Annex I

UNIFORM REPORTING FORMAT:

ACTIVITIES IMPLEMENTED JOINTLY UNDER THE PILOT PHASE

A. Description of project

1) Title of project:

Installation of Coke Dry Quenching Facility

2) Participants/actors:

Please fill in one table for <u>each</u> participant/actor. For individuals fill in as from item "Function within activity".

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Item	Please fill in if applicable
Name of organization[a]:	新エネルギー・産業技術総合開発機構
Name of organization (English):	New Energy and Industrial Technology Development Organization
Department:	International Cooperation Center
Acronym:	
Acronym (English):	NEDO
Function within activity:	(standard classifiers to be developed)
Street:	1-1, 3-chome Higashi-Ikebukuro, Toshima-ku
Post code:	170-6028
City:	Tokyo
Country:	Japan
Telephone:	81-3-3987-9313
Fax:	81-3-5992-2290
E-mail:	
WWW-URL:	Http://www.nedo.go.jp
Contact person (for this activity):	------------------------------
Surname:	Kigasawa
First name, middle name:	Takaji
Job title:	Director
Direct tel:	81-3-3987-9466
Direct fax:	81-3-3987-5103
Direct E-mail:	Kigasawatkj@nedo.go.jp

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Item	Please fill in if applicable
Name of organization[a]:	新日本製鐵株式會社
Name of organization (English):	Nippon Steel Corporation
Department:	Plant & Machinery Division
Acronym:	
Acronym (English):	NSC
Function within activity:	(standard classifiers to be developed)
Street:	6-3, 2-chome Otemachi, Chiyoda-ku
Post code:	100-8701
City:	Tokyo
Country:	Japan
Telephone:	
Fax:	
E-mail:	
WWW-URL:	
Contact person (for this activity):	----------------------------------
Surname:	Yonekura
First name, middle name:	Nobuo
Job title:	Manager
Direct tel:	81-3-3275-6564
Direct fax:	81-3-3275-5654
Direct E-mail:	

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Item	Please fill in if applicable
Name of organization[a]:	中華人民共和国　科学技術部
Name of organization (English):	The Ministry of Science and Technology, People's Republic of China
Department:	Department of Social Development
Acronym:	
Acronym (English):	MOST
Function within activity:	
Street:	15B Fuxing Road
Post code:	100862
City:	Beijing
Country:	The People's Republic of China
Telephone:	
Fax:	
E-mail:	
WWW-URL:	
Contact person (for this activity):	--------------------------------
Surname:	Lu
First name, middle name:	Xuedu
Job title:	
Direct tel:	86 10 68514054
Direct fax:	86 10 68512163
Direct E-mail:	lvxd@cs.sstc.gov.cn

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Item	Please fill in if applicable
Name of organization[a]:	中華人民共和国 国家発展計画委員会
Name of organization (English):	The State Development and Planning Commission, People's Republic of China
Department:	Department of Raw and Processed Materials Industries and Resources Utilization
Acronym:	
Acronym (English):	SDPC
Function within activity:	(standard classifiers to be developed)
Street:	38S Yuetan Street
Post code:	100824
City:	Beijing
Country:	The People's Republic of China
Telephone:	
Fax:	
E-mail:	
WWW-URL:	
Contact person (for this activity):	----------------------------------
Surname:	
First name, middle name:	
Job title:	
Direct tel:	
Direct fax:	
Direct E-mail:	

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Item	Please fill in if applicable
Name of organization[a]:	中華人民共和国 国家冶金工業局
Name of organization (English):	The State Metallurgical Industry Bureau, People's Republic of China
Department:	
Acronym:	
Acronym (English):	SMIB
Function within activity:	(standard classifiers to be developed)
Street:	46 Dongsi Xidajie
Post code:	100711
City:	Beijing
Country:	The People's Republic of China
Telephone:	
Fax:	
E-mail:	
WWW-URL:	
Contact person (for this activity):	------------------------------
Surname:	
First name, middle name:	
Job title:	
Direct tel:	
Direct fax:	
Direct E-mail:	

