Minutes of the Technology and Finance Standing Committee (TFSC) Meeting held on Thursday, 7th February, 2013 at 3:00 P.M. in the Silver Oak - II Hall, Convention Centre, India Habitat Centre, Lodhi Road, New Delhi – 110 003.

==========

List of participants is attached as **Annexure - I.**

The Minutes of the TFSC meeting held on 21st November, 2012 were circulated to all the Members of the Committee. Since, no comments have been received, the Minutes were adopted.

Dr. A. Duraisamy, Director (O) and Member Secretary, TFSC welcomed the Members and informed that the Chairman Dr. B. Sengupta is not able to attend the meeting due to some pressing engagements and has authorized him to select the senior most Member to Chair the Meeting. Accordingly the name of Mr. H.S. Kaparwan was proposed with consensus to Chair the Meeting. The Director (O) then apprised the Committee about the actions taken by the Ozone Cell on recommendations made by the TFSC during its last meeting held on 21st November, 2012.

Action Taken: The following four applications were considered for issuance of duty exemption certificate for import of goods needed for manufacturing activity with non-ODS technology.

1. M/s Whirlpool of India Ltd., Pune
2. M/s SATA Vikas India Pvt. Ltd., Faridabad (Hodal)
3. M/s Pranav Vikas India Ltd., Faridabad
4. M/s Subros Ltd., Noida

All four applicants gave presentation in support of their project before the Committee which were further discussed in detail and found suitable in accordance with the guidelines of the scheme, for issuance of duty exemption certificates. The TFSC recommended approval of the projects for grant of duty exemption by the Empowered Steering Committee (ESC). After approval of

Chairman, (ESC) for Implementation of the Montreal Protocol, duty exemption certificates were issued to all the above said four enterprises.

Ex-post facto approval of ESC will be taken in its next meeting. The Committee noted the above.

The Committee then considered the following Agenda items:

Agenda Item No. 1 Presentation on HCFC Phase-out and its Implications : discussions between the industries representatives from India and US (M/s DuPont, M/s Honeywell and NRDC).

A brief report may be seen at ***Annexure-II***

Agenda Item No. 2 The application of **M/s SRF Ltd.,** Gurgaon for duty exemption (a) for import of special metal alloy tubes and parts for fabrication of HFC-134a manufacturing plant and (b) for duty exemption for import of speciality reactors fabricated abroad by M/s Larsen & Toubro on high seas basis.

M/s SRF Ltd., is a global company having manufacturing plants in India, UAE, Thailand and South Africa. They are now setting up a large plant for manufacture of the refrigerant gas HFC 134a (12,500 TPA) and anhydrous hydrofluoric acid (20,000TPA) at Dahej (Gujarat).

For this plant the enterprises is importing special alloy tubes and other parts from abroad and fabricating fractional distillation columns at site by their own fabricators. A list of such special metal alloy tubes along with parts, their prices and other details are given in Table 1:

Table 1

S. N.	**Description**	**Qty.**	**P.O. No and Dated**	**Price in Foreign currency**	**Price in INR (in Rs Lacs)**
(I) Direct Import by SRF Ltd.,					
1	Inconel Tubes for Heat Exchangers **(as per Annex. III)**	9573 Nos	SRF/DAHEJ/P1 Project/8096 dated 16.10.12	8,68,611/- GBP	7,64,37,768/-

2	Hastelloy Tubes for HEAT Exchanger (Seamless-Tube, as per standard: EN 10204 TP 3.1, cold drawn, pickled, annealed, PE, 100 percent ECT/Hydro, with MTC, size 25.4 OD X 2.11 minwal thk, Moc :Hastalloy C, SB 622 uns N010276)	170 Nos.	SRF/CB-DAHEJ/P1-Project/1462 dated 12.12.2012	17,292.50 GBP	15,21,740/-
3	Bellow sealed globe valves • Manual bellow sealed globe valves, model 2100B • Manual bellow sealed globe valves, model 2100B • Manual bellow sealed globe valves, model 2100B • Manual bellow sealed globe valves, model 2100B • Manual bellow sealed globe valves, model 2100B • Manual bellow sealed globe valves, model 2100B	(35 Pcs) (3 Pcs) (3 Pcs) (3 Pcs) (9 Pcs) (7 Pcs)	SRF/DAHEJ/P1 Project/8094 dated 16.10.2012	5,50,050/- Euro	3,91,63,560/-
4	Catalyst (Catalyst Jonson Mathey Make -62-3M	90,000 kg	SRF/DAHEJ/7841 dated 27.09.2012	28,80,000/ GBP	25,34,40,000/-
5	Inconel – 600 wire for springs: (Inconel alloy 600 cold drawn wire round annealed, coil having specification as per ASME SB 166 ISS A 03 UNS No 6600 min tensile strength : 552 MPA, 3.5 Dia MM)	1715 kg	SRF/DAHEJ/P1-Dahej/2105 dated 18.01.2013	34,300 /- GBP	30,18,400/-
6	Magnetic Drive chemical process pumps **(as per Annex. IV)**	2 sets	SRF/project / Dahej / 1823 dated 02.01.2013	32,420.20 Euro	23,08,318/-
				Total	**37,58,89,786/- (37.6 crores)**
				Duty payable @ 7.5%	**2,81,91,734/- (2.82 crores)**

