

APPENDICES

APPENDIX 1 MEMBER LIST OF THE STUDY TEAM

1-1 Basic Design Study

(1) Leader

Hiroataka NAKAMURA Grant Aid Division, Japan International Cooperation Agency

(2) Technical Advisor

Teruyuki OTAKE Fire Defence Division, Fire and Disaster Management Agency
Ministry of Public Management, Home Affairs, Posts and
Telecommunications

(3) Project Manager/Fire fighting Planer

Ken SAITO Fire Protection Equipment and Safety Center of Japan

(4) Equipment Planner/Fire Vehicles Planner

Toshimitsu MORIZUMI Fire Protection Equipment and Safety Center of Japan

(5) Procurement Planner/Integration Planner

Yuko OBUCHI Fire Protection Equipment and Safety Center of Japan

(6) Interpreter

Akira KAMIMURA Fire Protection Equipment and Safety Center of Japan

1-2 Draft Report Consultation

(1) Leader

Hiroataka NAKAMURA Grant Aid Division, Japan International Cooperation Agency

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Ministry of Public Management, Home Affairs, Posts and
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(4) Equipment Planner/Fire Vehicles Planner

Toshimitsu MORIZUMI Fire Protection Equipment and Safety Center of Japan

(5) Interpreter

Akira KAMIMURA Fire Protection Equipment and Safety Center of Japan

APPENDIX 2 SURVEY SCHEDULE

2.1 Basic Design Study

No	Date		
1	8/19	SUN	• Haneda→Kansai • Kansai→Ulaanbaatar
2	8/20	MON	• Courtesy visit : Embassy of Japan(EOJ), JICA • Courtesy visit : Minister of Justice and Home affair, Chief of Fire fighting Department • Courtesy visit : Ministry of Finance and Economy • Discussion : Ulaanbaatar Fire fighting Section (UBFS)
3	8/21	TUE	• Discussion : UBFS • Site Survey :UBFS-HQ ,Fire Station #10 ,#11
4	8/22	WED	• Site Survey : Maintenance Workshop • Site Survey : Fire Station #26,#29 • Discussion : UBFS
5	8/23	THRS	• Site Survey : Fire Station # 34、 #14、 #65
6	8/24	FRI	• Site Survey : Fire Station #64
7	8/25	SAT	• Data analysis : UBFS • Discussion : UBFS
8	8/26	SUN	• Courtesy visit : Chief of Fire fighting in Central Imag
9	8/27	MON	• Discussion : UBFS
10	8/28	TUE	• Discussion : UBFS
11	8/29	WED	• Signing on MINUTES(at Ministry of Finance and Economy) • Report : EOJ, JICA • Hearing : 1st Bus Agency of Ulaanbaatar (JICA Expert for bus operation system, Mr.OHARA)
12	8/30	THRS	• Equipment Survey : Maintenance workshop, Laboratory, Command and Control
13	8/31	FRI	• Site Detail Survey : Fire Station #10, #14, #30, #11,#29,#18, #26 • Hearing : Ministry of Infrastructure, Ministry of Civil Defense Forces, Ministry of Nature and Environment
14	9/1	SAT	• Site Detail Survey : Fire Station #28, #80, #79, #64 • Site Survey : Fire Investigation, Public Education of Fire Prevention
15	9/2	SUN	• Equipment Detail Survey: Existing Radio Communication system of UBFS
16	9/3	MON	• Meeting : Radio Wave Condition Survey • Hearing: Maintenance Workshop of Ulaanbaatar Police Department UB • Cargo Site Survey : Ulaanbaatar Central Station, • Driving Test : In Ger Area by Japanese Fire Truck
17	9/4	TUE	• Data analysis : UBFS • Hearing : 1st Bus Agency of Ulaanbaatar (JICA Expert for bus operation system, Mr.OHARA) • Hearing : 2nd Bus Agency of Ulaanbaatar • Radio Wave Condition Survey: Using Repeater put on CCI Building
18	9/5	WED	• Data analysis and Discussion : UBFS • Radio Wave Condition Survey: Using Repeater put on Chingeltey

19	9/6	THRS	• Data analysis and Discussion : UBFS • Radio Wave Condition Survey: Baganur area Bagahanngai Area
20	9/7	FRI	• Report : EOJ, JICA
21	9/8	SAT	• Data analysis
22	9/9	SUN	• Ulaanbaatar→Seoul
23	9/10	MON	• Survey of the equipment of the third country: Seoul Jyonro Fire Station, Yongsan Fire Station
24	9/11	TUE	• Survey of the equipment of the third country: Seoul Mapo Fire Station
25	9/12	WED	• Seoul→Narita

