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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
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PROJECT PROPOSALS: ARGENTINA

This document includes the comments and recommendations of the Fund Secretariat on the following project proposals:

Foam

- Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. blocks and tank spraying at Polwer S.R.L. UNIDO

Fumigant

- Demonstration project for testing methyl bromide alternatives in post-harvest disinfection for cotton and citrus IBRD

Refrigeration

- Phaseout of CFC-11 by conversion to HCFC-141b techn.,and of CFC-12 by conversion to HFC-134a in the manufacture of com.ref,display cabinets and polyurethane panels for cold stores at Perito Moreno Ref. UNDP

Solvent

- Replacement of the present 1,1,1-trichloroethane (MCF) sheet steel cleaning system on the steel sheet-cutting table with an aqueous-mechanical system in a steel enterprise (Siderar S.A.I.C.) IBRD
- Umbrella Project for 9 Enterprises - Conversion from MCF used as solvent to aqua based cleaning at Argelite La Rioja S.A.; CIMCAM S.A.; Grimoldi S.A.; Helioldino S.A.I.C; Integral Metalurgica S.A; Orbis Mertig S.A.I.C.; Trosh S.A. Unisol S.A. & Buffalo S.A IBRD

PROJECT EVALUATION SHEET

ARGENTINA

SECTOR: Foam ODS use in sector¹: Not Available¹
 Sub-sector cost-effectiveness thresholds: Rigid US \$7.83/kg

Project Titles:

- (a) Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. blocks and tank spraying at Polwer S.R.L.

Project Data	Rigid
	Polwer
Enterprise consumption (ODP tonnes)	30.15
Project impact (ODP tonnes)	26.80
Project duration (months)	18
Initial amount requested (US \$)	208,501
Final project cost (US \$):	
Incremental capital cost (a)	50,000
Contingency cost (b)	3,500
Incremental operating cost (c)	58,141
Total project cost (a+b+c)	111,641
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	111,641
Cost effectiveness (US \$/kg.)	4.16
Counterpart funding confirmed?	Yes
National coordinating agency	OPROZ
Implementing agency	UNIDO

Secretariat's Recommendations	
Amount recommended (US \$)	111,641
Project impact (ODP tonnes)	26.80
Cost effectiveness (US \$/kg)	4.16
Implementing agency support cost (US \$)	14,513
Total cost to Multilateral Fund (US \$)	126,154

¹ Sector data provided in UNIDO and the World Bank (subsequently deferred) is foam projects for Argentina respectively sector baseline data (1995-1997) as 1,577 ODP tonnes and 1996 sector data as 1,275 ODP tonnes. Argentina has not reported its sector-based data to the Fund Secretariat.

PROJECT DESCRIPTION

(a) **Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. blocks and tank spraying at Polwer S.R.L.**

Sector Background

- Latest available total ODS consumption (1997)	5,706.7	ODP tonnes
- Baseline consumption* of Annex A Group I substances (CFCs)	5,061.7	ODP tonnes
- 1998 consumption of Annex A Group I substances	3,965	ODP tonnes
- Baseline consumption of CFCs in foam sector	Not reported	
- 1998 consumption of CFCs in foam sector	Not reported	
- Funds approved for investment projects in foam sector as of March 1999	US \$ 2,822,920	
- Quantity of CFC to be phased out in foam sector as of March 1999 (27 th Meeting)	1,200.8	ODP tonnes
- Quantity of CFC phased out in foam sector as of March 1999 (27 th Meeting)	368	ODP tonnes

*Baseline consumption of Annex A controlled substances refers to average of the consumption for the years 1995-1997 inclusive.

Other relevant information:

1. One project is being submitted to the 28th Executive Committee Meeting in the foam sector. When approved and implemented 26.8 ODP tonnes of CFC-11 will be phased out.

Impact of the Project

2. The 26.8 tonnes to be phased out constitutes 0.5 per cent of Argentina's baseline consumption of Annex A Group I substances. There will be a residual ODP of 3.35 ODP tonnes due to the use of HCFC-141b as substitute blowing agent.