The total amount of the above said imported goods is appox. 37.6 crores and duty payable on it @ 7.5% would be appox. (2.82 crores).

The enterprise is also importing special metal alloy plates, strip and fluxes and getting reactors fabricated abroad by M/s Larsen & Toubro. The fabricated reactors will then be purchased by M/s SRF Ltd., on high seas from M/s Larsen & Toubro. M/s SRF Ltd., has applied for duty exemption for these purchases from M/s L & T. A list of such goods and other details is given in Table 2:

Table 2

S. N.	**Description**	**Qty.**	**P.O. No and Dated**	**Price in Foreign currency**	**High Seas selling price (in Rs Lacs)**
(II) Import on high seas basis from M/s Larsen & Toubro Ltd., vide PO No. SRF/DAHEJ/P1-Project/7217A					
7	Clad plates for inconel reactors **(as per Annex. V)**	38.142 MT	IMP/310130 dated 11.10.2012	High Seas Purchase	2,60,00,000/-
8	Inconel tubes for inconel reactors **(as per Annex. VI)**	2802 Pcs	IMP/310120 dated 29.08.2012		24,00,00,000/-
9	Ellipsoldal heads for inconel reactors **(as per Annex. VII)**	8 pcs	IMP/310144 dated 21.11.2012		4,80,00,000/-
10	Forgings for inconel reactors **(as per Annex. VIII)**	28 pcs	IMP/310151 dated 12.12.2012		90,00,000/-
11	Welding strips and flux for inconel reactors **(as per Annex. IX)**	6559.55 kg	IMP/310145 dated 23.11.2012		90,00,000/-
				Total	**33,20,00,000/- (33.2 crore)**
				Duty payable @ 7.5%	**2,49,00,000/- (2.49 crore)**

The total price of the second type of goods given in table 2 and supposed to be purchased on high seas, is appox. 33.2 crores and duty payable on it @ 7.5% would be 2.49 crores.

The total amount of Table 1+ Table 2 is (70.8 cores appox) and duty payable on it as in Table 1 + Table2 @ 7.5% would be 5.31 crores.

M/s SRF Ltd., in their presentation before the Committee, explained in detail how the reactors and distillation columns will be working to produce HFC-134a gas. While appreciating the decision of the company to produce the non-ODS refrigerant HFC-134a on a large scale, the Committee decided the following :

(a) The special alloy tubes being imported and needed for fabricating a distillation column can be considered as capital goods provided a Government Agency working in the concerned area, inspects the columns and certifies that the tubes have been actually used for fabricating the distillation columns and these are actually installed inside the fractionating columns.

(b) The catalyst used in the reactor is not consumed but gets degraded and its activity is restored by reconditioning from time to time. It was therefore felt that the catalyst could be considered as capital goods and accordingly, the Committee recommended that import of these articles may be considered for recommending duty exemption.

The Committee discussed on the issues relating to purchase of fabricated goods from Larsen & Toubro on high seas basis and its eligibility for duty exemption. After detailed deliberation the Committee opined that the direct purchase by M/s SRF Ltd., may be desirable and it was therefore decided that the project may be revised removing the name of M/s L&T and resubmitted for further consideration of the Committee during its next Meeting.

Agenda Item No.3 The application of M/s SATA Vikas India Pvt. Ltd., for duty exemption for import of ten pieces of machinery needed for production of high precision long life compressors for Mobile Air – conditioners.

M/s SATA Vikas India Pvt. Ltd., a leader in automotive machining and assembly of MACs in India, was established in 2007 as a joint venture between M/s Kenmor Vikas and M/s SATA s.p.a. of Italy, with the objective of manufacturing components of Mobile Air Conditioner compressors, components of cylinder blocks, cylinder head, rotors, cam plates etc. by high

precision machining. They have a long term contract with M/s Sanden Vikas India Ltd., a leading manufacturer of MACs in India, for marketing the MAC components thus manufactured.

