F.No. 34/62/2007-EO(F)
Government of India
Ministry of Personnel, P.G. and Pensions
(Department of Personnel and Training)

New Delhi, the 31 October, 2007.

Subject: A country Focused Training Course in Plant Maintenance Engineering for Cleaner Production(exclusively for India) to be held in Japan from 25th February, 2008 to 3rd July, 2008.

The undersigned is directed to state that the Japan International Cooperation Agency (JICA) under the Technical Cooperation Programme of the Government of Japan has invited applications for a country Focused Training Course in Plant Maintenance Engineering for Cleaner Production(exclusively for India) to be held in Japan from 25th February, 2008 to 3rd July, 2008. The details of the course and the application form may be drawn from Ministry of Personnel, Public Grievances and Pensions website (www.persmin.nic.in).

2. This Group Training Course is particularly meant for Plant mechanical maintenance engineers/managers or those who have the ability and occupational experience of 5 years in this area who are presently in charge of maintenance work in continuous process industry (iron & steel, oil refinery, chemical, cement, etc.). He/She should be forty five (45) years of age or less. He/She should be in good health, both physically and mentally and not be serving in the military. The candidate should have sufficient command of spoken and written English.

3. The objectives of the course are (1) Understanding the necessity of Cleaner Production(CP) and how it relates to global environmental issues, (2) Building capacity of managing efficient plant maintenance management by acquiring basic knowledge of utilizing maintenance resources, (3) Acquiring the basics and applied knowledge of maintenance engineering in order to improve and solve problems in maintenance activities and develop the maintenance engineers with capacity to solve the difficulties of maintenance and (4) Gaining the knowledge on Cleaner Production technology applied in Japanese Companies through visits to production plants.

4. The fellowship award covers a Round-trip air ticket between an international airport designated by the JICA and Japan, Allowances for (accommodation, living expenses and shipping), expenses for JICA study tours, free medical care for participants who may fall ill after reaching Japan. The participants are not allowed to take any family member during the training course.

5. The nomination details should be submitted in the prescribed proforma (Annexure-I) for long term/short term foreign training programme under Foreign Funding Scheme as well as in the JICA's prescribed proforma(A2A3) duly authenticated by the Department concerned The applications from Universities/Institutions should be routed through the concerned Ministries/Departments/State Governments and it should also be certified by the Competent Authority that the institution is a Government institution.

6. The applications should reach the Department not later than 3rd December, 2007. Nominations received after the prescribed date will not be considered. The circular inviting applications for training course is available on this Department's website (www.persmin.nic.in).

Aparna.
(Aparna Sharma)
Under Secretary to the Government of India

1. M/o Steel, Udyog Bhavan/ M/o. of Heavy Industry & Public Enterprises, Udyog Bhavan/M/o Petroleum and Natural Gas, Shastri Bhavan/M/o Chemical & Fertilizers, Shastri Bhavan, New Delhi-110001.
2. All the State Governments/Union Territories.
3. Director(Technical), NIC with the request to post the circular along with the JICA's circular and the enclosed proformas on the Department's website.

ANNEXURE I

APPLICATION FOR LONG-TERM & SHORT-TERM FOREIGN TRAINING PROGRAMMES IN 2007
(FUNDED BY FOREIGN GOVERNMENTS)

1.	Name				
2.	Designation				
3.	Service				
4.	Cadre				
5.	Batch				
6.	Date of Birth				
7.	Category- Gen/SC/ST				
8.	Date of Joining Service				
9.	Present Posting with Date of Appointment/ Posting				
10.	Complete Postal Address : Official $				
11.	Complete Postal Address : Residential				
12.	Email				
13.	Telephone numbers	Off:		Res:	Fax:
14.	Academic Background	S.No.	Qualification	Year	Subjects
15.	Previous record of Foreign Training *	Name of the Institute/Country	Name of the Course	Period	Name of Nominating Agency
16.	Brief description of the nature of work of the present post held				
17.	Name with Code Number of the training programmes opted for				

$ Subsequent change in address, if any, should be intimated to this Department.

* Note : In case of a false information or suppression of information, the officer will be liable for disciplinary proceedings apart from the debarment from foreign training for the rest of his career.

Certified that the information given above is correct to the best of my knowledge and belief.

Form A2A3

Technical Cooperation by The Government of Japan

Training Award of Japan International Cooperation Agency (JICA)

Application by the Government of

.....

for a training course in the field of

.....

Please provide one original and three copies.
Please print or type.

(FOR JAPANESE OFFICIAL USE)

☐ Ordinary Group Course(集団コース) Course No. .....

☐ Special Group Course(一般特設) Course No. .....

☐ Country-focused Group Course(国別特設) Course No. .....

☐ Counterpart(カウンターパート) 専門家名 .....

プロジェクト名 .....

☐ Ordinary Individual Course(個別一般)

☐ Others(C.S. 特別案件等)

Recent photo

PART A To be completed by the nominee.

1 FULL NAME (as in Passport, underline Family Name)
(Family) (First) (Middle)

2 ADDRESS FOR CORRESPONDENCE

Telephone :
E-mail :

3 NAME AND ADDRESS OF PERSON TO BE NOTIFIED IN CASE OF EMERGENCY

Relationship to you:
Telephone:

4 DATE OF BIRTH | Month | Date | Year | **5 AGE**

6 SEX ☐MALE ☐FEMALE

7 MARITAL STATUS ☐SINGLE ☐MARRIED

8 NATIONALITY

9 RELIGION

10 EDUCATIONAL RECORD

Institution	City/Country	Years Attended		Qualification Obtained	Subject
		From	To		

11 TRAINING OR STUDY IN FOREIGN COUNTRIES (in relation to professional interests.)

Institution	City/Country	Period		Certificate/ Degree Awarded	Field of Study
		From	To		

12 EMPLOYMENT RECORD

1) Present Place of Employment

Name Address Telephone: Telex/Fax:	Title of Present Job Date of Taking Up Post Type of Organization ☐ Governmental/Public ☐ Private ☐ International ☐ Others

2) Previous Job

Name and Address of Organization Previous Title/Post and Dates(from/to)	Description of Your Previous Job

3) Describe briefly the work of your organization and the service it provides.