Justification for the Use of HCFC-141b

3. Powler S.R.L will convert to interim use of HCFC-141b. The HCFC-141b technology was selected following analysis of economic and technological impact of the available conversion options. A letter from the Government of Argentina in fulfilment of Decision 27/13 on projects involving HCFCs has been submitted and attached as Annex I to the evaluation.

(a) **Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. blocks and tank spraying at Polwer S.R.L.**

4. Polwer S.R.L. uses 30 tonnes of CFC-11 per annum to manufacture approximately 227 tonnes of rigid block and spray foam. This project will phase out 100% of the use of CFC-11 in the production of rigid PU foam blocks for the insulation and construction industries and tank spraying. The chosen interim replacement is HCFC-141b. The final conversion will be an all water or HFCs based system when available in the market. The project includes the

purchase of a new foaming machine for the block foam production at US \$40,000 with company contribution of US \$10,000 retrofit of a Gusmer machine (US \$5,000), technology transfer and training, commissioning and start up (US \$15,000) and incremental operating costs of US \$58,141. The choice of HCFC-141b and the envisaged time frame for the phasing out of ODS is in line with the programme of the Government of Argentina.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The project has been discussed between the Fund Secretariat and UNIDO and agreed at a cost of US \$111,641.

RECOMMENDATIONS

1. The Fund Secretariat recommends blanket approval of the Polwer S. R. L. project with the funding level and associated support cost indicated below.

	Project Title	Project Cost (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. blocks and tank spraying at Polwer S.R.L.	111,641	14,513	UNIDO

PROJECT DESCRIPTION

(a) Demonstration project for testing methyl bromide alternatives in post-harvest disinfestation for cotton and citrus

1. In 1998, nearly 455 ODP tonnes (ODP= 0.6) of methyl bromide were imported into the country. About 80 per cent is used for soil fumigation for production of tomatoes (open-field and seedbeds), peppers (open-field and seedbeds), cut flowers (nursery greenhouses), fruits (seedbeds in nursery greenhouses), and tobacco (nurseries). Post harvest applications for citrus and cotton fiber represent about 7 per cent of the total consumption.
2. The project is to demonstrate the technical, social and economic feasibility of the following methyl bromide alternative technologies to the use of methyl bromide: phosphine (citrus and cotton), carbon bisulphide (cotton), cold treatment (citrus) and integrated pest management systems.
3. The results of the application of the alternative technologies will be included in a technical report and will be disseminated through workshops.
4. The Project will be executed by SENASA (National Phytosanitary Service), with the assistance of national research centres that will be selected through a public bidding process at the national level (such as the Parasitology and Ecotoxicology of Consejo Nacional de Investigaciones Científicas y Técnicas, and the Obispo Colombres Experimental Station).
5. SENASA will be accountable for expenditures made under the project, and will prepare annual progress reports on the achievements of the overall project. They will sign co-operation and assistance agreements with producers from representative entities from the private sector. A bidding process for contracting research and test services will be established.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The project concept follows the current guidelines for projects in the methyl bromide sector.
2. The World Bank is proposing to implement the project through a competitive tender approach. The level of funding requested in the proposal is indicative and will be used for preparation of the tenders. Once the project is approved, the World Bank will submit the project for open tendering (initiated at the country level to ensure local tenders participation in the process). Once the tenders are received (a minimum of three), they will be reviewed by an Independent Panel. The contract will be awarded to the tender selected by the Panel. The World Bank will report to the Executive Committee on the results of the tender process, once it is completed. A description of the tendering process prepared by the World Bank for selecting a firm to perform tests and disseminate results is attached as Annex I to the Project Evaluation Sheet.

3. The Secretariat discussed with the World Bank issues regarding laboratory requirements for preliminary studies, the need for small-scale disinfestation trials considering that cold disinfestation regimes and dosage rates for control of pests affecting cotton are well established; the need for modification of the existing fumigation facilities (retrofit) since they should already be adequately sealed and equipped for methyl bromide applications. The World Bank agreed to adjust the costs of the project accordingly (a total reduction of US \$107,000 was agreed).