M/s SATA Vikas is embarking for further expansion of their factory for manufacture of automotive compressors for which they are importing 10 precision machines details of which are given in table below :

TABLE

S. No.	Description of Equipment	Unit	P. O No. & Date	Price in JPY, Euro and SGD	Price in INR
1	Horizontal CNC Lathe Quick Turn Smart (Model : 100M S)B061	1 No	P1-000033 Dated 25.12.2012	1,16,800/- SGD	52,50,160/-
2	Vertical CNC Tapping Center M/s (Model TC-S2DN) with 16000 rpm.	1 No	P1-000034 Dated 25.12.2012	57,76,950/- JPY	34,66,170/-
3	Nikken Rotary Table CNC 202 LSA – BR	2 No	P1-000034 Dated 25.12.2012	16,00,000/- JPY	9,60,000/-
4	Exio Board Standard Assembly S2C (32/32 Points)	2 No	P1-000034 Dated 25.12.2012	1,40,000/- JPY	84,000/-
5	Vertical CNC Tapping Center M/s (Model: TC-S2DN) with 27000 rpm	1 No	P1-000034 Dated 25.12.2012	57,76,950/- JPY	34,66,170/-
6	Refurbished Emag VTL Double Spindle Machine	1 No	P1-000025.2 Dated 29.11.2012	1,43,000/- Euro	1,02,96,000/-
7	Refurbished Emag VTL Single Spindle machine	1 No	P1-000025.2 Dated 29.11.2012	1,02,000/- Euro	73,44,000/-
8	Refurbished Matsura Double Spindle VMC Machine	1 No	P1-000025.2 Dated 29.11.2012	68,000/- Euro	48,96,000/-

9	Belt Conveyor for Matsura machine	1 No	P1-000025.2 Dated 29.11.2012	22,000/- Euro	15,84,000/-
10	Fanuc Robot M20iA	1 No	P1-000021.1 Dated 17.11.2012	37,50,000/- JPY	22,50,000/-
				Total	**3,95,96,500/- (3.96 crores)**
				Duty payable @ 7.5%	**29,69,737/- (29.7 lacs)**

The total cost of importing these ten machines is appox. Rs 3,95,96,500/- (Rs. 3.96 crores) and it will be met from their own resources. The duty payable on it @ 7.5% would be approximately Rs. 29,69,737/- (Rs. 29.7lacs).

These precision machines are ultra high performance machines needed for producing high precision compressors with long life.

In their presentation before the Committee the firm explained how these precision machines will help in the production of high quality long life compressors for MACs indigenously. The country otherwise will have to import this type of compressors. The Committee considered the application and felt that this is a good attempt for indigenous production of high quality compressors for MACs but the application has not brought out clearly how much the country will save in comparison with earlier compressors using CFC-12.

It was therefore decided that the firm should give a comparative statement of the advantages and gains of change over from R-12 to R-134a in the use of these precision compressors. Based on the information received the application can be recommended for grant of duty exemption.

In reply M/s SATA Vikas clarified that the completion of the project will increase the capacity by 400,000 compressors and there will be a combined ODS savings of 528 MT based on ODP of CFC-12 @ 1.

The Committee found the information satisfactory and recommended the application for approval.

Agenda Item No. 4 The application of M/s Sanden Vikas Precision Parts Pvt. Ltd., Neemrana (Rajasthan), for import of eight pieces of equipment for production of high pressure aluminium Die-Casting for manufacture of automotive components in a new factory at Neemrana (Rajasthan).

M/s Sanden Vikas Precision Parts Pvt. Ltd., earlier known as M/s Vikas Alcast Pvt. Ltd., is setting up a large manufacturing facility at Neemrana (Rajasthan) for production of aluminium silicon alloy Die-Casted materials for automotive parts. It is a new venture for import substitution by a new company. The process consists of producing die casted materials from SI-AL ingots and machining to convert them into finished goods like cylinder blocks, front housing dies and many other parts by further precision machining. The company will be mainly producing goods for automobile manufacturers like Suzuki Powertrain, Mahindra & Mahindra, Fiat India and TATA motors etc.

M/s SVPP Ltd., has applied for duty exemption for the import of various type of die-casting machines and other machines for producing the finished goods as shown in the table below :