2.2 Draft Report Consultation

No	Date		
1	12/5	WED	• Narita→Seoul • Seoul→Ulaanbaatar
2	12/6	THRS	• Courtesy visit : Embassy of Japan(EOJ), JICA • Courtesy visit : Chief of Fire fighting Department • Courtesy visit : Ministry of Finance and Economy • Discussion : Ulaanbaatar Fire fighting Section (UBFS) • Site Survey : Fire Station #34
3	12/7	FRI	• Discussion : UBFS • Courtesy visit : Vice Minister of Justice and Home affair
4	12/8	SAT	• Meeting
5	12/9	SUN	• Discussion : UBFS
6	12/10	MON	• Discussion : UBFS
7	12/11	TUE	• Signing on MINUTES(at Ministry of Justice and Home affair) • Report : EOJ, JICA
8	12/12	WED	• Ulaanbaatar→Beijin • Beijin→Narita

APPENDIX 3

LIST OF PARTIES CONCERNED IN THE RECIPIENT COUNTRY

1) Embassy of Japan in Mongolia

Hiroshi HUKASAWA First Secretary

2) JICA Mongolia Office

Kenji MATSMOTO Director

Tetsuo AMAGAI Assistant Resident Representative

Kazuo OHARA Expert for Bus Operation System

3) Ministry of Finance and Economy

K. Amarsaikhan Director
Department of Economic Cooperation
Management and Coordination
L. Nasanbuyan Officer

4) Ministry of Infrastructure (MOI)

L. Banzraghk 1st Officer

5) Ministry of Civil Defense Forces

O. Urjin Major General

6) Ministry of Justice and Home Affairs

TS. Nyamdorj Minister

TS.Munh-orgil Deputy Minister

7) Ministry of Justice and Home Affairs Fire fighting Department

D. Khishigbaatar Chief

K. Sultanikarim Senior Inspector

8) Fire fighting Section of Ulaanbaatar City

D. Batbaatar Chief of Ulaanbaatar Fire fighting Section

Y. Ishjamts Chief of Fire Station No.10

T. Enkhbold Chief of Fire Station No.11

G. Tserennyam Chief of Fire Station No.14

D. Batmunkh Chief of Fire Station No.18

J. Ganzorigt Chief of Fire Station No.26

Kh. Damjin Chief of Fire Station No.28

D. Tsogt	Chief of Fire Station No.29
B. Ravdandorj	Chief of Fire Station No.30
N. Altaikhuu	Chief of Fire Station No.34
B. Bayarsaikhan	Chief of Fire Station No.64
Kh. Bayarsaikhan	Chief of Fire Station No.65
S. Enhdavaa	Chief of Fire Station No.80

9) Ulaanbaatar Police Department (Maintenance Section)

G. Choidog	Director
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10) Ministry of Nature and Environment

L. Natsagdoji	Director
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11) Bus Company No.1 of Ulaanbaatar City

W. Dawyereh	Director
-------------	----------

12) Bus Company No.2 of Ulaanbaatar City

S. Tumurbat	Director
-------------	----------

13)Gal Impex Trade and Production Company

N. Boiroi	Director
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14)NIC Co.

A. Lkhagvadorj	Chairman
----------------	----------

15) Seoul City Fire Department(KOREA)

Gwan , Kim Wan	Manager of Administrative Jyonro Fire Station
Park, Jung Wan	Chief of Yongsan Fire Station
Chin, Ein Jyo	Manager of Administrative Mapo Fire Station

16)Private Companies

D. Enkhbat	Director , Mongolian Express Co., LTD.
D. Enkhbayar	Sales Manager, IFFC
Ts. Enkhsaikhan	Tariff Manger, Mongolian Trans Co., LTD.

APPENDIX 4 MINUTES OF DISCUSSION

4-1 BASIC DESIGN STUDY

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR IMPROVEMENT OF
FIRE FIGHTING EQUIPMENT AND MAINTENANCE WORKSHOP
IN MONGOLIA

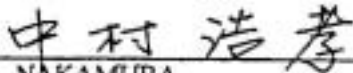
In response to a request from the Government of Mongolia (hereinafter referred to as "GOM"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of Fire Fighting Equipment and Maintenance Workshop in Mongolia (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Mongolia the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Hirotaka NAKAMURA, First Project Division, Grant Aid Management Department, JICA, and is scheduled to stay in the country from August 19 to August 30, 2001.

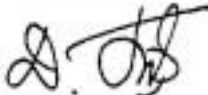
The Team held discussions with the officials concerned of the GOM and conducted field survey in the study area.

In the course of the discussions and field survey, both sides have confirmed the main items described on the attached sheets. The Team will proceed further works and prepare the Basic Design Study report.

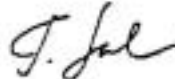
Ulaanbaatar, August 29, 2001



H. NAKAMURA
Leader
Basic Design Study Team
Japan International Cooperation Agency



D. KHISHIGBAATAR
Chief
Fire Fighting Department
Implementation Agency
Government of Mongolia



G. BAYASGALAN
State Secretary
Ministry of Justice and Home Affairs
Mongolia



K. AMARSAIKHAN
Director General
Department of Economic Cooperation
Management and Coordination
Ministry of Finance and Economy
Mongolia

ATTACHMENT

1. Objective

The Objective of the Project is to improve the capacity and ability of Fire Fighting Services to protect citizens' life and natural resources in Ulaanbaatar City and its suburbs.