4. The World Bank informed the Secretariat that approval of the Executive Committee of the adjusted project cost is a requirement for the Bank to proceed with the tendering of the project.

RECOMMENDATION

1. The Secretariat and the World Bank have agreed on the cost of the project as shown in the table below.

Project Title	Project Cost US \$	Support Cost US \$	Implementing Agency
Demonstration project for testing methyl bromide alternatives in post-harvest disinfestation for cotton and citrus	375,000	48,750	World Bank

2. The Executive Committee may wish to consider the approach proposed by the World Bank for the implementation of the project.

WORLD BANK – MONTREAL PROTOCOL
Alternatives to MeBr use in post-harvest applications in citrus and cotton in Argentina

**TENDERING PROCESS FOR SELECTING FIRM
TO PERFORM TESTS AND DISSEMINATE RESULTS**

Objective

To ensure a prompt and cost-effective implementation of the following project components:

- Testing of Phosphine as a MeBr substitute for disinfestation of *A. grandis* (Boll Beewill) in cotton seeds and cotton fiber
- Testing of Phosphine as a MeBr substitute for disinfestation of *C.Capitata* (Mediterranean Fly) in fruits
- Testing of Carbon Bisulphide as a MeBr substitute for disinfestation of *A. grandis* (Boll Beewill) in cotton seeds and cotton fiber
- Testing of cold treatment as a MeBr substitute for disinfestation of *C.Capitata* (Mediterranean Fly) in fruits
- Transfer technology and disseminate project results.

Process Rationale

The tendering process is devised as a mechanism to ensure that companies and institutions capable of performing the components described above will compete to implement them at the lowest cost possible while offering good quality results. The process will start with clearly defined objectives, timeframe, and level of resources. Bidders are expected to offer their services at the lowest possible cost within a range of funding. Competition will ensure that the services will be performed at a cost lower than the notional cost allocation already defined by the amount approved by ExCom in the project. Since different bidders with different capabilities are expected to participate in the tendering process, the cost levels defined by the project and finally approved by the ExCom are only indicative; different allocation of those resources are expected for each bidder.

Process Description

1. The tendering process will be performed according to the World Bank's commercial practices, and will be conducted through UEPRO, its financial agent in Argentina. The tendering will be based on Terms of Reference that will be produced by SENASA, and which will include the following:
 - General Background. What is expected, MeBr controls
 - Protocols for conducting the tests, specifying required dosages, breeding processes (where applicable), inoculation process, infestation testing procedures, exposure timing, statistical validation procedures, cotton fiber prototype, use of horn technique, and criteria and tests for quality determination.

- Duration and preliminary schedule
 - Expected Output. Evidence of effectiveness of alternative fumigants being tested, and effective dissemination of results (including production of manual). Test results should be enough to ensure wide scale application of alternatives.
 - Profile of bidder. Required or desired capabilities of bidder. Technical, and resource capability to conduct the tests under the level of resources approved (cap). Experience in fumigation/disinfestation techniques, previous similar experiences, profile of human resources participating in study, years of experience, proposed plan of implementation, knowledge of the sector.
 - Payment. Disbursement will be made against performance, most typically 20% advance, 30% mid-term review, 40% end-review, 20% final report.
2. Once the biddings are collected, a preliminary selection of at least three firms/institutions will be selected by SENASA and UEPRO. Selection will be based on cost, and quality of the proposal.
 3. The Bank will then give no objection to selection of implementing firm, based on regular rules for procurement.
 4. A contract will then be prepared to be signed between SENASA or UEPRO and the winning firm, which will contain all legal provisions common to other Sub Grant Agreements.
 5. Coordination and supervision of the project will be undertaken by the project coordinator, in close coordination with SENASA. UEPRO will only check reports and approve disbursements.
 6. The World Bank will be the Implementing Agency on behalf of the Multilateral Fund and will ensure that this project is implemented within the guidelines of the Executive Committee.