Table

Sl. No	**Details of Machine/Equipment**	**Qty**	**PO No & Date**	**Total cost in (Yen)**	**Total cost in INR**
1	**Automation system for 670t Die-casting (maker Sunfield Co. Ltd.,)**				
	1. Taking out Robot System M-710iC/50	1 set	PO/2012-13 / 0030 Dated 27.11.2012	86,40,000/-	57,88,800/-
	2. Power supply of Metacon	1 set		1,50,000/-	1,00,500/-
	Super Cooling system (Maker JFT Co. Ltd.,)				
	1. SC-IV- (4 Organizing Control) [main body (AC 100V, including signal code Metacon specification), Cooling Fan]	1 set	Do	36,35,000/-	24,35,450/-
	2. Incidental items [Junction	1		2,70,000/-	1,80,900/-

	cassette – 4 pcs, Hose of cooling water 10m-4 Pcs, Air House 10m-4Pcs Drain Hose 5m-4Pcs, Instruction english ver. 3 Pcs]	set			
	Automation system for 850t Die-casting				
	1. Taking out Robot system 2000iB/165 Fanuc	2 sets	Do	1.85.80.000/-	1.24.48.600/-
	2. Power Supply of Metacon			3.00,000/-	2,01,000/-
	Super cooling system				
	1. SC-IV-4 (4 organizing control) [main body (AC 100V, including signal core Metacon specification), Cooling Fan]	2 sets	Do	51,40,000/-	34,43,800/-
	2. Incidental items [Junction cassette – 4 Pcs, Hose of Cooling water 10m-4 Pcs, Air Hose 10m-4 Pcs, Drain Hose 5m-4Pcs, Instruction English ver. 3 Pcs]	2 sets		5,40,000/-	3,61,800/-
2	Electro Spark Deposition Device 200 CFS	1 set	PO/2012-13 / 0036 Dated 30.11.2012	15,40,000/-	10,31,800/-
3	Cylinder Block Die for SD7 V16 1808-602OF 101 including spare parts	1 Unit	PO/2012-13/0037 Dated 19.12.2012	1,53,00,000/-	1,02,51,000/-
	Cylinder Block Die for SD7 H13 7300-602O 101 including spare parts	1 Unit		1,39,23,000/-	93,28,410/-
	Cylinder Block Die for SD6 V12 1414-6020 101 including spare parts	1 Unit		1,50,69,000/-	1,00,96,230/-
	Cylinder Block Die for SD6 V12 191706020 101 including spare parts	1 Unit		1,59,99,000/-	1,07,19,330/-
	Cylinder Head Die for SD7 V16 1808-6100F 101 including spare parts	1 Unit		1,41,25,000/-	94,63,750/-
	Cylinder Head Die for SD6 V10 1512-6100 101 including spare parts	1 Unit		1,65,77,000/-	1,11,06,590/-

	Cylinder Head Die for SD6 V12 1917-6100 101 including spare parts	1 Unit		1,68,88,000/-	1,13,14,960/-
	Cylinder Head Die for SD6 V12 GU 1916-6101 101 including spare parts	1 Unit		1,74,59,000/-	1,16,97,530/-
	Front Housing Die for SD7 V12 1330-6212F 101 including spare parts	1 Unit		1,30,38,000/-	87,35,460/-
	Front Housing Die for SD6C12 1350-6210 101 including spare parts	1 Unit		1,39,99,000/-	93,79,330/-
	Front Housing Die for SD6 V12 1900-6210 101 including spare parts	1 Unit		1,39,46,000/-	93,43,820/-
4	Doosan. Diesel operated Forklift with Model D70S-5	1 set	PO/2012-13/0038 Dated 11.12.2012	44,000/-	24,20,000/-
5	Atlantis (ATL) Top Laboratory optical emission spectrometer for all base	1 set	PO/2012-12/0041 Dated 20.12.2012	22,500/-	16,20,000/-
6	Vacuum device	3 set	PO/2012-13/0042	1,50,00,000/-	1,00,50,000/-
	Parts for super cool interface	3 set		1,50,00,000/-	1,00,50,000/-
	C-Plate clamp				
	Bracket & cable for photogenic centre				
	Tip lubrication parts				
	Parts for SQ monitor				
	Parts for Furnace interface				
	Parts for short NG condition				
	Parts for SQ time limit				
	Parts for Ac modification				
7	CRYSTA Apex S700 series CRYSTA-Apex S776 ceramic master ball W/certificates PH10MQ “R” system (S) Ac cable – set-BS (Large)	1 set	PO/2012-13 / 0044	34,90,137/-	23,38,392/-

8	Low Noise Cooling Tower Type Jsen – L4EL1	2 Unit	PO/2012-12 / 0056	18,500/-	10,17,500/-
				Total Price	**16,49,24,952 16.49 crores**
				Duty Payable approx. @ 7.5%	**1,23,69,371.4**

The total cost of these imported machines is appox. Rs. 16.49 crores which will be met by equity participation by promoters and duty payable on it @ 7.5% would be appox. 1.24 crores,

The Committee observed that this is a new venture for import substitution and a new technique for manufacturing high quality automotive components and fittings. However it was noted that the company has not brought out very clearly how the introduction of new technique will help in the protection of ozone layer compared to the earlier techniques. It was decided that the firm should give a write up bringing out the advantages of this new technique clearly and resubmit the application.