.....

.....

.....

4) Describe your own job.

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5) Explain how the proposed training will be of benefit to you in the work you will be doing on your return.

.....

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.....

.....

13 LANGUAGE PROFICIENCY

1. English				
Listening	☐ excellent	☐ good	☐ fair	☐ poor
Speaking	☐ excellent	☐ good	☐ fair	☐ poor
Writing/Reading	☐ excellent	☐ good	☐ fair	☐ poor
2. Mother Tongue				
3. Other Language				
	☐ excellent	☐ good	☐ fair	☐ poor

14 NOMINEE'S DECLARATION To be signed by the nominee.

I certify that the statements made by me in this form are true and correct to the best of my knowledge.

If accepted for a training award, I agree:

(a) not to bring any member of my family.
(b) to carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the Japanese Government in respect of this course of training.
(c) to follow the course of study or training, and abide by the rules of the institution or establishments with which I undertake to study or train.
(d) to refrain from engaging in political activities, or any form of employment for profit or gain.
(e) to submit any progress report or evaluation questionnaires which may be prescribed.
(f) to return to my home country at the end of my course of study or training.

I also fully understand that if granted a training award it may be subsequently withdrawn if I fail to make adequate progress, or for other sufficient cause including physical conditions determined by the Government of Japan.

Date: ..... Signature: .....

PART B To be completed by nominee's Director or Head of Department.

OBSERVATIONS OF NOMINATING ORGANIZATION

1 Describe what work the nominee will be expected to do on his return.

.....

.....

.....

2 Explain how the proposed training will be of benefit to the work of your organization.

.....

.....

.....

3 (For Non-Group Training only)
Describe:
1) Subject area of the training required.

.....

.....

.....

.....

.....

2) Special subjects which are particularly important and should be included in the training program (continue on an additional sheet if necessary).

.....

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.....

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.....

3) Period of training required (from/to).

.....

4) Notice required before nominee can be released from present post.

.....

PART C To be completed and signed by a responsible government official.
OFFICIAL NOMINATION

I certify that:

I have examined the documents in this form and I am satisfied that they are authentic and relate to the nominee.

I accordingly nominate this person on behalf of the Government of .....

Date: ..... Signature: .....

Position: ..... Name: .....

Official stamp

Organization: .....

MEDICAL HISTORY AND EXAMINATION FOR JICA TRAINING AWARD

MEDICAL HISTORY TO BE COMPLETED BY NOMINEE			
1 NAME OF NOMINEE(last name, first name, middle name)			
2 DATE OF BIRTH (mo/day/yr)	3 NATIONALITY	4 SEX _____ male _____ female	5 ADDRESS FOR CONTACT
6 NAME OF TRAINING COURSE/SEMINAR			
7 LENGTH OF TRAINING COURSE/SEMINAR (weeks, months)			

8 IMPORTANT NOTICE

Before you complete the Medical History Questionnaire, you are hereby notified that:

A medical condition resulting from an undisclosed pre-existing condition may not be financially compen sated for by JICA and may result in termination of your training program.

I understand and accept the terms of this notice. _____ Yes _____ No

9 NOMINEE WILL CHECK "YES" OR "NO" AND EXPLAIN

	YES	NO		EXPLANATION
a.			Have you had any significant or serious illness or injury? (If hospitalized, give place & dates.)	
b.			Have you had any operations or advice by a physician to have an operation? (Give place & dates.)	
c.			Do you currently use any drugs for treatment of a medial condition? (Give name & dose.)	
d.			Have you ever been a patient in a mental hospital or sanitarium or treated by a Psychiatrist? (Give place & dates.)	

10 NOMINEE WILL INDICATE "YES" OR "NO" TO EACH ITEM

DO YOU NOW HAVE OR HAVE YOU EVER HAD THE CONDITIONS LISTED BELOW?

(Check each item, if yes, enclose the relevant condition with a circle.)

	YES	NO	CONDITION
a.			Asthma, emphysema, or other lung conditions
b.			Tuberculosis or live with anyone who has tuberculosis
c.			High blood pressure, heart disease
d.			Stomach, liver (hepatitis), gall bladder disease
e.			Kidney or bladder disease, stone or blood in urine
f.			Diabetes (sugar in the urine)
g.			Depression, excess worry, attempted suicide, or other psychological symptoms
h.			Acquired Immune Deficiency Syndrome (AIDS)
i.			Tumor, abnormal growth, cyst, or cancer
j.			Bleeding disorder, blood disease (sickle cell anemia)

I CERTIFY THAT I HAVE READ THE ABOVE INSTRUCTIONS AND ANSWERED ALL QUESTIONS TRULY AND COMPLETELY TO THE BEST OF MY KNOWLEDGE.

11 PRINTED NAME OF NOMINEE	12 DATE	13 SIGNATURE OF NOMINEE

INFORMATION ON COUNTRY FOCUSED TRAINING COURSE IN

PLANT MAINTENANCE ENGINEERING FOR CLEANER PRODUCTION

JFY 2007

国別：インドクリーナープロダクションのための プラントメンテナンス技術

COURSE NO.: J-07-22046

(Project No.: 0606384)

February 25, 2008 – July 3, 2008

JAPAN

THE GOVERNMENT OF JAPAN

JAPAN INTERNATIONAL COOPERATION AGENCY

JICA

Preface

The Japanese Government extends official development assistance (ODA) to developing countries to support self-help efforts that will lead to economic progress and a better life for the citizens of those countries.