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Item	Please fill in if applicable
Name of organization[a]:	首鋼(集団)総公司
Name of organization (English):	Shougang (Group) Corporation
Department:	
Acronym:	
Acronym (English):	Shougang
Function within activity:	(standard classifiers to be developed)
Street:	Shijingshan
Post code:	100041
City:	Beijing
Country:	The People's Republic of China
Telephone:	
Fax:	
E-mail:	
WWW-URL:	
Contact person (for this activity):	-------------------------------
Surname:	
First name, middle name:	
Job title:	
Direct tel:	
Direct fax:	
Direct E-mail:	

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Item	Please fill in if applicable
Name of organization[a]:	清華大学
Name of organization (English):	Tsinghua University
Department:	Institute of Nuclear Energy Technology / Institute for Techno-Economics & Energy Systems Analysis
Acronym:	
Acronym (English):	INET/ITEESA
Function within activity:	
Street:	Tsinghua Yuan Street, Haidian District
Post code:	100084
City:	Beijing
Country:	The People's Republic of China
Telephone:	86-10-62783655 or 86-10-6277-0322
Fax:	86-10-6277-1150
E-mail:	Liuds@tsinghua.edu.cn
WWW-URL:	http://www.inet.tsinghua.edu.cn
Contact person (for this activity):	--------------------------------
Surname:	Liu
First name, middle name:	Deshun
Job title:	Professor
Direct tel:	86-10-6278-3655
Direct fax:	86-10-6277-1150
Direct E-mail:	Liuds@tsinghua.edu.cn

[a] Organization includes: institutions, ministries, companies, non-governmental organizations, etc. involved in the activity, i.e. research institutes associated with the project, auditors, government agency closely following the activity.

3) Activity:

Item	Please fill in if applicable
General description :	By installing coke dry quenching (CDQ) facility and boiler system into existing coke oven in steel works, this project demonstrates the heat recovery from hot coke by inert gas and high quality steam generation which can be utilized by the factory.
Type of project :[a)]	Energy efficiency
Location (exact, e.g. city, region, State):	No.1 Coke Oven (Annual coke production : 475,000ton, in which 449,000 ton by CDQ capacity) Shougang Co, Shijingshan, Beijing, 100041, China
Activity starting date:	December 1997
Expected activity ending date:	March 2001
Stage of activity:[b)]	Mutually agreed
Lifetime of activity if different from ending date:[c)]	20Year
Technical data:[d)]	

[a)] For example, using Intergovernmental Panel on Climate Change (IPCC) classification: energy efficiency; renewable energy; fuel switching; forest preservation, restoration or reforestation; afforestation; fugitive gas capture; industrial processes; solvents; agriculture; waste disposal or bunker fuels.

[b)] Circle the appropriate option.

[c)] Methodological work will be required to define lifetime of activities.

[d)] Methodological work will be required to determine for each type of activity what the minimum data requirements are.

4) Cost (to the extent possible): 1US $ =127 Japanese Yen; 1US $ =8.3 ChineseRMB; Base year :1998

Item		1997	1998	1999	2000	2001
Cost of the project in US1000$	Japan	1,055	6,213	9,732	7,087	787
	China		2,201	7,337	5,136	
	Total	1,055	8,414	17,069	12,223	787
Cost of AIJ component in US1000$	Japan		2,985	8,661	6,071	
	China		1,362	4,541	3,178	
	Total		4,347	13,202	9,249	
US$ per avoided ton of CO_2 equivalent (T- CO_2)	19.6 (Including running cost, it is 30.0)					

Describe briefly how costs are determined:

a. Items included in cost of the project:

The items to be included should not only refer to the hardware part of the CDQ project, but also the software part, such as technical design, training service, transaction, etc..

On Japanese side

The items include CDQ system equipment cost, CDQ system design cost, Technical assistant cost, Technical consultant and other transaction cost. AIJ study costs in Japan and China are not included.

On Chinese side

The items include CDQ auxiliary equipment cost, CDQ construction cost, CDQ installation cost, CDQ engineering design cost and technical training cost for CDQ system operation.

b. Items included in cost of the AIJ component:

Based on the decision 5 on creation of Activities Implemented Jointly (AIJ) Pilot Phase, the AIJ should bring about real, measurable and long-term environmental benefits related to the mitigation of climate change that would not have occurred in the absence of such activities, i.e. in the baseline case, therefore, the AIJ component here means those equipment that meet this criteria, in other words, the CDQ system equipment that would not have occurred technologically in the baseline case, i.e. Coke Wet Quenching process. While other equipment in the CDQ project that function as the same as in the baseline case with no climate change specific sense, such as infrastructure (road, power supply, water supply, space heating and tele-communication line, etc.) and equipment for local environment protection, should not be regarded as AIJ component. In paticular, the AIJ component could be identified as following.