PROJECT EVALUATION SHEET ARGENTINA

SECTOR: Refrigeration ODS use in sector (1994): 2,078 ODP tonnes

Sub-sector cost-effectiveness thresholds: Commercial US \$15.21/kg
Domestic US \$13.76/kg
Rigid Foam US \$7.83

Project Titles:

- (a) Phaseout of CFC-11 by conversion to HCFC-141b techn.,and of CFC-12 by conversion to HFC-134a in the manufacture of com.ref,display cabinets and polyurethane panels for cold stores at Perito Moreno Ref.

Project Data	Commercial
	Perito Moreno
Enterprise consumption (ODP tonnes)	34.30
Project impact (ODP tonnes)	31.10
Project duration (months)	30
Initial amount requested (US \$)	473,000
Final project cost (US \$):	
Incremental capital cost (a)	342,000
Contingency cost (b)	34,200
Incremental operating cost (c)	174,274
Total project cost (a+b+c)	550,474
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	379,605
Cost effectiveness (US \$/kg.)	12.20
Counterpart funding confirmed?	Yes
National coordinating agency	OPROZ
Implementing agency	UNDP

Secretariat's Recommendations	
Amount recommended (US \$)	379,605
Project impact (ODP tonnes)	31.10
Cost effectiveness (US \$/kg)	12.20
Implementing agency support cost (US \$)	49,349
Total cost to Multilateral Fund (US \$)	428,954

PROJECT DESCRIPTION

Sector Background

– Latest available total ODS consumption (1997)	5,706.7 ODP tonnes
– Baseline consumption* of Annex A Group I substances (CFCs)	5,061.7 ODP tonnes
– 1998 consumption of Annex A Group I substances	Not reported
– Baseline consumption of CFCs in refrigeration sector	Not reported
– 1998 consumption of CFCs in refrigeration sector	Not reported
– Funds approved for investment projects in refrigeration sector as of March 1999	US \$15,730,683
– Quantity of CFC to be phased out in refrigeration sector as of March 1999	30.0 ODP tonnes
– Quantity of CFC phased out in refrigeration sector as of March 1999	756.7 ODP tonnes

*Baseline consumption of Annex A controlled substances refers to average of the consumption for the years 1995-1997 inclusive.

Sector Information

(a) Phaseout of CFC-11 by conversion to HCFC-141b techn., and of CFC-12 by conversion to HFC-134a in the manufacture of com. ref, display cabinets and polyurethane panels for cold stores at Perito Moreno Ref.

1. This project will phase out 31.1 ODP tonnes in the manufacture of commercial refrigerators, display cabinets, and polyurethane panels for cold stores at Perito Moreno Refrigeración. Since the project duration is 2.5 years, the expected ODP phase out would not impact on the 1999 freeze target of the country, but is important in helping Argentina to meet the country's obligations with the Montreal Protocol.

2. The enterprise will convert its foam manufacturing to HCFC-141b as the blowing agent and refrigeration operations to HFC-134a as the refrigerant. The enterprise operates three low pressure foam dispensers (two at 60 kg/min and one at 80 kg/min). There are also one home built charging unit, three vacuum pumps, and two leak detectors. All of the above will be replaced and scrapped, except three vacuum pumps will be retrofitted. The project will include incremental capital costs covering two high pressure dispensers (US \$220,000), a positioning system for mixheads and hose (US \$30,000), one charging unit (US \$18,000), retrofit of three vacuum pumps (US \$1,500), two leak detectors (US \$2,500), trials (US \$30,000), and technology transfer and training (US \$40,000). The incremental operating cost is requested for two years.

3. The part of production of unitary refrigeration equipment using compressors below 250 WT is classified under the domestic refrigeration sub-sector. The grant requested corresponds to the maximum funding allowed under the thresholds established by the Executive Committee. The company will provide funding for the difference in cost, as the project cost exceeds the maximum allowable grant.