2. Project Site

The Project Sites are as follows;

- Head Quarters(Dispatcher Center and Fire Research Laboratory).
- Thirteen(13) Fire Stations (No.10, No.11, No.14, No.18, No.26, No.28, No.29, No.30, No.34, No.64, No.65, No.79*, No.80) and
- Maintenance Workshop

* Though this fire station is now abolished, the GOM has a plan to reopen it.

3. Responsible and Executing Organizer/Organization

- (1) Responsible organizer of the Project is Minister of Justice and Home Affairs.
- (2) Executing organization is Fire Fighting Department (FFD).

Organization chart of the above organizations is described in Annex 1.

4. Items requested by the GOM

After discussions with the Basic Design Study Team, the items listed in Annex 2 were finally requested by the GOM.

However, the final components of the Project will be decided after further studies and analysis.

5. Criteria for Equipment Selection and Design

The equipment will be examined in accordance with the criteria attached as Annex 3.

6. Japan's Grant Aid System

- (1) The GOM has understood the system of Japan's Grant Aid Program explained by the Team, described in Annex 4.
- (2) The GOM will take the necessary measures described in Annex 5 for the smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

7. Schedule of the Study

- (1) The consultants will proceed to further studies in Mongolia until September 9, 2001.
- (2) Based on the Minutes of Discussions and technical examination of the study results, JICA will prepare the draft report and dispatch a mission in order to explain its contents in November, 2001.
- (3) In case that the contents of the draft report are acceptable in principle by the GOM, JICA will complete the final report and send it to the GOM around March, 2002.

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8. Other relevant issues

(1) Competence

The competence of the GOM on the following will be examined.

- construction and/or renovation of facilities including utilities and
- maintenance and operation

According to this examination, the size of newly procured equipment will be determined.

(2) Fire Station No.79

This fire station will not be included unless the GOM submits a definite plan and a budget approved by the Ministry of Finance and Economy not later than September 22, 2001.

(3) Inventory Data

The inventory data of existing equipment will be examined in order to estimate proper size of newly procured equipment.

(4) Clarification of Rescue Activities

The demarcation of operational cooperation system regarding rescue activities between FFD and Civil Defense Department under Ministry of Defense should be clarified during the study carried by the consultant.

According to this clarification, the necessity and validity of the equipment and vehicle for rescue activities will be considered.

(5) Breakdown of Equipment

The GOM will submit the full list of equipment for Rescue, Dispatcher Center, Fire Research Laboratory and Maintenance Workshop by September 8, 2001.

(6) Fire Suits Set

The GOM requested that Fire Suits Set (Helmet, Coat, Gloves and Boots) is to be utilized with Fire Fighting Vehicles.

(7) Fire Research Laboratory

The GOM strongly requested the equipment for Fire Research Laboratory.

(8) Soft component services

The GOM requested the following soft component services on;

- proper Operation and Maintenance (O/M) for newly procured equipment,
- the elaboration on effective Fire Fighting activities and
- training fire inspectors on Fire Prevention for citizens

However, the implementation of the above services will be decided after further studies and analysis.

(9) Privatization

The GOM assures that privatization policy is not effected on the Project.

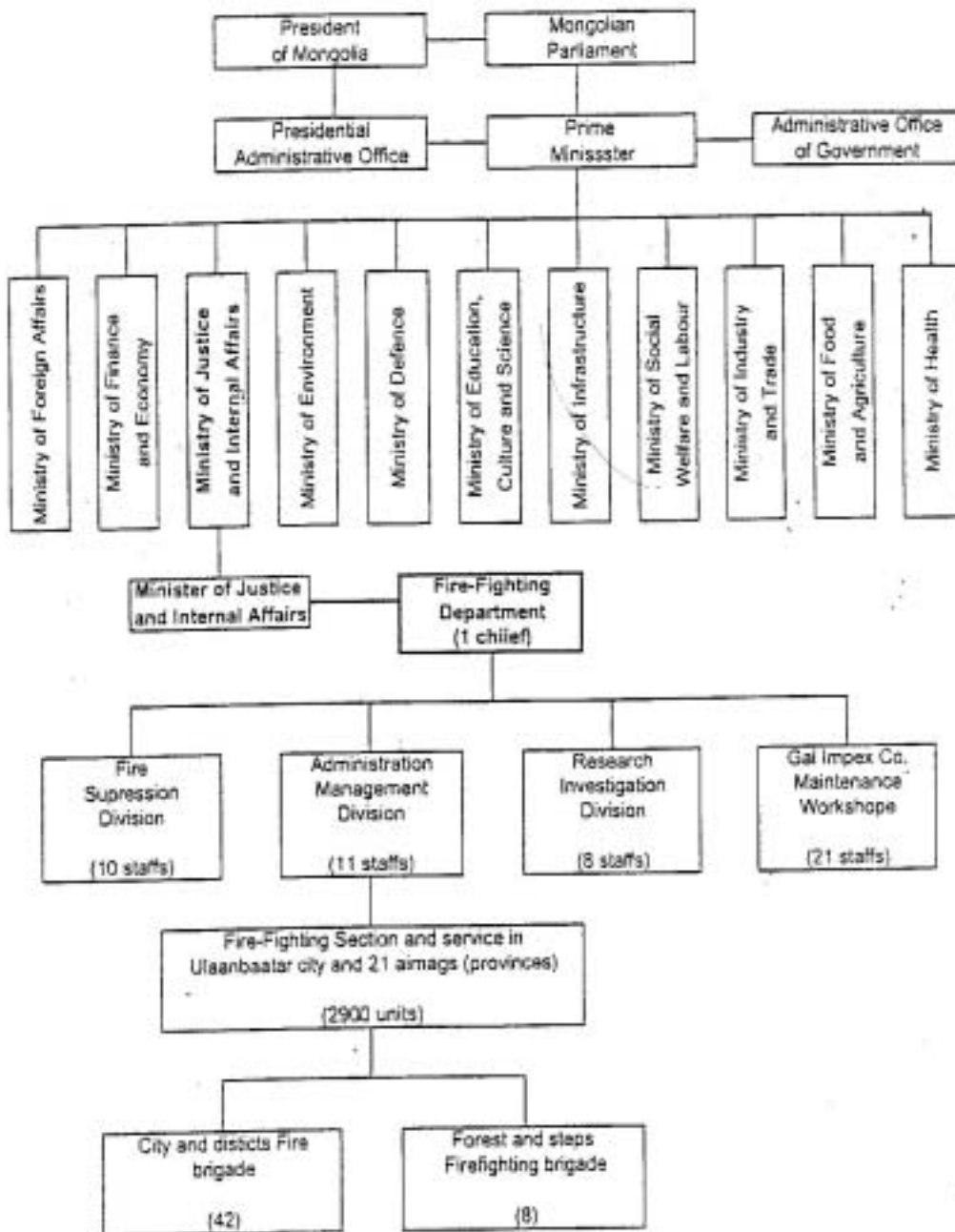
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ORGANIZATION CHART OF FIRE-FIGHTING DEPARTMENT