On Japanese side

AIJ component means the equipment of CDQ system.

On Chinese side

AIJ component means auxiliary equipment dedicated to the CDQ system.

c. Unit CO_2 avoided cost here only means how much the total AIJ component cost are shared by total CO_2 emission reduction within the CDQ project lifetime for 20 years.

5) **Mutually agreed assessment procedures:**

Describe the procedures, including name of organizations involved[a]):
Basic Agreement concerning the execution of this project was concluded between NEDO and SDPC and SMIB on December 3, 1997 NEDO concluded with NSC to trust the execute Japanese scope of this project in December 4, 1997. SDPC and SMIB funded the necessary budget and instructed Shougang (Group) Corporation to execute this project. NSC and Shougang concluded the Execution Document which described the concrete specification of this project in January 12, 1998 and started the design and engineering of the project. NEDO concluded with MOST to carried out AIJ Pilot Phase study for the CDQ project on January, 1998.

[a]) Please ensure that detailed contact information for all organizations mentioned is reported under

section A.2 above.

B. Governmental acceptance, approval or endorsement

Bearing in mind that all activities implemented jointly under this pilot phase require prior acceptance, approval or endorsement by the Governments of the Parties participating in these activities, which shall be shown as follows:

a. In the case of joint reporting, the report is submitted by the designated national authority of one participating Party with the concurrence of all other participating Parties as evidenced by attached letters issued by the relevant national authorities;

b. In the case of separate reporting, the reports are submitted separately by the designated national authority of each and every participating Party. Information will only be compiled once reports have been received from all participating Parties.

1) **For the activity:**

* First report and joint reporting: please add copies of letters of endorsement by each designated national authority of Parties involved in the activity.

* Subsequent reports:

Activity was: suspended

terminated earlier

Describe:

MOST and NEDO concluded the "Memorandum of Understanding on Cooperation in the Model Project for Coke Dry Quenching as a AIJ Project under the Pilot Phase" on November 25, 1997 and the Chinese government confirmed NEDO to implement this project as AIJ under pilot phase.

The Ministry of International Trade and Industry of Japan (MITI) approved NEDO to implement this project as Activity Implemented Jointly - Japan Program on July 5, 1996.

The Japanese government confirmed the project on May 28, 1998.

The Ministry of Science and Technology, of People's Republic of China (MOST) confirmed this project as Activity Implemented Jointly (AIJ) under pilot phase on June 17, 1998.

2) This report is a joint report:

No,this is a separate report.. And then the reports are submitted separately by the designated national authority of each and every participating Party.

3) General short comment by the government(s) if applicable:

This is the first project report, and many data may not be accurate due to insufficient information and lack of uniformed methodologies which may be updated later on.

C. Compatibility with and supportiveness of national economic development and socio-economic and environment priorities and strategies

Describe (to the extent possible) how the activity is compatible with and supportive of national economic development and socio-economic and environment priorities and strategies

As energy supply and demand issues and protection of the global environment have become the focus of worldwide interest as well as the Japan, NEDO is promoting energy conservation model projects in Asian countries including China to contribute the effective use of energy and improvement of environmental pollution.

In China, as strong national policy for energy conservation and environmental protection, relating laws have come into effect.

As a joint project between Japan and China, this project will contribute to reductions in local and regional pollutants such as SOx, NOx and coke dust as well as greenhouse gas mitigation such as CO_2. The economic benefits of the project include reduction in energy consumption in steelworks.

D. Benefits derived from the activities implemented jointly project

Whenever possible, quantitative information should be provided. Failing that, a qualitative description should be given. If quantitative information becomes available, it could be submitted using the update(s). (If the amount of quantitative information is too large, the source could be indicated.)