4. The project contains the list of equipment to be destroyed after conversion.

Justification for the Use of HCFC-141b

5. HCFC-141b will be used as substitute blowing agent by Perito Moreno. Justification for the use of HCFC-141b has been provided in the project document, including technical and economic analysis of the use of other alternative technologies in comparison with HCFC technology. The Government's concurrence of the use of HCFC technology has been provided in accordance with Executive Committee Decision 27/13 and is attached as Annex I to this evaluation.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The Secretariat discussed with UNDP issues related to the implementation of Decision 26/36 regarding the boundary between domestic and commercial refrigeration sub-sectors and classification of insulation panels under the rigid foam sector. The relevant cost-effectiveness thresholds have been applied. The calculation of the eligible grant has been adjusted accordingly.

RECOMMENDATION

1. The Fund Secretariat recommends blanket approval of the project with funding level and associated support cost as indicated in the table below:

	Project Title	Project Cost (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Phaseout of CFC-11 by conversion to HCFC-141b techn.,and of CFC-12 by conversion to HFC-134a in the manufacture of com.ref,display cabinets and polyurethane panels for cold stores at Perito Moreno Ref.	379,605	49,349	UNDP

**PROJECT EVALUATION SHEET
ARGENTINA**

SECTOR: Solvent ODS use in sector (1998): 90.8 ODP tonnes (TCA only)

Sub-sector cost-effectiveness thresholds: TCA US \$38.5/kg

Project Titles:

- (a) Umbrella Project for 9 Enterprises - Conversion from MCF used as solvent to aqua based cleaning at Argelite La Rioja S.A.; CIMCAM S.A.; Grimoldi S.A.; Heliodino S.A.I.C; Integral Metalurgica S.A; Orbis Mertig S.A.I.C.; Trosh S.A. Unisol S.A. & Buffalo S.A
- (b) Replacement of the present 1,1,1-trichloethane (MCF) sheet steel cleaning system on the steel sheet-cutting table with an aqueous-mechanical system in a steel enterprise (Siderar S.A.I.C.)

Project Data	Multiple solvents	TCA
	Umbrella	Siderar
Enterprise consumption (ODP tonnes)	7.07	6.70
Project impact (ODP tonnes)	7.07	6.70
Project duration (months)	12	24
Initial amount requested (US \$)	272,157	182,579
Final project cost (US \$):		
Incremental capital cost (a)	351,600	450,000
Contingency cost (b)	35,160	45,000
Incremental operating cost (c)	465,803	-293,569
Total project cost (a+b+c)	852,563	201,431
Local ownership (%)	100%	58%
Export component (%)	0%	20%
Amount requested (US \$)	272,157	105,147
Cost effectiveness (US \$/kg.)	38.50	15.69
Counterpart funding confirmed?		
National coordinating agency	OPROZ/INTI	OPROZ/INTI
Implementing agency	IBRD	IBRD

Secretariat's Recommendations		
Amount recommended (US \$)	272,157	105,147
Project impact (ODP tonnes)	7.07	6.70
Cost effectiveness (US \$/kg)	38.50	15.69
Implementing agency support cost (US \$)	35,380	13,669
Total cost to Multilateral Fund (US \$)	307,537	118,816

PROJECT DESCRIPTION

Sector background:

- | | | |
|---|--|--------------------|
| - | Baseline consumption of Annex A Group 1 substances (CFCs)* | 5,061.7 ODP tonnes |
| - | Latest available total ODS consumption (1998) | Not reported |
| - | Baseline consumption in the solvent sector | Not reported |
| - | Latest consumption of TCA in the solvent sector (1998) | 90.8 ODP tonnes |

* Baseline consumption of Annex A controlled substances refers to average of the consumption for the years 1995-1997

(a) Umbrella Project for 9 Enterprises – Conversion from MCF used as solvent to aqua based cleaning at Argelite La Rioja S.A.; CIMCAM S.A.; Grimoldi S.A.; Heliodino S.A.I.C; Integral Metalurgica S.A; Orbis Mertig S.A.I.C.; Trosh S.A. Unisol S.A. & Buffalo S.A

1. This is a group project to phase out the consumption of a total of 7.1 ODP tonnes of TCA used for metal cleaning in nine enterprises engaged in the manufacture of automotive parts and shoes. The project is similar to a World Bank project for 17 enterprises in Turkey approved at the 25th Meeting. The enterprises will convert to the use of aqueous cleaning technology with equipment supplied by one local manufacturer. The project will be implemented through replacement of existing cleaning facilities, adaptation of wastewater treatment, training and commissioning.