M/s Sanden Vikas Precision Parts Pvt. Ltd., has clarified that the completion of the project the capacity will increase by 400,000 compressors and there will be a combined ODS saving of 528 MT based on ODP of CFC-12 @ 1. Based on the information received, the application can be recommended for grant of duty exemption.

The Committee noted the reply as satisfactory and recommended the application for approval.

The meeting ended with vote of thanks to the chair.

Annexure – I

LIST OF PARTICIPANTS

1	**Mr. H. S. Kaprwan**, C-215, Sector 51, Kendriya Vihar, Noida – 200 1307 Ph : 9891597792	Member
2	**Dr. Kiran Pal**, Additional Director, Centre for Fire, Explosive & Environment Safety, Defence Research & Development Organisation, Ministry of Defence, Brig. S.K. Mazumdar Road, Timarpur, Delhi – 110 054	Member
3	**Dr. Izzatullah**, Director (Chem), O/o DC (SSI), Ministry of Micro, Small & Medium Enterprises, Room No. 702, Nirman Bhavan, New Delhi – 110 011	Member
4	**Mr. kamal Sharma**, Executive Officer, CII Centre of Excellence for Sustainable Development Confederation of Indian Industry (CII), Thapar House, IInd Floor, 24, Janpath, New Delhi – 110001	Member
5	**Mr. S.V. Subba Rao** National Program Manager, Sector Phase-out Plan Unit (SPPU), Ozone Cell, Ministry of Environment and Forests, Core IV B, 2nd Floor, India Habitat Centre, Lodhi Road, New Delhi – 110 003	Special invitee
6	**Mr. Fahad Naim** Technical Officer - PMU Ministry of Environment and Forests, Core IV B, 2nd Floor, India Habitat Centre, Lodhi Road, New Delhi – 110003	Special invitee

7	**Ms. Chanchal Sharma** Technical Officer - PMU Ministry of Environment and Forests, Core IV B, 2nd Floor, India Habitat Centre, Lodhi Road, New Delhi – 110003	Special invitee
8	**Prof. S.K. Mukerjee**, Consultant, Ozone Cell, Ministry of Environment and Forests, Core IV B, 2nd Floor, India Habitat Centre, Lodhi Road, New Delhi – 110003	Consultant
9	**Dr. A. Duraisamy**, Director (Ozone Cell), Ministry of Environment and Forests, Core IV B, 2nd Floor, India Habitat Centre, Lodhi Road, New Delhi – 110003	Member Secretary

Annexure - II

MINUTES OF THE MEETING ON HCFC PHASE-OUT AND ITS IMPLICATIONS HELD ON 7TH FEBRUARY, 2013 IN SILVER OAK-II HALL, CONVENTION CENTRE, INDIA HABITAT CENTRE, LODHI ROAD, NEW DELHI-110003.

A meeting was held between Ms. Mira Mehrishi, Special Secretary, Ministry of Environment and Forests (MoEF) and Mr. Robert D. Hormets, Under Secretary of State for Economic Growth, Energy and the Environment, USA on 31st January, 2013 where a number of other officials and industry representatives from USA and India also participated in the meeting. It was decided in this meeting to hold a presentation session before the Technology and Finance Standing Committee (TFSC) and also invite concern industry stakeholders.

Accordingly, a meeting of the Technology and Finance Standing Committee (TFSC) was held on 7th February, 2013 in Silver Oak Hall, Convention Centre, India Habitat Centre, Lodhi Road, New Delhi especially for presentations from US industry representatives. The meeting was Chaired by Dr. H. S. Kaprwan. The Meeting was well attended by the Members of the TFSC as well as a large number of stakeholders from industry both from US and India.

The presentations were made by US industry representatives, M/s. DuPont, M/s. Honeywell and Natural Resources Defense Council (NRDC). The presentations were titled as follows :

- Challenges for India in Meeting HCFC Phase-out Commitments and Addressing Global Climate Change
- Industry Innovation supporting India's HCFC Phase-out Management Plan (HPMP)
- The Business Case for Avoiding & Replacing High-Global Warming Potential HFC Refrigerants

The Environmental Investigation Agency (EIA) also made a brief presentation regarding importance of phase-down of Hydrofluorocarbons (HFCs) under the Montreal Protocol. The presentations were mainly focussed on phase-down of HFCs and alternatives to HCFCs.

The Chairman, TFSC, after detailed presentations, opened for questions and answers on the presentations. Indian industry representatives actively participated in the Question & Answer session. The following is the brief of the discussion:

Mr. J.M. Bhambure, a representative from M/s. Blue Star Ltd., Member of Refrigeration and Air-conditioning Manufacturers Association (RAMA) sought the clarification on the following:

- Basis of projection of demand of HCFC-22 and HFCs

- Considerations including the extent of adaptability of alternatives by the Indian industry, especially taking into account the local considerations.