Item	Please fill in
Describe environmental benefits in detail:	Emission of SOx, NOx, soot and smoke are reduced by the reduction of fuel consumption. Exhausting steam with coke dust from existing Coke Wet Quenching facility to the atmosphere is reduced.
Do quantitative data exist for evaluation of environmental benefits?	no
Describe social/cultural benefits in detail:	Technical transferring effect to the counter part country is expected.
Do quantitative data exist for evaluation of social benefits?	no
Describe economic benefits in detail:	Cost reduction caused by energy conversation from steam recovery is expected.
Do quantitative data exist for evaluation of economic benefits?	12.74 million Yuan/year of steam cost reduction from steam recovery.

E. Calculation of the contribution of activities implemented jointly projects that bring about real, measurable and long-term environmental benefits related to the mitigation of climate change that would not have occurred in the absence of such activities

1) Estimated emissions without the activity (project baseline):

Description of the baseline or reference scenario, including methodologies applied:
(Project Baseline) In order to well measure the additional CO_2 emission reduction by the CDQ/AIJ project, the baseline at project level should be determined based on an appropriate system boundary. In brief the CO_2 emission to be reduced by CDQ project is based on the fact that the heat recoverd by the CDQ process will generate steam that will substitute same amount of steam generated by blast furnace gas (CO) fired thermal power boiler; then the saved CO gas will be burnt as fuel in the self owned electric power plant to generate additional electricity to substitute the electricity supply purchased from electric power grid. So the system boundary should cover at least three process activities as coke making (including quenching), steam generation and electricity generation. Consequently, in the absence of the AIJ activities, the project baseline where the current CO_2 emissions is calculated, is assumed as following;

1) The existing coke oven capacity that would continuously operate with wet quenching facilities (CWQ) without waste steam heat recovery; The coal consumption in the CWQ process will generate CO_2, CO and coke as well as waste steam heat.

2) The existing steam supply system from Shougang Thermal Power Plant by using the blast furnace gas CO with lower thermal value.

3) The existing electric power supply from the grid with the average coal intensity of 380 gce/Kwh. But only those part of electricity supply purchased by the Shougang are taken into account that will be avoided by the electricity generation in self owned electric power plant in Shougang, which will be generated with the same amount of blast furnace gas CO as that for steam generation as mentioned above.

(Calculation)

According to the capacity scale of the CDQ/AIJ project, that is 449,000 tons of coke production annually, the energy consumption in the above 1), 2) and 3) in the baseline case have been calculated. Thus the CO_2, emission in the baseline case is determined by using the following methodology.

1.Energy consumption for steam heat supply is C1

$C1 = H \times f \times a = 37{,}224$ tce/a

H: Steam supply equivalent to the steam recoverd by CDQ, 251,712 ton steam annually
f: Enthalpy of steam (450℃, 3.9Mpa) , 3,330.7 KJ/Kg
a: energy intensity per GJ heat generation, 44.4 Kgce/GJ

2.Energy consumption for CWQ process is C2

$C2 = C2_1 + C2_2 = 544{,}797.68$ tce/a, where

$C2_1$: energy consumption for coke wet quenching (CWQ) process, 385.18 tce/a;

$C2_2$: coal consumption for coke making [a)]

$C2_2 = C \times p / q_{coke} = 435{,}530/0.80 = 544{,}412.5$ tce/a;

C: capacity scale for CDQ, 449,000 ton/a;

a) In coking making process, coal is converted into coke oven gas (CO, CH, etc.), coke and tar as well as CO_2, etc. In general the convertion rate would be 10% of coal for CO_2, 80-75% of coal for coke and the rest for coke oven gas. On the other hand, the coking process for CWQ and CDQ project are the same.So the deviation in calculation of $C2_2$ and CO_2 emission for both coking process will not enfluence the calculation of CO_2 emission reduction by CDQ processing against the baseline case.

p: conversion coefficient, 1 ton coke = 0.97 tce.

q_{coke}: the conversion rate of coke in coking process, 80%

3. Energy consumption for self electricity supply is C3

C3 = Elec1 × Elec2 × e1 = Bgas/e2 × e1 = Steam × e3/e2 × e1 = 34,416 tce-coal/a, where

Elec1 = electricity supply from grid, which is equal to the Elec2, the self electricity generation in CDQ/AIJ case, in kWh.