2. For each enterprise, the eligible grant calculated on the basis of the cost-effectiveness threshold for the TCA sub-sector is less than the total incremental cost and implementation will involve counterpart funding. Adaptation of wastewater treatment where necessary, as well as incremental operating costs are not requested. The proposed grant will contribute to the capital costs for one new aqueous cleaning machine (7 enterprises) and two new machines for one enterprise. One other enterprise has unusual baseline equipment for which retrofitting is intended, as retrofitting is more cost effective in this case.

Impact of project on country's Montreal Protocol Obligations

3. The total consumption of TCA in Argentina in 1988 is reported in the project document to be 90.8 ODP tonnes. When implemented the project will reduce this figure by 7.1 ODP tonnes or 8 percent.

(b) Replacement of the present 1,1,1-trichloroethane (MCF) sheet steel cleaning system on the steel sheet-cutting table with an aqueous-mechanical system in a steel enterprise (Siderar S.A.I.C.)

4. This project is to phase out the consumption of 6.7 ODP tonnes of TCA used in a steel manufacturing plant, SIDERAR SA, to clean steel sheet prior to cutting. The existing spray process will be converted to an aqueous-mechanical cleaning system. As is usually the case in

conversion to aqueous technology the new equipment is more complex than that used with TCA. In this case the equipment required is purpose designed by a specialist company in Spain. It comprises brushes, sprays, air drying and ventilation systems, all of which traverse the cutting table at the end of the 80 metre steel rolling line. Its cost is US \$435,000.

5. The project has substantial incremental operating savings since the new aqueous additives are less costly than the large quantities of TCA now being consumed. The enterprise has 42% non-Article 5 ownership and exports 20% of its products to non-Article 5 countries.

Impact of Project on Country's Montreal Protocol Obligations:

6. The total consumption of TCA in Argentina in 1988 is reported in the project document to be 90.8 ODP tonnes. When implemented the project will reduce this figure by 6.7 ODP tonnes or 7 percent.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

(a) Umbrella Project for 9 Enterprises

1. In the project document the technology selection was described as "foreseen". The implementing agency (the World Bank) confirmed that the technology selection is firm. Consumption data is provided for each enterprise for the calendar year 1998. The baseline equipment is fully described and there are no cost or eligibility issues associated with capital costs. Incremental operating costs have not been claimed. For this reason, they have not been reviewed by the Fund Secretariat which, therefore, cannot confirm that they are fully eligible.

(b) Siderar S.A.I.C.

2. A quotation from the manufacturer was provided to support the cost of the new cleaning system. TCA consumption was based on the quantity consumed in the three year period 1996 to 1998. After discussions on the components of incremental operating savings, they were recalculated by the implementing agency, the World Bank, to include more accurate figures for the quantities and cost of the cleaning additives to be used after conversion and the cost of TCA used before conversion. Incremental operating savings (for four years) increased from US \$180,207 to US \$ 293,569. Because of the deductions for foreign ownership and exports the project has a better than usual cost effectiveness figure for TCA projects of US \$15.69 per kg.

RECOMMENDATION

1. The Fund Secretariat recommends blanket approval of the projects with associated support costs at the funding level shown in the table below:

	Project Title	Project Cost (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Umbrella Project for 9 Enterprises - Conversion from MCF used as solvent to aqua based cleaning at Argelite La Rioja S.A.; CIMCAM S.A.; Grimoldi S.A.; Heliolino S.A.I.C; Integral Metalurgica S.A; Orbis Mertig S.A.I.C.; Trosh S.A. Unisol S.A. & Buffalo S.A	272,157	35,380	IBRD
(b)	Replacement of the present 1,1,1-trichloethane (MCF) sheet steel cleaning system on the steel sheet-cutting table with an aqueous-mechanical system in a steel enterprise (Siderar S.A.I.C.)	105,147	13,669	IBRD