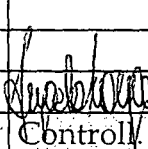
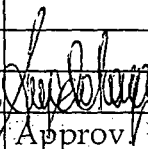
- 2) All the remarks done by TUV for Line 3 Cabinet plant are now completely applicable to Line 1 Cabinet plant for the modified part and they are fully under Meiling responsibility.




It is worth to underline that Line 1 Cabinet plant quality is now the same than Line 3 concerning Safety Certification.

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	JOB N.	5298520010

PHASING OUT OF ODS AT REFRIGERATOR PLANT OF HEFEI MEILING

FINAL REPORT




D					
C					
B					
A	03/05/02	FINAL ISSUE	A. LONGONI		
Rev.	Dat.	Description	Prepared	Control	Approv.

  		
	PLANT	PHASING OUT OF ODS AT REFRIGERATOR PLANT OF HEFEI MEILING - CHINA
	CUSTOMER CONTRACT N.	UNIDO FOR HEFEI MEILING UNIDO CONTRACT 97/181 PROJECT MP/CPR/97/078
	JOB N.	5298520010

1. INTRODUCTION

With this document Contractor is going to describe the works performed at the plant site for the conversion of Hefei Meiling to phase out ODS in the production of Domestic Refrigerators and Freezers.

Hereafter we briefly summarise the activities performed under the Contract according to the Term of Reference

  		
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2- VISIT TO THE PROJECT SITE AND LAY OUT OF THE PLANT (STEPS 1, 2 OF THE TERMS OF REFERENCE)

After the award of the order, the Contractor visited the Counterpart between April 5th and 6th 1998 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 and checked with the Counterpart the following main subjects:




A - Technical details regarding the supply of the equipment; in particular the Contractor emphasised the Premix Units, the Polyol and Isocyanate Modules, Safeties of the plant (as i.e.: gas sensors, exhaust system with fan groups), cyclopentane storage tanks and relevant accessories.

B - The suitable sites where the new equipment had to be installed and the required modification to the new layout.

Regarding the C5 storage tanks, the Contractor inspected and defined the areas where they had to be placed.

After the visit the Contractor prepared the first progress report (25 May 1998) including the preliminary layout and the Basic requirements and specifications for the site Preparation.

The first progress report covered all the subjects listed during the discussion and gave to the Counterpart, as much as detailed as possible at that phase of the project, a list of all the works and materials to be provided by them.

  		
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3 TECHNICAL SPECIFICATION AND ENGINEERING DESIGN FOR THE PLANT ERECTION- TRAINING ABROAD OF THE COUNTERPART (STEPS 3÷11 OF THE TERMS OF REFERENCE)




In December 1998 the Contractor provided the Final Technical Documentation for the Conversion of the plant.

The above mentioned documentation included the following kind of detailed drawings and specifications:

- civil works for the storage tanks and foaming lines
- grounding of the equipment
- piping arrangements and support details
- piping sketches
- box buildings construction
- ventilation construction
- cable run lay-out
- gas sensor positioning
- electrical drawings
- safety requirements

All the documentation was discussed with the Counterpart and some modifications have been agreed during in the later period.

A team of engineers attended the training at Contractor site in December 1998

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4. DELIVERY OF EQUIPMENT, INSTALLATION, COMMISSIONING, TRIAL PRODUCTION OF THE FIRST MODELS, TEST RUN OF PRODUCTION(STEPS 12÷15 OF THE TERMS OF REFERENCE)

In January 1999 all the new equipment have been shipped.

The installation started in May 1999, after the customs clearance of all the equipment.

The Contractor engineers followed the installation phase including the supervision of the job at Counterpart charge.

The Contractor actions basically concerned the following zone of the modified plant:


- Cyclopentane storage tanks areas
- Wet areas
- Process fluid connection piping between wet and dry area
- Cabinets /doors foaming areas
- Safeties of the plants (ventilation system, fire fighting system et cetera)

The installation phase was completed in July 1999 on Line 3 and on December 1999 on Line 1.

After the installation, the Contractor performed the Commissioning and start-up phase of the modified plant in accordance with the contract.

The commissioning, trial production and test run phases mainly concerned the following operations:

- Pneumatic and Electric circuit check
- Grounding check
- Flushing of the tanks and the piping with nitrogen
- Pressure test
- Check of the operating sequences
- Operating test
- Service simulation test
- Setting start-up parameters
- Foaming quality check
- Performance test

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The training on the job activities has been carried out at the beginning of commissioning phase.

In July 1999 the commissioning phase was completed on Line 3, while on Line 1 it was completed in December 2000 and the Counterpart started the production.

5. TRAINING ON THE JOB, SAFETY INSPECTION AND CERTIFICATION, FINAL REPORT, POST CONTRACT MONITORING ACTIVITIES (STEPS 16÷19 OF THE TERMS OF REFERENCE)

The training on the job activities has been carried out at the beginning of commissioning phase.

The safety pre-inspection has been performed by TUV ULM in March 2000.

The result of TUV inspection is contained in the Commission List Doc. n° BB-NDD-ULM/ri-ka MeiComlist 10-00 dtd 05/10/2000.

6. CONTRACTOR ACTIVITY FOR PROJECT COMPLETION

Further to the above document issued by TUV, Contractor visited plant site in April 2002 and completed all the works in its responsibility under the Project as per attached document "TUV remarks solution: intervention report" Rev.A dtd 13/04/2002 signed by Contractor and Project Counterpart.

On that basis, Contractor completed the Project according to TUV requirements.