Bgas = Blast furnace gas that will be saved from avoided steam generation and then used for the self electricity generation, in tce

Steam = The steam heat recovered by CDQ, in GJ

e1 = energy intensity for the electricity generation by the grid, 380 gce/Kwh.

e2 = energy intensity for the electricity generation by the Blast furnace gas fired self owned electric power plant in Shougang, 411 gce/Kwh.

e3 = energy intensity for the steam generation by the Blast furnace gas fired thermal power boilers in Shougang, 44.4 kgce/GJ-steam.

4. Total energy consumption in baseline case is $C_{baseline}$

$C_{baseline}$ = C1 + C2 + C3 = 616,437.68 tce/a

5. CO_2 emission in baseline case is $E_{baseline}$

$E_{baseline} = (C1 \times e_{bgas} + (C2_1 + C2_2 \times q_{co2} + C3) \times e) \times 44/12$ = 412,267.99 tons of CO_2 equivalent

e_{bgas} : carbon emission factor per unit of blast furnace gas, 1.28 Kg-C /Kgce

q_{CO2}: the conversion rate of CO_2 in coking process, 10%

e: carbon emission factor per ton of coal equivalent, 0.726 Kg-C/Kgce

(Results)

Based on the assumption above, current CO_2 emission in the baseline case is 412,267.99T-CO_2/year.

2) **Estimated emissions with the activity:**

Description of the scenario, including methodologies applied:

(Concept)

With the AIJ activities in the CDQ project, the estimated emission of greenhouse gas emission (CO_2) are evaluated based on the following AIJ scenario in comparison with the baseline case:

1) Stream generation by heat recovery (energy conservation) in the heat boiler in CDQ project. Therefore no additional fuel are required and no additional CO_2 emission in this way.It resulted in the reduction of CO_2 emission that would otherwise occur in existing thermal power boiler in the baseline case. In the Shougang case the saved fuel is blast furnace gas.

2) Additional energy consumption in the CDQ processing, such as additional electric power required by the inert N_2 gas system for pressing and cleaning, etc., in comparing to the wet quenching process. It will result in the increase in certain CO_2 emission.

3) Electric power generation in the self-owned electric power plant by using the saved blast furnace gas as mentioned above.

(Calculation)

1.Energy consumption for CDQ process, C_{CDQ}

$C_{CDQ} = C_{CDQ1} + C_{CDQ2}$ = 553,569.46 tce/a, where

C_{CDQ1} : energy consumption for CDQ process, including additional electric power required by the inert N_2 gas system for pressing and cleaning, etc. 9,156.96 tce/a

C_{CDQ2}: coal consumption for coke making, which is the same as those in baseline case

$C_{CDQ2} = C \times p / q_{coke}$ = 435,530/0.80 = 544,412.5 tce/a

C: capacity scale for CDQ, 449,000 ton/a

p: conversion coefficient, 1ton coke = 0.97 tce

q_{coke}: the conversion rate of coke in coking process, 80%

2. Energy consumption for self electricity generation from self owned electric power plant by saved Blast furnace gas: C_{elec}

C_{elec} = Bgas = Steam × e3 = 37,223.95, Tce/a, where

Bgas = Blast furnace gas that will be saved from avoided steam generation by CDQ

Steam = The steam heat recoverd by CDQ, in GJ

e3 = energy intensity for the steam generation by the Blast furnace gas fired thermal power boilers in Shougang, 44.4 kgce/GJ-steam

3. Total energy consumption in CDQ/AIJ case is $C_{cdq/aij}$

$C_{cdq/aij} = C_{CDQ} + C_{elec} = 590,793.41$ Tec/a

4. E_{CDQ} is CO_2 emission in CDQ/AIJ case

$E_{CDQ} = ((C_{CDQ1} + C_{CDQ2} \times q_{CO2}) \times e + C_{elec} \times e_{bgas}) \times 44/12 = 344,003.07$ ton of CO_2 equivalent.

e:carbon emission factor per ton of coal equivalent, 0.726 KgC/Kgce;

q_{CO2}: the conversion rate of CO_2 in coking process, 10%

e_{bgas}: carbon emission factor per unit of Blast furnace gas, 1.28 Kg-C/Kgce

5. R: CO_2 emission reduction which is the difference of CO_2 emission between CWQ/baseline and CDQ/AIJ case as following:

$R = E_{baseline} - E_{CDQ}$, where,

$E_{baseline}$ is CO_2 emission in baseline case, 412,267.99 ton of CO_2 annually as above;

$R = E_{baseline} - E_{CDQ} = 412,267.99 - 344,003.07 = 68,264.9$ton of CO_2/year.