Since its foundation in 1974, the Japan International Cooperation Agency (JICA) has implemented Japan's technical cooperation under the ODA program.

Currently, JICA conducts such activities as training, dispatch of experts, provision of equipment, project-type technical cooperation, development study, dispatch of cooperation volunteers (JOCV), survey and administration of capital grant aid programs.

The training program for overseas participants is one of JICA's fundamental technical cooperation activities for developing countries. Participants come from overseas in order to obtain knowledge and technology in a wide variety of fields.

The objectives of the JICA training program are:

(1) to contribute to the development of human resources who will promote the advancement of developing countries, and

(2) to contribute to the promotion of mutual understanding and friendship.

Kyushu International Center (JICA KYUSHU) is one of JICA domestic centers located in Kitakyushu City to conduct various JICA schemes of training programs and others in Kyushu area. JICA KYUSHU's training programs cover a wide variety of specialities from agriculture to mechatronics with special priorities on 1) industrial technology, 2) environmental issues, 3) health and medicine.

JICA KYUSHU also conducts briefing, general orientation of Japanese life and culture, Japanese language training and program orientation.

Country Focused Training Course in *Plant Maintenance Engineering for Cleaner Production* is designed to provide opportunities to learn the knowledge necessary for executing effective plant maintenance management and to master the basics and applications of maintenance as well as to understand the importance of plant maintenance through lecture, practice and study in related companies. Furthermore we hope all participants will make a contribution to the environmental issues through learning this course.

I. ESSENTIAL FACTS

Course Title (No.)	Plant Maintenance Engineering for Cleaner Production (J-07-22046)
Duration	February 25, 2008– July 3, 2008
Deadline for Application	December 14, 2007 * for acceptance by JICA India Office
Number of Participants	6
Language	English
Target Group	Plant mechanical maintenance engineers/managers or those who have the ability and experience in this area who are presently in charge of maintenance work in continuous process industry (iron & steel, oil refinery, chemical, cement, etc.)
Course Objectives	Participants will be provided with the knowledge and techniques to improve their ability to solve existing problems in the above-titled area of their countries. The course objectives are: (1)Understanding the necessity of Cleaner Production (CP) and how it relates to global environmental issues; (2)Building capacity of managing efficient plant maintenance management by acquiring basic knowledge of utilizing maintenance resources; (3)Acquiring the basics and applied knowledge of maintenance engineering in order to improve and solve problems in maintenance activities and develop the maintenance engineers with capacity to solve the difficulties of maintenance; and (4)Gaining the knowledge on Cleaner Production technology applied in Japanese Companies through visits to production plants.
Training Institution	**Kitakyushu International Techno-cooperative Association (KITA)** Address : 1-1-1, Hirano, Yahata Higashi-ku, Kitakyushu-shi, Fukuoka 805-0062, Japan TEL : 81-93-662-7171 FAX : 81-93-662-7177 (81: country code for Japan, 93: area code) URL: http://www.kita.or.jp/english/e_kensyu_gaiyou_nextyear.htmll
Accommodations	**Kyushu International Centre (JICA Kyushu), JICA** Address : 2-2-1 Hirano, Yahata Higashi-ku, Kitakyushu-shi, Fukuoka, 805-8505 Japan TEL : 81-93-671-6311 FAX : 81-93-671-0979 (81: country code for Japan, 93: area code) URL : http://www.jica.go.jp/branch/kic_e/index_e.html E-mail: kictp2-05@jica.go.jp If no room is available at KIC, JICA will arrange accommodations for participants at other appropriate places.
Allowances & Expenses	The Government of Japan provides the following allowances and covers the following expenses through JICA in accordance with relevant laws and regulations. Details: Round-trip air ticket between an international airport designated by JICA and Japan, accommodation allowance, living allowance, outfit allowance, shipping allowance, expenses for JICA study tours, free medical care for participants who become ill after arrival in Japan (costs related to preexisting illness, pregnancy and dental treatment are not included), etc.

II. CURRICULUM

(L.: Lecture, P.: Practice, F.: Field study or Plant visit)