Annex 2

Items requested by the GOM

The contents of the Project covered under the Japanese Grant Aid finally requested by the Mongolian Side are as follows with priority "A", "B" and "C" in this order.

However, the final contents of the Project will be determined by the Japanese side at discretion.

ITEMS	Number of Items requested				
	Priority			Total	
	A	B	C		
Vehicles and Equipment for Fire Fighting					
Pumper Tanker (10,000L)	2			2 units	For No.10 and No.34
Pumper Tanker (4,000L)	6			6 units	For No.11, No.18, No.14, No.26, No.28 and No.64
Water Tank Truck (8,000L)	7	1		8 units	with portable pump A: For No.10, No.14, No.26, No.30, No.34, No.63, No.80 B: For No.79
Heavy Chemical Truck (8,000L + 1,000L)	1	1		2 units	A: For No.29 B: For No.79
Ladder Truck (3.5m)	1			1 unit	For No.11
Command Car		1		1 unit	For No.10
Fire Research Laboratory Car	1			1 unit	For No.10
Floodlight Car	1			1 unit	For No.10
Fire Suits Set	99	22		121 sets	
Vehicle and Equipment for Rescue					
Rescue Truck		1		1 unit	with winch, crane and rescue equipment For No.26
Rescue Equipment		1		1 set	
Equipment for Forest and Grassland Fires					
Chain Saw			13	13 units	
Knapsack-type Fire-Fighting Water Bag	74		30	104 sets	
Individual equipment for firemen		104		104 sets	Hatchet, Scoop, Compass, Canteen and Goggles
Radio Communication System					
Head Quarter set	1			1 lot	
Fire Station set	12	1		13 sets	
Mobile set	40	4		44 sets	
Portable set	98	9		107 sets	
Installation works					
Spare parts for newly procured items		1		1 lot	
Equipment for Fire Research Laboratory					
		1		1 lot	
Equipment for Maintenance Workshop					
	1			1 lot	

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Annex 3 Criteria for Selection of Equipment

1. Criteria to give priorities

Priority will be given to equipment listed below.

- 1) Equipment which is appropriate to protect citizens' life and natural resources directly from fire disasters
- 2) Replacement of existing equipment which is dangerous for continuous usage , because of over-aging and does not satisfy the basic function
- 3) Equipment which is used very often in recent years

2. Criteria to eliminate from the Project

Equipment as follows will be eliminated from the Project.

- 1) Equipment which is not appropriate to the road condition in its operation area
- 2) Equipment which has not enough space to store itself
- 3) Equipment that can be used for various purposes, and has apprehensions about different usage from the Project's purpose
- 4) Equipment which is difficult to maintain and control from financial and/or technical point of view
- 5) Equipment which parts can not be procured in Mongolia, or which can not be repaired in Mongolia

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Annex 4 Japan's Grant Aid Program

1. Grant Aid Procedure

(1) Japan's Grant Aid Program is executed through the following procedures.