The representative of M/s. DuPont clarified that the projections have been made based on data from various published sources, including the data submitted by India in the HPMP document and to the Ozone Secretariat under Article-7 of the Montreal Protocol. Regarding the considerations issue, it was clarified that the HFCs currently used as alternatives in the Refrigeration and Air-Conditioning (RAC) sector are since adversely affecting the climate system, the phase-down under the Montreal Protocol would prove to be useful. It was also added that several developed countries, USA, Japan, Australia and European Countries are trying to have in place regulations affecting use of HFCs. The developing countries have an established system under the Montreal Protocol and can further negotiate the phase-down of HFCs for their advantage. The Indian industry representatives were not satisfied with the clarifications given by the representative of M/s. DuPont on the projections of consumption of HCFCs and HFCs as well as adoption of alternatives other than HFCs as HFCs are being growingly used in the developed countries.

The representative of M/s. Carrier Midea India Pvt. Ltd. made an observation about the rationale for discussion on phase-down/phase-out of HFCs under the ambit of Montreal Protocol. He emphasized that there is no mandate of phase-down/phase-out of HFCs under the Vienna Convention or its Montreal Protocol. It is already covered under the Kyoto Protocol.

Mr. B. C. Jain of Ms. Gujarat Fluorochemicals Ltd. (GFL) made a comment saying that the good points of the Montreal Protocol could be adopted under the Kyoto Protocol for phase-down/phase-out of HFCs and for effectively meeting this objective, the USA could become a Party to the Kyoto Protocol.

Mr. P. K. Mahindra of RAMA sought clarification on the safety issues for the alternatives, particularly, the new Hydrofluoroolifin-1234yf (HFO-1234yf) refrigerant. The representative of M/s. Honeywell responded the clarification and stated that the safety issues have been adequately addressed. Mr. Mahindra further sought the rationale for M/s. Mercedes-Benz not using HFO-1234yf in its vehicle air-conditioning systems, but to continue using HFC-134a. The representative of M/s. Honeywell responded that there have been issues of safety in using HFO-1234yf, which need to be addressed adequately. The Indian industry representative was not satisfied with the response. Further clarification was sought on the extent of commercialisation of HFO-1234yf. The representative of M/s. Honeywell responded that the commercialisation would happen soon.

A representative of industry sought a clarification on the presentation made by NRDC about the issue relating to traffic congestion consuming upto 20% of fuel used in air-conditioned vehicle and also the rationale for arriving at the percentage. The representative of NRDC responded that the

percentage has been ascertained based on studies carried out on the subject by various agencies.

Dr. A. Duraisamy, Director, Ozone Cell sought clarification on the Statement of representative of M/s. DuPont relating to lack of coordination between the Montreal Protocol and the Kyoto Protocol. It was mentioned that the principles and provisions of the Montreal Protocol and the Kyoto Protocol are different. The Montreal Protocol deals with phase-out of production and consumption of Ozone Depleting Substances (ODSs) whereas the Kyoto Protocol deals with the control of emissions. The representative of M/s. DuPont responded by saying that the issue to be addressed using pragmatic approach. Dr. Duraisamy further clarified that had there been coordination between the Montreal Protocol and the Kyoto Protocol, the successful phase-out of Chlorofluorocarbons (CFCs), Carbon-tetrachloride (CTC) and Halons as per the Montreal Protocol schedule would not have been possible.

The Chairman of TFSC, Dr. Kaprwan in his concluding remarks observed that there is a lack of clarity on the definition of low/high Global Warming Potential (GWP). He also observed that the overall contribution of HFCs as Green House Gas (GHG) emissions is only about 1% of the total GHG emissions in the atmosphere. The Chairman further mentioned that the phase-down/phase-out of HFCs under the Montreal Protocol needs to be examined, particularly when proven alternatives are still emerging. The Montreal Protocol is already addressing the issue of phase-down of HCFC and it should continue to do so as per the accelerated phase-out schedule.

The meeting ended with thanks to all the participants and the presenters, especially from abroad who have travelled a long distance and spare their valuable time for sharing their thoughts to the industry and other stakeholders.