Training Subject	Program / Details	Schedule		
		L.	P.	F.
Introduction to Plant Maintenance	Basic subjects on plant maintenance	18		
Trouble Shooting of Automatic Control System	Trouble shooting of sequential control system		36	
Fundamentals of Hydraulic Control and Practice	1) Hydraulic control system 2) Function of control equipment 3) Application of control equipment and maintenance of equipment 4) Trouble shooting of sequential control system	6	9	
Improvement Techniques	New QC 7 Tool techniques	12		
Basic Maintenance Management	1) Failure management	6		
Maintenance Management In Corporation	1) Maintenance cost management	6		
Equipment Diagnosis Techniques	Skills and techniques for preventive maintenance 1) Five-sense inspection 2) Inspection with equipment diagnosis devices using simulator	12	18	
Diagnosis Techniques for Electric Motors	1) General Inspection and Diagnosis Technique for Electric Motors 2) Insulation Diagnosis Technique of High-Voltage Rotating Winding	6		
Non-destructive Inspection	Non-destructive techniques for structures and mechanical parts	6	12	
Lubrication Techniques	Lubrication techniques for maintenance 1) Lubrication methods and oil selection 2) Case study	6		
Metal Fatigue	1) Fatigue fracture and its mechanism 2) Fracture analysis by fractgraphy 3) Crack initiation and propagation	12	6	
Heat Treatment and Hard Facing by High Frequency	Heat treatment and hard facing methods for extending the life of machine parts	9		
Welding Techniques	Mechanical parts repair and reclamation - Welding techniques and countermeasures to welding defects	6		
Corrosion and Analysis	Various conditions of generating corrosion and corrosion mechanism 1) Characteristics of metal corrosion 2) Investigating the causes of metal corrosion 3) Preventing metal corrosion and improving reliability	6		
Industrial Sensors and their Application	1) Sensors used for control and measurement in plant 2) Maintenance of sensors	6		
Total Productive Maintenance (TPM)	1) Fundamental knowledge of TPM 2) Japanese TPM activity	12		
Fracture Mechanics	1) Lines and non linear fracture mechanics	6		
Trouble Shooting of Equipment Design	1) Concept of Design 2) Trouble Shooting of Equipment Design	6		
Maintainability and Reliability	1) Reliability engineering 2) Maintainability 3) Failure analysis	6		
Reliability Centered Maintenance	1) Introduction to Reliability Centered Maintenance	6		
Selection of Roller Bearing and its Maintenance	1) Selection of roller bearing according to equipment condition. 2) Maintenance of roller bearing.	6		
Subject of Global Environment	1) Current Global Environment 2) Subject of Global Environment 3) Visit of Environmental Museum	3		3
Introduction of Environmental	1) Current Environmental Issues	6		

Training Subject	Program / Details	Schedule		
		L.	P.	F.
Issues				
Cleaner Production	1) Introduction of Cleaner Production	6		
Techniques of Power Saving	1) Power Saving Techniques by Inverter Control	6		
Training in Different Industries and Plant Observation	Practical plan maintenance activities and application of maintenance techniques in industries * Cement industries * Chemical industries * Iron and steel making industries * Automobile industries * Electric machinery industries * Subcontractors of iron and steel making industries			81
Training at Corporations Related to Maintenance and Plant Observation	Practical TPM system, machine part repair, improvement and modification techniques, lubricant treatment techniques and motor maintenance techniques * High frequency hardening companies * Thermal spray coating companies * Casting and forging companies * Motor maintenance companies * Overlay welding companies * Oil analysis and evolution methods * Thermal, geothermal power plant * 2 TPM prize-wining corporations * Heat treatment companies * Kitakyushu Eco Town			45
Study Trip	* Hakata, Nagasaki * Osaka, Kyoto * Tokyo, Hitachi			54
Selective Study				6
Meeting and Ceremonies	* Course orientation * Job report presentation * Presentation of training outcome * Evaluation meeting * Opening & closing ceremonies * Preparation of training outcome presentation	36		
Sub Total		216	81	189
Total		**486**		

* Considering the contents of the lectures and nature of plant visits included in the schedule, the course may be most beneficial to persons involved in mechanical maintenance of process industries such as steel, heavy chemical and cement.
  The strategies used are for maintenance with priority in economic efficiency and may be different from the maintenance of reliability by way of prevention of sudden failures with much cost used in Power Plants (especially in Nuclear Power Plants) or in Air Crafts. Persons involved in other industries/ responsibilities are not likely to find the course beneficial.

Japanese Language Course

Intensive Japanese language course of 25 hours (one week) will be conducted prior to technical training.

III. REQUIREMENT FOR APPLICATION

Applicants should:

(1) be nominated by their governments in accordance with the procedures mentioned in IV-1 below,
(2) be a mechanical maintenance engineers/managers or those who have the ability and experience in this area who are presently in charge of maintenance work in continuous process industry (iron & steel, oil refinery, chemical, cement, etc.).
(3) have at least 5 years of occupational experience in the field of plant maintenance,
(4) be university graduate who majored in mechanical engineering of the equivalent,
(5) have basic skill and experience of computer operation,
(6) be 45 years of age or less,
(7) have sufficient command of spoken and written English since the **training will be conducted in English** – for example, TOEFL (Test of English as a Foreign Language) score 500 or above or the Cambridge First Certificate is considered equivalent (copy of the proof is preferable),
(8) be in good health, both physically and mentally, to undergo the training (As the training for 5 months, including study trips, may give risks to pregnant body, pregnancy is regarded as a disqualifying condition for participation in this training course), and
(9) not be serving in any form of military services.

ATTENTION

Participants are required :

(1) not to change course subjects or extend the course period,
(2) not to bring any members of their family,
(3) to return to their home country at the end of their course according to the international travel schedule designated by JICA,
(4) to refrain from engaging in political activities or any form of employment for profit or gain, and
(5) to observe the rules and regulations of their place of accommodation and not to change accommodations designated by JICA.

IV. PROCEDURES FOR APPLICATIONS

1. Government of India should fill in and forward one (1) original and three (3) copies of the Nomination Form (Form A2A3) for each applicant, to JICA office **by December 14, 2007**.

2. JICA office will inform the Indian Government whether or not the nominee's application has been **accepted no later than January 25, 2008.**

3. **Job Report & Issue Analysis Sheet (IAS) 【Annex-I&II】**

A Job Report and IAS are necessary documents for screening of an applicant and an applicant is required to submit his/her Job Report and IAS with a Nomination Form. The documents should be completed in accordance with descriptions of ANNEX-I (Job Report) and ANNEX-II (Issue Analysis Sheet). The contents of the documents are necessary for screening an applicant and each participant will be requested to present his/her Job Report and IAS in approximately 10 minutes in an early stage of training. An applicant should submit his/her IAS with approval of his/her superior and IAS without approval of an applicant's superior is not accepted.