- Application (Request made by a recipient country)
- Study (Basic Design Study conducted by JICA)
- Appraisal & Approval (Appraisal by the Government of Japan and Approval by Cabinet)
- Determination of Implementation (The Notes exchanged between the Governments of Japan and the recipient country)

(2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA send a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

(1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;

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- d) preparation of a basic design of the Project; and
- e) estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

(2) Selection of Consultants

For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

(2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

(3) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

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- (4) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

- (5) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

- (6) Undertakings required to the Government of the recipient country

- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
- d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
- f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

- (7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.

- (8) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

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(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

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Annex 5 Necessary Measures to be taken by the GOM

1. To provide data and information necessary for the Project;
2. To complete the relocation of the existing equipment, facilities and civil works required prior to the installation of the equipment and settings;
3. To provide facilities for distribution of electricity, water supply, telephone, drainage, sewage and other incidental items required for the Project;
4. To ensure proper budget for operation and maintenance cost timely and sufficiently by the FFD;
5. To allocate enough number of trained firemen and/or staff to the Fire Stations including Head Quarters and Maintenance Workshop covered under the Project in order to operate and maintain the vehicles and equipment by the FFD;
6. To procure required parts for maintenance timely and sufficiently by the FFD;
7. To ensure Dispatcher Center, Fire Research Laboratory, Maintenance Workshop, Garage and Warehouse to keep the equipment securely by the FFD;

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Annex 6 Major Undertakings by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts		●
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
6	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for transportation and installation of the equipment		●

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4-2 DRAFT REPORT CONSULTATION

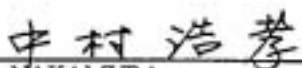
MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR IMPROVEMENT OF
FIRE FIGHTING EQUIPMENT AND MAINTENANCE WORKSHOP
IN MONGOLIA
(EXPLANATION ON DRAFT REPORT)

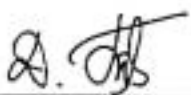
In August 2001, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for Improvement of Fire Fighting Equipment and Maintenance Workshop in Mongolia (hereinafter referred to as "the Project") to Mongolia (hereinafter referred to as "Mongolia"), and through discussions, site surveys and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Mongolian side on the components of the draft report, JICA sent to Mongolia the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Hirotaka NAKAMURA, First Project Management Division, Grant Aid Management Department, JICA, from December 5 to December 12, 2001.

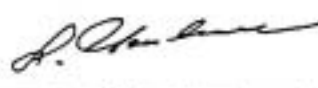
As a result of discussions, both sides have confirmed the main items described on the attached sheet.

Ulaanbaatar, December 11, 2001


H. NAKAMURA
Leader
Basic Design Study Team
Japan International Cooperation Agency


D. KHISHIGBAATAR
Chief
Fire Fighting Department
Implementation Agency
Government of Mongolia


TS. MUNH-ORGIL
Deputy Minister
Ministry of Justice and Home Affairs
Mongolia


K. AMARSAIKHAN
Director General
Department of Economic Cooperation
Management and Coordination
Ministry of Finance and Economy
Mongolia

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ATTACHMENT

1. Contents of the draft report

The Mongolian side agreed and accepted in principle the contents of the draft report proposed by the Team

2. Japan's Grant Aid Scheme

The Mongolian side understood the Japan's Grant Aid Scheme explained by the Team and described in Annex4-6 of the Minutes of Discussions signed by both parties on August 29, 2001.

3. Final report

JICA will complete a final report in accordance with the result of discussions and forward it to the Mongolian side around March, 2002.

4. Other relevant issues

(1) Fire Station No.79

The both sides agreed that Fire Station No.79 was not included in the Project.

(2) Fire Station No.34

The Mongolian side assured to inform the Japanese side of the completion of Fire Station No.34 by the end of March, 2002.

(3) Equipment procured under the Project

The Japanese side explained that all equipment to be procured under the Project were properly examined based on the overall plan for improvement of fire-fighting service in the Project area.

The Mongolian side assured that relocation would not be done during and/or after the Project.

(4) Personnel and budget

The Mongolian side assured to allocate sufficient staff including firemen and necessary budget in order to functionally operate and maintain equipment to be procured under the Project.

(5) Mobile Radio Sets

The Mongolian side requested the Japanese side to consider additional Mobile Radio Sets for two(2) more command cars to be used by the chief executive commanders. These vehicles will be devoted for carrying out the management for Fire Fighting emergency communication.

(6) Soft component services

The Mongolian side requested the following soft component services;
- proper maintenance for newly procured equipment and
- the elaboration on effective Fire Fighting activities.

(7) Anti-Low Temperature Treatment

The Mongolian side agreed "Anti-Low Temperature Treatment" for Fire Vehicles proposed by the Japanese side.

(8) Privatization

The Mongolian side assured that all equipment procured under the Project would not be affected by the privatization policy and would be utilized under the supervision of FFD and/or UBFS.

(9) Necessary measures to be taken by the Mongolian side

On condition that the Grant Aid Program by the Government of Japan is extended to the Project, the Mongolian side will take necessary measures described in Annex-1 for the smooth implementation of the Project.