Annexure III

M/s SRF Limited

P.O. No. SRF/DAHEJ/P1 Project/8096 **dated** 16.10.12

Inconel -600 Seamless Tubes for Heat Exchangers

Sl. No	Item Description	No. of Pcs	Price Pcs (GBP)	Total value (GBP)
1	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx1397 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	252	44.61	11,241.72
2	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx1187 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	394	37.9	14,932.60
3	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx2089 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	560	66.7	37,352.0
4	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx3000 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	688	95.79	65,903.52
5	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNs N06600; size:19.05 ODX2.11 Minwalx1500 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	818	47.9	39,182.20
6	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx2540 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	518	81.1	42,009.80
7	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx2845 MM cut length; PE,	920	90.84	83,572.80

	100% ECT/Hydro, with MTC as per EN10204 TP 3.1			
8	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx3048 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	1536	97.32	1,49,483.52
9	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx2000 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	74	68.86	5,095.64
10	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:19.05 ODX2.11 Minwalx4000 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	1415	127.72	1,80,723.80
11	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:25.4 ODX2.11 Minwalx2520 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	778	110.90	86,287.98
12	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:25.4 ODX2.11 Minwalx2200 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	572	96.82	55,381.04
13	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:25.4 ODX2.11 Minwalx1630 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	232	71.74	16,643.68
14	Seamless tube, cold drawn, pickled & annealed, MOC:SB163 UNS N06600; size:25.4 ODX2.11 Minwalx2250 MM cut length; PE, 100% ECT/Hydro, with MTC as per EN10204 TP 3.1	816	99.02	80,800.32
			Total GBP	**8,68,610.62**
			Total INR	**7,64,37,768/-**

Annexure IV

M/s SRF Limited
P.O. No. SRF/project/Dahej/1823 **dated** 02.01.2013

Magnetic Drive chemical process pumps

Sl. No	**Item Description**	**No. of Pcs**	**Price Pcs (GBP)**	**Total value (GBP)**
1	Complete, Magnetic Driven Pump Centrifugal Sealless Non-Metallic, Make: Richter, Model No: Mnk/F 80-50-250, Bare Pump With Base Frame + Foundation Bolt + Spacer Coupling + Coupling Guard, Moc : Wetted Part : Pfa Lined, Can : Cfk – F & Tfm 1600, Bearing	2 No	13,830	27,660.40
2	Dry Run Protection, Magnetic Driven For Pump Centrifugal Sealless Non-Metallic, Make : Richter, Model No: Mnk/F 80-50-250	2 No	637/-	1,274/-
3	Housing Gasket, Magnetic Driven For Pump Centrifugal Sealless Non-Metallic, Make : Richter, Model No: Mnk/F 80-50-250, Moc : Tfm 1600	1 Set	67.10	67.10
4	Complete Set Of Plain Bearing, Magnetic Driven For Pump Centrifugal Sealless Non-Metallic, Make: Richter, Model No: Mnk/F80-50-250,Moc	1 Set	1232	1,232/-
5	Pump Shaft, Magnetic Driven For Pump Centrifugal Sealless Non-Metallic, Make: Richter, Model No: Mnk/F80-50-250, Moc:1.4057/Pfa	1 Set	369.60	369.60
6	Can Insert, Magnetic Driven For Pump Centrifugal Sealless Non-Metallic, Make: Richter, Model No:Mnk/F80-50-250, Moc:Tfm 1600	1 Set	689.70	689.70
7	INTERMEDIATE RING CAN, MAGNETIC DRIVEN FOR PUMP CENTRIFUGAL SEALLESS ON-METALLIC, MAKE : RICHTER, MODEL NO: MNK/F80-50-250, MOC: PTFE(CFK-F)	1 SET	27.50	27.50
	Air Freight Charges	1 Lot		1,100/-
			Total In Euro	**32,420.30**
			Total In Inr	**23,08,318/-**

Annexure V

Import on High Seas basis from M/s Larsen Toubro Ltd.,

SRF PO No. SRF/Dahej/P1- Project/7217A

Source : M/s. Nobelclad Europe SA, France
(**P.O. No.** IMP/310130 **dated** 11.10.2012)

Clad plates for inconel reactors

S. N	Tag No.	Item Description	Qty. (MT)	Total (EURO)
		SA516M/SB168		
1	R-11111	3.59 Mtr X 3.59 Mtrs X 34mm+3.8mm thk. – 2 Nos.	7.796 MT	81,343.46
2	R-11211	4.655 Mtr X 4.655 Mtrs X 47mm+3.8mm thk. – 2 Nos.	17.340 MT	1,39,326.90
3	R- 11121	3.59 Mtr X 3.59 Mtrs X 34mm+3.8mm thk. – 2 Nos.	7.795 Mt	81,333.03
4	R-11221	4.655 Mtr X 4.655 Mtrs X47mm+3.8mm thk.. – 2 Nos.	17.340 Mt	1,39,326.90
5	R-11111/ R-11121	9.265 Mtr X 2.10 Mtrs X 40 mm+3mm thk. – 2 Nos.	13.386 MT	96,138.25
6	R-11211/ R-11221	12.135 Mtr X 2.090 Mtrs X 58mm+3mm thk. – 2 Nos.	24.754 Mt	1,32,532.91
			Total Euro	**6,70,001.45**
			Total INR	**2,60,00,000/-**