- Job Report is a report to understand an outline of an organization that an applicant belongs to as well as his/her work experience in a relevant field(s) to him/her.
- The purpose of IAS is to logically organize relationships between problems facing an organization that an applicant belongs to and contents of fields to be taken in a training course.
- The sheet is to be utilized as a logical process control sheet to draw on improvement plans for problems by filling out the sheet in phases from prior to a participant's arrival in Japan through the end of training.

4. **Issue Analysis Sheet (IAS) and Action Plan**
   Basically, applicants are supposed to make an Action Plan, based on the problems that are mentioned in IAS, however, if applicants change the problems after they participate in the training course, applicants are required to get permission from his/her superior officer in advance.

5. **Questionnaire【Annex-III】**
   Each applicant is required to fill in the "Questionnaire" (ANNEX-III) which is used for selecting participants. Any application without a completed Questionnaire will not be accepted.

V. OTHER MATTERS

1. Pre-departure Information

Pre-departure orientation will be held at JICA India Office to provide the selected candidates with details on travel to Japan, conditions of training, and other matters. Participants will see a video, "TRAINING IN JAPAN", and will receive a textbook and cassette tape, "SIMPLE CONVERSATION IN JAPANESE". A brochure, "GUIDE TO TRAINING IN JAPAN" will be handed to each selected candidate before (or at the time of) the orientation.

2. Reports and Presentation

(1) Job Report & Issue Analysis Sheet (IAS)

As written in the previous page, each applicant is required to submit his/her own Job Report and IAS. Participants will have a presentation of his/her Job Report and IAS up to 10 minutes at the earlier stage of the training in order to share knowledge and background with other participants as well as instructors. Visual materials such as PowerPoint and pictures may be helpful for your presentation if you bring them with you.

(2) Action Plan Report

Participants are required to make an Action Plan at the end of the training to express your idea and plan, which you carry out after your return, reflecting the knowledge and method you acquire from the training. Each person is required to give a presentation in 10 minutes. The report would be sent to each JICA office in participant's country.

3. Certification

Participants who have successfully completed the course will be awarded a certificate by JICA.

4. International Exchange Programme with Local Communities

JICA encourages international exchange between JICA participants and local communities. Participants will have a chance to visit elementary schools or junior high schools. Therefore, participants are recommended to bring their national costumes or crafts and materials such as cassette tapes and photographs that will make the exchange programme more fruitful.

5. Remarks

JICA training is implemented for the purpose of development of human resources who will promote the advancement of the countries, but not for the enrichment of individuals nor private companies. Matters of a trade secret and patent techniques will remain confidential and inaccessible during the training.

Annex-I

Plant Maintenance Engineering for Cleaner Production
(JFY 2007)

Job Report

Name:
Country:
Organization and present post:
E-mail / FAX:

Remarks 1: The Report should be typewritten in English (12-point font, A4 size paper), and total pages of the report must be limited to 3 pages (not including organization chart).
Remarks 2: Each participant is required to have presentation in 10 minutes based on this Job Report at the early stage of the training for the purpose of making the training more effective and fruitful by comprehending the situations and problems of the participants each other.
Remarks 3: Please itemize your answer and make them specific.

1. Full description of your present job (up to 1 page):

(1) Name of organization to which you belong and main tasks of the organization

(2) Organization chart of your department/section and description of its duties.
(The chart should be attached and not be counted in this page limit.)

(3) Brief description of your assignments

2. **Existing problems in your section (up to 1 page)**

(1) Problems that your division or you are facing and the background of those problems (choose the problems from below)

1. Lack of the understanding of top managements about maintenance
2. Frequency of the sudden failure
3. Long time restoration from the failure
4. Lack of maintenance skills
5. Poorly prepared for spare parts
6. Uneven or bad quality of machine parts
7. High maintenance cost
8. Bad plan of the maintenance
9. Inefficiency of the maintenance management system
10. Lack of the budget for the maintenance
11. Lack of the maintenance staffs
12. Lack of machine to inspect and examine the facilities
13. Dirty shop floor and machines
14. Lack of maintenance technologies of engineers
15. Cannot afford to schedule the shutdown for maintenance
16. Insufficient amount of data for proper analysis of failure causes.
17. Others

Number: ( )

Background:

(2) Countermeasures for those problems

(3) Obstacles in the process of solving those problems

3. **Expectations for the training course (up to 1 page)**

(1) Your purpose of participating in the course

(2) Subjects of the course which you are interested in the most

(3) How do you expect to apply skills and knowledge for your problems solving according to listed items in curriculum (in section II, page 2) after you return to your home country?

(4) Other matters you are expecting for this course, if any

[Format] Annex-Ⅱ : Issue Analysis Sheet : Plant Maintenance Engineering For Cleaner Production (JFY 2007)

<Name>_____ <Country>_____<Organization and present post>_____

Issue Analysis Sheet

Course Objective		Category	A: Problems your country faces (at the level of the country or organization)	B: Backgrounds that cause the problems	C: Measures taken in Japan	D: Proposal to your country
I Relationship between global environmental issues & Cleaner Production	Understanding the necessity of Cleaner Production (CP) and how it relates to global environmental issues	1. Cleaner Production 2. Global Environmental issues 3. Recycle of solid waste 1. Techniques of Power Saving				
Ⅱ Basic knowledge of plant maintenance management	Building capacity of managing efficient plant maintenance management by acquiring basic knowledge of utilizing maintenance resources	1. Plant Maintenance Management 2. Maintenance Management Technique 3. Maintenance Skill				
Ⅲ Basics and applied knowledge of maintenance engineering	Acquire the basics and applied knowledge of maintenance engineering in order to improve and solve problems in maintenance activities and develop the maintenance engineers with capacity to solve the difficulties of maintenance	1. Equipment Inspection Techniques 2. Repair and Restoring Techniques 3. Improvement Technique andDesigning Technique				