End

SD

By A.C. L.X

Annex -1 Necessary Measures to be taken by the Mongolian side

1. To provide necessary assistance in entry, exit and stay for Japanese Nationals and other personnel related to the Project, including issuance of a certificate and/or other documents.
2. To obtain prompt approval and permit related to landing and customs clearance of imported equipment.
3. To exempt Japanese Nationals from customs duties, internal taxes(including VAT) and other fiscal levies which may be imposed in Mongolia with respect to the supply of the products and services under the verified contracts.
4. To secure a transportation route for newly procured equipment from outside to the Project site for installation.
5. To prepare space for installation of newly procured equipment and to remove old equipment which will be out of service.
6. To prepare utility mains required for the implementation of the Project.
(e.g. electricity supply, water supply, drainage and other incidental items)
7. To obtain registration numbers for all equipment before operation.
8. To obtain any permission necessary for the implementation of the Project in accordance with the stipulated legal procedure.
(e.g. Radio Wave Law and Environmental Law)
9. To bear the commissions to a bank of Japan for the banking services based on the Banking Arrangement(B/A).
10. To bear all other works and services required to the implementation of the Project.

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BULC. A.V.

APPENDIX 5

Coast Estimation Borne by the Recipient Country

区 分	COST (thousand Tg.)
1. Evacuate existing radio console	65 thousand Tg. (0.007million¥)
2. Evacuate existing mobile radio	65thousand Tg. (0.007 million¥)
Total	130thousand Tg. (0.014 million¥)

Appendix 6-1 Examination of Redeployment of Existing

Condition of existing Vehicles				Redeployment of Newly Procured Vehicles and Existing Vehicles			
Fire Station		No. of Fire personnel			No. of Fire personnel		
HQ	Command car × 3	each 1	*1	→	each 1	Command car × 3	
10	Pumper Tanker(2,100L)	7	*2	*6	7	Pumper Tanker (10,000L)	
	Water Tank Truck (6,000L)	1	*2	*6	7	(4WD) Pumper Tanker (4,000L)	
	Pumper Tanker(2,100L)	7	*3	*6	2	Water Tank Truck (8,000L)	
	Water Tank Truck (6,000L)		*3	→	1	Pumper Tanker (1,500L)	
	Pumper Tanker (1,500L)	7	*1	→	1	Pickup Truck(500L)	
	Pickup Truck(500L)	1	*1	*6	3	Ladder Truck (35m)	
	Water Tank Truck (6,000L)	1	*2	*7	1	Floodlight car	
	Ladder Truck (30m)		*3				
	Ladder Truck (20m)	1	*4				
11	Forest Fire Truck	1	*1	→		Forest Fire Truck	
	Pumper Tanker(2,400L)	3	*3	*2	5	Pumper Tanker(2,100L)	
				*2	1	Water Tank Truck (6,000L)	
14	Pumper Tanker(2,100L)		*3	*6	7	Pumper Tanker (4,000L)	
	Water Tank Truck (6,000L)	3	*3	*6	2	Water Tank Truck (8,000L)	
	Pumper Tanker (2,100L)	7	*2				
18	Pumper Tanker (2,100L)	7	*1	→	7	Pumper Tanker(2,100L)	
	Water Tank Truck (6,000L)	3	*1	→	1	Water Tank Truck (6,000L)	
	Pumper Tanker (2,100L)		*3				
26	Pumper Tanker (2,100L)	7	*3	*6	7	Pumper Tanker (10,000L)	
	Pumper Tanker (2,100L)	7	*3	*6	7	(4WD) Pumper Tanker (4,000L)	
	Water Tank Truck (6,000L)	1	*2	*6	2	Water Tank Truck (8,000L)	
	Ladder Truck (30m)		*3	→		Forest Fire Truck	
	Forest Fire Truck		*1				
28	Pumper Tanker (2,100L)	6	*3	*2	7	Pumper Tanker(2,100L)	
	Water Tank Truck (6,000L)	1	*1	→	1	Water Tank Truck (6,000L)	
	Pumper Tanker(2,400L)	5	*3	*2	1	Water Tank Truck (6,000L)	
29	Pumper Tanker (2,100L)	6	*2	*6	7	Chemical Truck 8,000L+1,000L	
	Pumper Tanker (2,100L)	6	*3	*2	1	Water Tank Truck (6,000L)	
	Ladder Truck (30m)	1	*1	→	1	Ladder Truck (30m)	
30	Pumper Tanker (2,100L)	7	*2	*6	7	(4WD) Pumper Tanker (4,000L)	
	Water Tank Truck (6,000L)	1	*2	*6	2	Water Tank Truck (8,000L)	
	Pumper Tanker(2,400L)		*3				
34	Pumper Tanker (2,100L)	0	*3	*6	7	(4WD) Pumper Tanker (4,000L)	
	Water Tank Truck (6,000L)	0	*1	*7	2	Water Tank Truck (8,000L)	
				*2	7	Pumper Tanker(2,100L)	
				→	1	Water Tank Truck (6,000L)	
64	Pumper Tanker (2,100L)	7	*3	*6	7	Pumper Tanker (4,000L)	
	Water Tank Truck (6,000L)	1	*3	*6	2	Water Tank Truck (8,000L)	
	Pumper Tanker(2,400L)	7	*1	→	7	Pumper Tanker(2,400L)	
	Water Tank Truck (6,000L)	1	*1	→	1	Water Tank Truck (6,000L)	
	Ladder Truck (30m)	3	*5				
65	Water Tank Truck (6,000L)		*3	*2	5	Pumper Tanker(2,100L)	
	Pumper Tanker (2,100L)	4	*3	*2	1	Water Tank Truck (6,000L)	
	Pumper Tanker (2,100L)		*3				
80	Pumper Tanker (2,100L)	5	*1	→	5	Pumper Tanker(2,100L)	
	Water Tank Truck (6,000L)	1	*1	→	1	Water Tank Truck (6,000L)	