Annexure VI

SRF P.O. No. SRF/DAHEJ/P1-Project/7217A

Source : M/s Salzgitter Mannesmann Stainless, Italy
(**P.O. No**. IMP/310120 **Dated** 29.08.2012)

Inconel tubes for inconel reactors

S. N	**Tag No.**	**Item Description**	**Qty. (Pcs)**	**Total (EURO)**
1	R-11111	UNS No. N06600	510	439558.80
2	R-11121	UNS No.. N06600	510	439558.50
3	R – 11111	UNS No. N06600	1	861.88
4	R-11121	UNS No. N06600	1	861.88
5	R-11211	UNS No. N06600	890	1128395.40
6	R-11121	UNS No. N06600	890	1128395.40
			Total euro	**31,37,632.16**
			Total INR	**24,00,00,000/-**

Annexure VII

SRF P.O. No. SRF/DAHEJ/P1-Project/7217A

Source : M/s Arabian Oasis Industries LLC, Dubai.
(**P.O. No.** IMP/ 310144 **dated** 21.11.2012)

Ellipsoldal Heads for Inconel Reactors

S. N	**Tag No.**	**Item Description**	**Qty. (Pcs)**	**Total (USD)**
		SA265 (SA516M + SB168)		
1	R-11111	Ellipsoidal Heads	1	3467.25
2	R-11121	Ellipsoidal Heads	1	3467.25
3	R- 11111	Ellipsoidal Heads	1	3467.25
4	R-11121	Ellipsoidal Heads	1	3467.25
5	R-11211	Ellipsoidal Heads	1	11976.25
6	R-11221	Ellipsoidal Heads	1	11976.25
7	R-11211	Ellipsoidal Heads	1	11976.25
8	R-11221	Ellipsoidal Heads	1	11976.25
			Total USD	**61,774/-**
			Total INR	**4,80,00,000/-**

Annexure VII

SRF P.O. No. SRF/DAHEJ/P1-Project/7217A

Source : M/s H. Van Triel GMBH (**P.O. No.** IMP/310151 **dated** 12.12.2012)

Forgings for Inconel Reactors

S. N	Tag No.	Item Description	Qty. (Pcs)	Total (EURO)
		SB 564		
1.	R-11111	Nozzle N2	1	12962.00
2.	R-11121	Nozzle N2	1	7062.00
3.	R-11111	Nozzle N1	1	2193.00
4.	R-11121	Nozzle N1	1	2193.00
5.	R-11111	Nozzle N3	1	228.00
6.	R-11121	Nozzle N3	1	228.00
7.	R-11111	Nozzle N4	1	228.00
8.	R-11121	Nozzle N4	1	228.00
9.	R-11211	Nozzle N3	1	228.00
10.	R-11221	Nozzle N3	1	228.00
11.	R-11211	Nozzle N4	1	228.00
12.	R-11221	Nozzle N4	1	228.00
13.	R-11111	Nozzle N1	1	1594.00
14.	R-11121	Nozzle N1	1	1594.00
15.	R-11111	Nozzle N2	1	1594.00
16.	R-11121	Nozzle N2	1	1594.00
17.	R-11111	Nozzle N1	1	1594.00
18.	R-11121	Nozzle N1	1	1594.00
19.	R-11111	Nozzle N2	1	1594.00
20.	R-11121	Nozzle N2	1	1594.00
21.	R-11111	Nozzle N3	1	4756.00
22.	R-11121	Nozzle N3	1	4756.00
23.	R-11111	Nozzle N4	1	3544.00
24.	R-11121	Nozzle N4	1	3544.00
25.	R-11211	Nozzle N3	1	5036.00
26.	R-11221	Nozzle N3	1	5036.00
27.	R-11211	Nozzle N4	1	3171.00
28.	R-11221	Nozzle N4	1	3171.00
			Total Euro	**72,000.00**
			Total INR	**90,00,000/-**

Annexure IX

SRF P.O. No. SRF/DAHEJ/P1-Project/7217A

Source : M/s Soudkay, Belgium. (**P.O. No**. IMP/310145 **dated** 23.11.2012)

Welding Strips and Flux for Inconel Reactors

S. N	**Tag No.**	**Item Description**	**Qty. (Kgs.)**	**Total (EURO)**
1	R–11111 / R–11121 / R–11211 / R–11221	Welding Strips.	2,009.55	58,076.00
2	R–11111 / R–11121/ R–11211/ R–11221	Flux	4,550	19,565.00
			Total EURO	**77,641.00**
			Total INR	**90,00,000/-**