IV Cleaner Production in Japanese Companies	Gain the knowledge on Cleaner Production technology applied in Japanese Companies through visits to production plants	Cleaner Production in Japanese companies				

Name of Superior Officer _____

Designation/Position of superior officer_____

Signature_____

[Example] Annex-Ⅱ : Issue Analysis Sheet : Plant Maintenance Engineering For Cleaner Production (JFY 2007)

1. Applicants are required to fill in the required blanks on the attached IAS and submit it with a Nomination Form and Job Report by due process. If applicants have more than two problems, sheet should be separated (One problem in one sheet).
2. This IAS should be linked with Job Report Presentation at the beginning of the training course and Action Plan Presentation at the end of the course.
3. Applicants need to get prior approval from his/her superior officer (supervisor) for what he/she writes on the IAS. If applicants change the problems after the course starts, he/she is required to get approval from superior officer again, in advance.
4. Participants accepted to the Course are requested to bring this IAS in electronic file when coming to Japan.

<Name>_____ <Country>_____<Organization and present post>_____

Issue Analysis Sheet

Course Objective		Category	A: Problems your country faces (at the level of the country or organization)	B: Backgrounds that cause the problems	C: Measures taken in Japan	D: Proposal to your country
Ⅰ Relationship between global environmental issues & Cleaner Production	Understanding the necessity of Cleaner Production (CP) and how it relates to global environmental issues	1. Cleaner Production 2. Global Environmental issues 3. Recycle of solid waste 4. Techniques of Power Saving	【Example】 There are many emergency failures and operating ratio is low.			
Ⅱ Basic knowledge of plant maintenance management	Building capacity of managing efficient plant maintenance management by acquiring basic knowledge of utilizing maintenance resources	1. Plant Maintenance Management 2. Maintenance Management Technique 3. Maintenance Skill		【Example】 1. Maintenance for Precaution is inappropriate 2. There is no accumulated data / knowledge, and analysis /measures against failure is not implemented 3. There in no systematic maintenance skill training and the level of engineers is low. 4. There is no activities of self-maintenance and 5S.		

III Basics and applied knowledge of maintenance engineering	Acquire the basics and applied knowledge of maintenance engineering in order to improve and solve problems in maintenance activities and develop the maintenance engineers with capacity to solve the difficulties of maintenance	1. Equipment Inspection Techniques 2. Repair and Restoring Techniques 3. Improvement Technique and Designing Technique		【Example】 1. There in no CBM, implemented by applying Equipment Inspection Techniques and Non Destructive Inspection Techniques. 2. Repair and restoring techniques is not utilized. 3. Lubrication maintenance is insufficient		
IV Cleaner Production in Japanese Companies	Gain the knowledge on Cleaner Production technology applied in Japanese Companies through visits to production plants	Cleaner Production in Japanese companies				

- Describe in a brief sentence or two but not by just keywords.
- When there is more than one problem or cause, describe them all.

Annex-III

Plant Maintenance Engineering for Cleaner Production
(JFY 2007)

Questionnaire

Name:
Country:

1. Please describe your present job precisely.

2-a. Have you ever learnt the following subjects?
(Please tick either "Yes" or "No".)

	Yes	No
* Cleaner Production	( )	( )
* Maintenance management	( )	( )
* Maintenance organization & system	( )	( )
* Maintenance cost control	( )	( )
* Maintenance materials control	( )	( )
* Life cycle costing	( )	( )
* TPM (Total Productive Maintenance)	( )	( )
* Small group activity	( )	( )
* Reliability engineering	( )	( )
* Reliability centered maintenance	( )	( )
* Condition Diagnosis technique	( )	( )
* Metal fatigue	( )	( )
* Fracture mechanics	( )	( )
* Hard facing techniques of metal	( )	( )
* Corrosion of metals	( )	( )
* Non-destructive testing	( )	( )
* Thermal spray coating techniques	( )	( )
* Personal computer practice	( )	( )
* Hydraulic control	( )	( )
* Lubrication techniques	( )	( )
* Welding techniques	( )	( )
* Heat treatment of metal	( )	( )

2-b. If Yes, how do you apply them in your job/service? Please explain each item.

3. Please answer the following questions.
   i) What is the total amount of annual sales of your company?

   ii) What is the total number of employees of your company and how many are actually engaged in maintenance work?

   iii) What are the main facilities installed in your company and how large are their output capacities (per hour, per month, per year, per unit, etc.)?

   iv) What facilities does your company have in your maintenance shop and what is the total number of personnel there?

4-a. Does your company apply "preventive maintenance system"?

Yes	No
( )	( )

4-b. If Yes, do you have any problems for conducting preventive maintenance?

5. What kind of maintenance budget system does your company have? Please explain about the structure of the system and how your company controls maintenance budget.

6. How do you secure the engineers and technicians in your company and at present how do you educate and train them after they are employed?