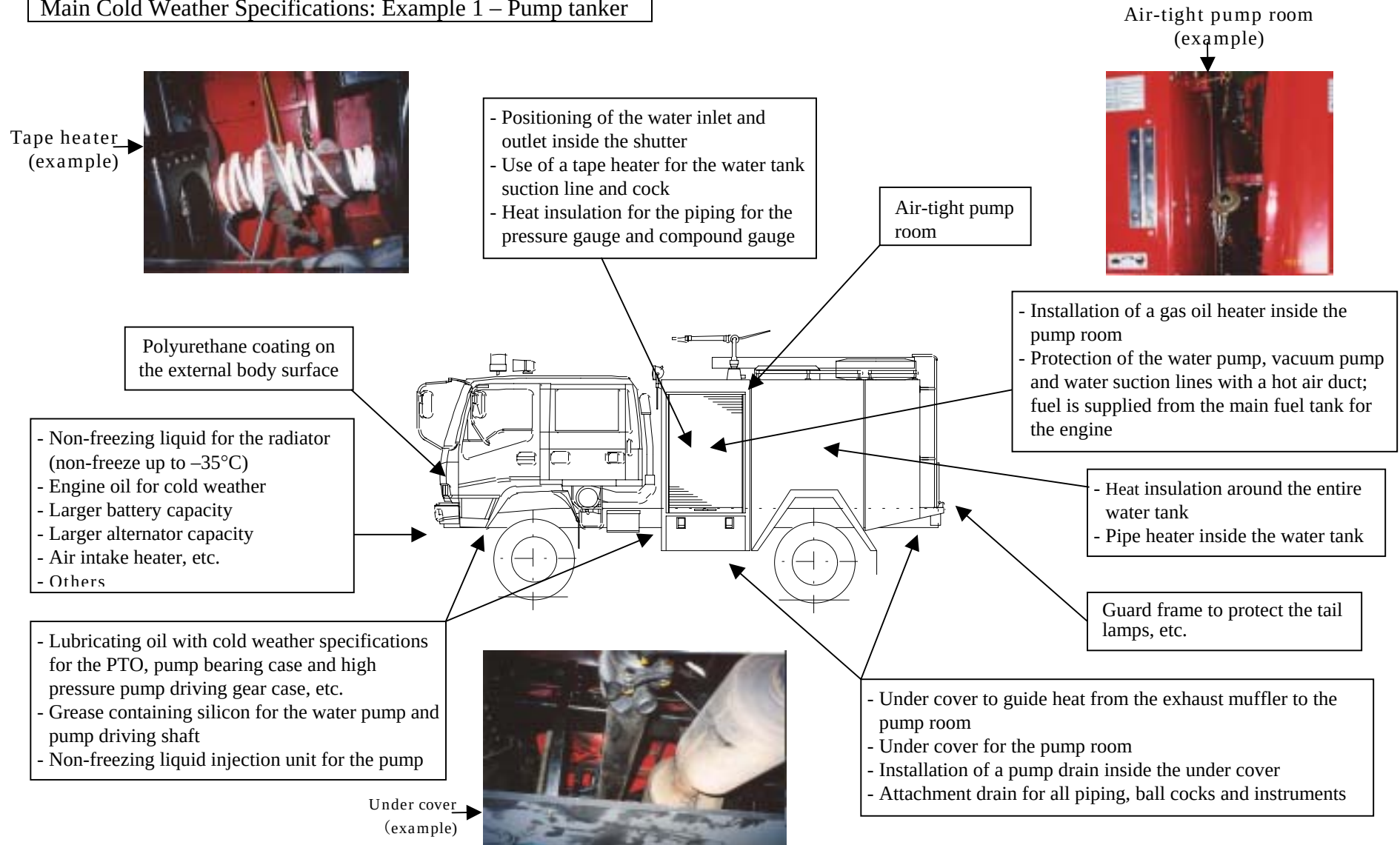
*1 continued use
*2 redeployment
*3 scrapped
*4 other use
*5 repair