(Results)	
R:CO_2 emission reduction caused by CDQ process against the baseline case of CWQ & steam supply;	: 68,265 ton of CO_2 annually
Total	: 68,265 ton of CO_2 annually

Fill in the following tables as applicable:

Summary table: *Projected emission reductions* (unit: 1,000ton/year):

	GHG	1998	1999	2000	2001	2002	2010
A) Project baseline scenario	CO_2				412.27	412.27	412.27
	CH_4						
	N_2O						
	Other						
B) Project activity scenario[a)]	CO_2				344	344	344
	CH_4						
	N_2O						
	Other						
C) Effect (B-A)	CO_2				68.27	68.27	68.27
	CH_4						
	N_2O						
	Other						
D) Cumulative effect	CO_2				68.27	136.54	682.7
	CH_4						
	N_2O						
	Other						

Note: The calculations above are based on the schedule as follow:

Completion of construction : December, 2000

Starting-up operation : January, 2001

[a)] Includes indirect GHG leakages.

Summary table: *Actual emission reductions*:

	GHG	1998	1999	2000	2001	2002	2010
A) Project baseline scenario	CO_2						
	CH_4						
	N_2O						
	Other						
B) Project activity scenario[a)]	CO_2						
	CH_4						
	N_2O						
	Other						
C) Effect (B-A)	CO_2						
	CH_4						
	N_2O						
	Other						
D) Cumulative effect	CO_2						
	CH_4						
	N_2O						
	Other						

[a)] Includes indirect GHG leakage.

F. Additionally to financial obligations of Parties included in Annex II to the Convention within the framework of the financial mechanism as well as to current official development assistance flows

Please indicate all sources of project funding.

Category of funding (For each source one line)	Amount (US dollars)
Subsidy for improving international energy use (Japanese national budget which is MITI undertaking)	17 million US$ (1996FY-1998FY) (n/a for the budget on and after 1999)

1US$ = 127 Japanese Yen

[a])only refer to all those sources that were funded by MITI/Japan as Annex II country Party to the UNFCCC.

G. Contribution to capacity building, transfer of environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties

Transfer of environmentally sound technologies and know-how	Describe briefly
Transfer of Coke Dry Quenching (CDQ) Technology	By installing coke dry quenching (CDQ) facility and boiler system into existing coke oven in steel works, this project demonstrates the heat recovery from hot coke by inert gas and high quality steam generation which can be utilized by the factory.

Endogenous capacity supported or enhanced:

Endogenous capacity Name of organization[1)]	Development (DEV) / Enhancement (ENH)	Describe briefly
	(DEV or ENH)	

[1)] Please ensure that detailed contact information for all organizations listed is reported under section A.2 above.

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H. Additional comments, if any, including any practical experience gained or technical difficulties, effects, impacts or other obstacles encountered

Fill in as appropriate:

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1) Any practical experience gained:

Since the Project is a Model Project, dissemination activity of the technology through demonstration operation is planned in the final stage of overall project schedule. A lager effect of energy conservation and environmental improvement would be expected through dissemination of the technology in the future.

2)Technical difficulties:

Since the coke dry quenching technology had been widely disseminated in Japanese domestic steelworks by more than 90% and enough practical and commercial experience has been already compiled, the technology is highly reliable. By this reason, technical difficulty does not exists.

3) Negative impacts and/or effects encountered:

Whenever possible, quantitative information should be provided. Failing that, a qualitative description should be given. If quantitative information becomes available, it could be submitted using the update(s). (If the amount of quantitative information is too large, the source could be indicated)

none

4)Impacts encountered:

none

5) Other obstacles encountered:

none

6) Other:

In addition to the above of the effect of CO_2 reduction, it would also be pointed that, in the iron making process of the blast furnace, when CDQ coke is used instead of CWQ coke, the improvement of coke quality by the CDQ results in lower coke-iron ratio required and therefore the less consumption in coke. It would be estimated that the amount of CO_2 emission reduction would be decreased by the range from 15,400 to 17,400 ton/year. Due to the outside of the project boundary, this amount of CO_2 emission reduction should not be accounted to the total amount of the CO_2 emission reduction of this AIJ project.