7. What kind of maintenance records or data does your company have?

	Yes	No
* Equipment history	( )	( )
* Maintenance cost data	( )	( )
* Inspection data	( )	( )
* Repair record	( )	( )

8. How often do sudden failure occur in a month (or a year) in your company?

9. How many hours, on average, do you lose as "setback" due to the above mentioned failures?

10. How many times a year do you conduct "planned Shut off Maintenance"?

11. Have you ever received technical assistance on maintenance from abroad?

12. Please state how many years of experience you have on the following points concerning plant maintenance: -(cannot overlap each experience)

	Years of experience
* Repair Work Supervision ·····	(years)
* Inspection ·····	(years)
* Supervision of Inspection ·····	(years)
* Maintenance Engineering ·····	(years)
* Maintenance Management ·····	(years)

13. We are planning selective curriculum of visiting two or three companies for study. What kind of plant do you want to visit? Please write below:

SCHEDULE KIC:kyusyu international center

te		Subject	Place	Date		Subject	Place
)	(Mon)	Orientation Presentation of job report,IAS	KIC	Apr 11	(Fri)	Mechanical equipment diagnosis tequnique	KIC
1	(Tue)	Cleaner production	〃	12	(Sat)	Holiday	
2	(Wed)	Introduction of plant maintenance	〃	13	(Sun)	Holiday	
3	(Thu)	〃	〃	14	(Mon)	Field study	Nissan Motor
4	(Fri)	〃	〃	15	(Tue)	〃	〃
5	(Sat)	Holiday		16	(Wed)	Nondestructive inspection technique	KIC
6	(Sun)	Holiday		17	(Thu)	〃	〃
7	(Mon)	Maintenance cost control	KIC	18	(Fri)	〃	〃
8	(Tue)	Failure management	〃	19	(Sat)	Holiday	
9	(Wed)	Five sense inspection	〃	20	(Sun)	Holiday	
0	(Thu)	National holiday		21	(Mon)	New 7 tool for QC	KIC
	(Fri)	Trouble shooting of automatic control	〃	22	(Tue)	〃	〃
2	(Sat)	Holiday		23	(Wed)	Field study	Mitsubishi Material
3	(Sun)	Holiday		24	(Thu)	Study Trip	West Japan Railway
4	(Mon)	0	KIC	25	(Fri)	Study Trip/ Moving to Kitakyushu	Mitsubishi Heavy Industries/KIC
5	(Tue)	〃	〃	26	(Sat)	Holiday	
6	(Wed)	〃	〃	27	(Sun)	Holiday	
7	(Thu)	〃	〃	28	(Mon)	Metal corrosion and prevension of corrosion	KIC
8	(Fri)	Introduction of environment issues	KIC	29	(Tue)	National holiday	
9	(Sat)	Holiday		30	(Wed)	Reliability and maintainability	KIC
0	(Sun)	Holiday		May 1	(Thu)	Reliability centered maintenance	〃
	(Mon)	Selection of roller bearing and maintenance	KIC	2	(Fri)	Welding technique and its application	〃
	(Tue)	Field study	Sankyu	3	(Sat)	National holiday	
2	(Wed)	〃	Sankyu/ Kuwahara Electric	4	(Sun)	〃	
3	(Thu)	Total productive maintenance (TPM)	KIC	5	(Mon)	〃	
4	(Fri)	〃	〃	6	(Tue)	〃	
5	(Sat)	Holiday		7	(Wed)	Heat treatment of steel	KIC
6	(Sun)	Holiday		8	(Thu)	Field study	Japan Casting and Forging/Fukunetu
7	(Mon)	Field study(TPM)	Krosaki Harima/ TOTO	9	(Fri)	Control of hydraulic	KIC
8	(Tue)	Mechanical equipment diagnosis tequnique	KIC	10	(Sat)	Holiday	
9	(Wed)	〃	〃	11	(Sun)	Holiday	
0	(Thu)	〃	〃	12	(Mon)	Practice(control of hydraulic)	Sankyu

SCHEDULE

Date		Subject	Place	Date		Subject	Place
May 13	(Tue)	Trouble shooting of hydraulic system	KIC	Jun 14	(Sat)	Sight seeing/ Afternoon tour	Kyoto
14	(Wed)	Field study	Fujiki kosann	15	(Sun)	Holiday	
15	(Thu)	Intermediate evaluation meetig	KIC	16	(Mon)	Study trip	Komastu
16	(Fri)	Action plan meeting	〃	17	(Tue)	〃	Hiniaratakan
17	(Sat)	Holiday	Holiday	18	(Wed)	Moving to Tokyo/ Study trip	kyoto/ Tosiba science museum
18	(Sun)	Holiday	Holiday	19	(Thu)	Study trip	Hitachi
19	(Mon)	Metal fatigue and prevention of fracture	KIC	20	(Fri)	Study trip/ Moving to kitakyushu	Yuken/kitakyushu
20	(Tue)	〃	〃	21	(Sat)	Holiday	
21	(Wed)	Field study	Sumitomo Metal Industries	22	(Sun)	Holiday	
22	(Thu)	〃	〃	23	(Mon)	Action Plan/ Field study	KIC/ Ecotown
23	(Fri)	Fracture mechanics	KIC	24	(Tue)	Industrial sensor and their maintenance	KIC
24	(Sat)	Holiday		25	(Wed)	Field study/ Inspection of motors	Yaskawa Electric/ KIC
25	(Sun)	Holiday		26	(Thu)	Power saving technique by inverter contorol	Technical center
26	(Mon)	Observation of metal fatigued failure surface	Nippon Inspection	27	(Fri)	technique/ Field study	KIC/ Tobata Thermal power
27	(Tue)	Field study	Nippon Steel	28	(Sat)	Holiday	
28	(Wed)	〃	Nippon Steel/ Nippon steel hard facing	29	(Sun)	Holiday	
29	(Thu)	〃	Honda Motor	30	(Mon)	Field study	Kyusyu Electric
30	(Fri)	〃	Kyusyu Electric	July 1	(Tue)	Preparation of action plan presentation	KIC
31	(Sat)	Holiday		2	(Wed)	Final evaluation meeting Presentation of action plan	〃
Jun 1	(Sun)	Holiday		3	(Thu)	Leaving Japan	
2	(Mon)	Field study	Mitsubishi Chemical	4	(Fri)		
3	(Tue)	〃	〃	5	(Sat)		
4	(Wed)	〃	〃	6	(Sun)		
5	(Thu)	Concept of equipment design and trouble shooting of equipment	KIC				
6	(Fri)	Lublication tachnique	〃				
7	(Sat)	Holiday					
8	(Sun)	Holiday					
9	(Mon)	Field study	Nippon Steel Chemical				
10	(Tue)	Summary of action plan	KIC				
11	(Wed)	High frequency hardening technique for steel	KIC/Dai-ichi High Frequency				
12	(Thu)	Subject of global environment	KIC/ Museum				
13	(Fri)	Moving to kyoto/ Study trip	Kyoto/ Simazu				

Course Objectives with Related Programs

Course Objectives

Develop Maintenance Engineers with abilities to solve such problems as low productivity, waste of resources, environmental pollution etc., and participate in Cleaner Production

Course Objective 1

Understanding the necessity of Cleaner Production (CP) and how it relates to global environmental issues.

Lecture 21hr

Global Environment Preservation
- Subject of global environment 3hr
- Introduction to environment issues .. 6hr
- Cleaner production 6hr
- Power spring technique by inverter control 6hr

Study in related companies 6hr
- Environment Museum ..... 3hr (Kitakyushu city)
- Kitakyushu Eco Town ..... 3hr (Kitakyushu city)

Course Objective 2

Building capacity of managing efficient plant maintenance management by acquiring basic knowledge of utilizing maintenance resources.

Lecture 66hr

Plant Maintenance Management
- Introduction of plant maintenance . 18hr
- Failure management 6hr
- Maintenance cost control 6hr
- Outline of TPM 12hr

Maintenance management technique
- Reliability & maintainability 6hr
- Improvement technique 12hr
- Reliability centered maintenance 6hr

Study in related companies 15hr

Maintenance skill
- Systematic training for maintenance skill ..... 9hr (Sankyu research Co)

Practice of TPM activity .... 6hr (TOTO Ltd.,Kurosaki Harima Corp)

Course Objective 3

Acquire the basics and applied knowledge of maintenance engineering in order to improve and solve problems in maintenance activities and develop the maintenance engineers with capacity to solve the difficulties of maintenance.

Lecture 93hr

Equipment inspection technique
- Five-sense inspection 6hr
- Mechanical equipment diagnosis technique 6hr
- Inspection and diagnosis technique for electric motors 3hr
- Insulation diagnosis technique 3hr
- Nondestructive inspection technique 6hr

Repair and restoring technique
- Welding technique 6hr
- Steel hard facing technique 3hr
- Industrial sensors and their maintenance 6hr
- Control and maintenance of hydraulics 6hr

Improvement technique and designing technique
- Lubrication technique 6hr
- Metal corrosion and prevention of corrosion 6hr
- Metal fatigue and prevention of fracture 12hr
- Fracture mechanics 6hr
- Heat treatment of steel and selection of material quality 6hr
- Concept of equipment design and trouble shooting of equipment design 6hr
- S election of roller bearing and maintenance 6hr

Practice 84hr

Equipment inspection technique
- Mechanical equipment diagnosis technique 18hr
- Nondestructive inspection technique 12hr

Repair and restoring technique
- Hydraulic system 6hr

Improvement technique and Designing technique
- Observation of metal fatigue failure surface on metal 6hr
- Trouble shooting of automatic control system 36hr
- Trouble shooting of hydraulic system 6hr

Study in related companies 24hr

Repair and restoring technique
- Thermal spay coating for spare parts ..... 6hr (Fujiki Kosan Corp.)
- Over-lay welding techniques and its application ..... 3hr (Nippon Steel Hard Facing Co. Ltd.),
- Inspection and repair work for electric motor ..... 3hr (KawaharaElectric Mfg. Co.,Ltd.)

Improvement technique and Designing technique
- Heat treatment of alloy steel(KUKUNETU) ——— 3hr
- High frequency hardening of steel (Daiichi High Frequency Co.,Ltd) ——— 3hr
- Heat treatment of casting & forging parts(Japan Casting & Forging Corp.) 3hr
- Technique of lubrication & hydraulics oil analysis(Nippon Steel Chemical Corp) ——— 3hr

Course Objective 4

Gain the knowledge on Cleaner Production technology applied in Japanese Companies through visits to production plants.

Study in related company 84hr
- Kyushu Electric Power Corp. 12hr
- Nippon Steel Corp. 9hr
- Sumitomo Metal Kokura Co., Ltd. 12hr
- Nippon Steel Chemical Co., Ltd. 3hr
- Mitsubishi Chemical Corp. 18hr
- Mitsubishi Material Corp. 6hr
- Nissan Motor Co., Ltd. 12hr
- Tobata Cooperative Thermal Power Co., Ltd. 3hr
- Honda Motor Co,Ltd 6hr
- Yaskawa Electric Corp. 3hr

Study Trip 8 day
- West Japan Railway Co., ... hr
- Mitsubishi Heavy Industries Co., ... hr
- HINIARATA KAN Co., Ltd. ..... hr
- Komatsu Ltd. Osaka Plant ..... hr
- Shimizu Ltd. Osaka Plant ..... hr
- Hitachi Ltd. ..... hr
- Yuken Kogyo Co., Ltd. ..... hr

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IV Cleaner Production in Japanese Companies	Gain the knowledge on Cleaner Production technology applied in Japanese Companies through visits to production plants	Cleaner Production in Japanese companies				

Name of Superior Officer _____

Designation/Position of superior officer_____

Signature_____