*6 renewal
*7 new

APPENDIX 6-2 COLD WETHER SPECIFICATIONS FOR FIRE VEHICLES

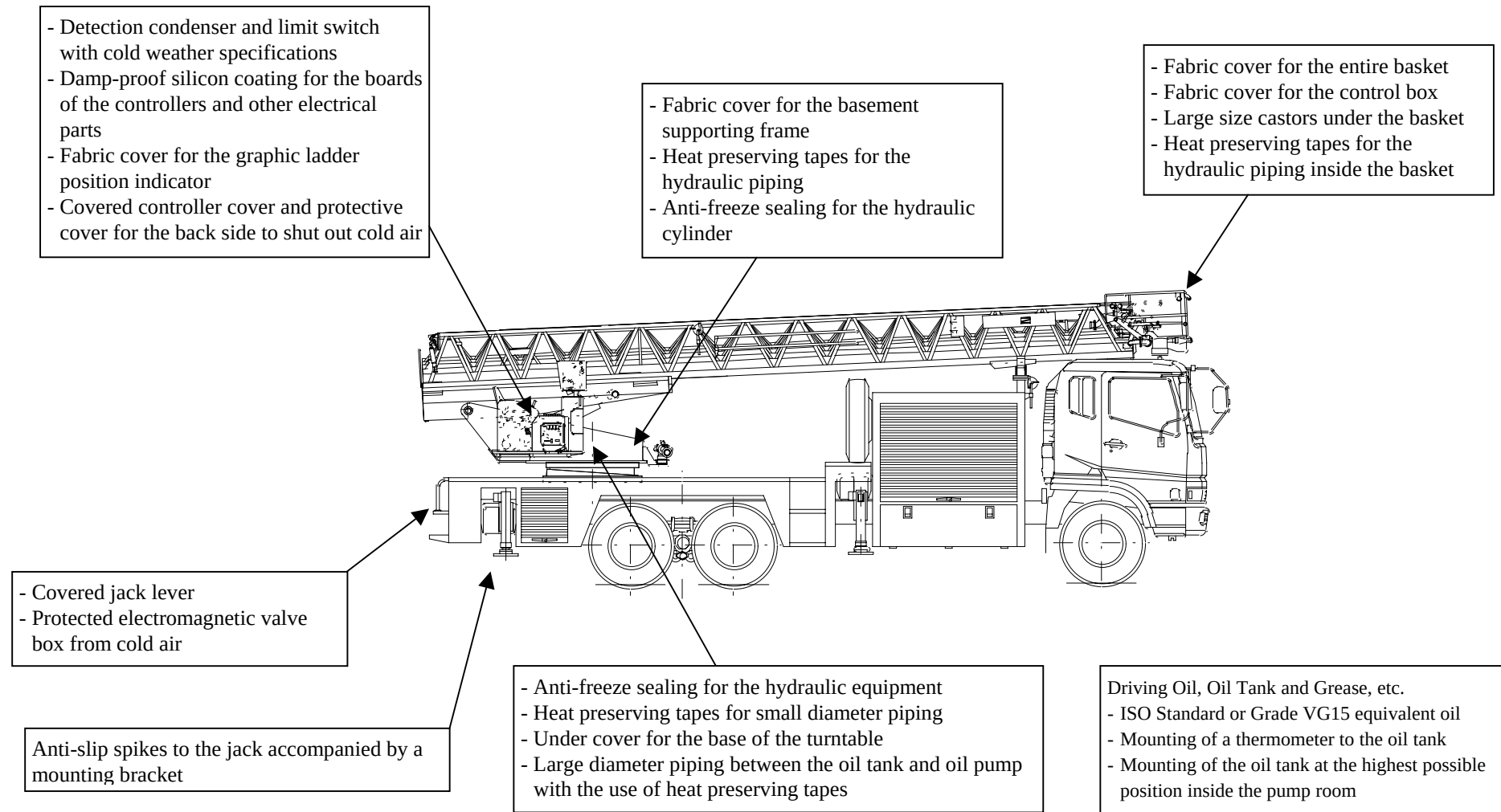
6-2-1 Pumper Tanker

Main Cold Weather Specifications: Example 1 – Pump tanker



6-2-2 Ladder Truck

Main Cold Weather Specifications: Example 2 - Ladder Truck



*Those specifications applicable to both the pump tanker and ladder truck are

APPENDIX 6-3 RESPONSE TO FOREST AND GRASSLAND FIRES

Establishment of Fire Companies to Fight Forest and Grassland Fires

Regardless of where a forest or grassland fire breaks out, UBFS temporarily gathers personnel and equipment to establish fire companies for dispatch at Fire Station No.10 in Ulaanbaatar and/or Fire Station No.64 in Baganur and flies these fire companies to the fire scene from an airport or an air force base. There is close collaboration with the air force because many past forest and grassland fires have occurred along the mountain range to the north of Ulaanbaatar. The response procedure of UBFS to a forest or grassland fire is outlined next.

<Mobilisation>

In principle, the personnel and equipment assigned from fire stations in urban Ulaanbaatar (Nos. 10, 11, 14, 18, 26, 29, 30, 34 and 65) are gathered at Fire Station No.10 while those assigned from remote stations in the east (Fire Station Nos. 28, 64 and 80) are gathered at Fire Station No.64.

<Dispatch Method>

- 1) When the fire scene is far from both Fire Station No.10 and Fire Station No.64:

Companies gathered at Fire Station No.10: all personnel and equipment are sent to Buyanto Oha Airport.

Companies gathered at Fire Station No.64: personnel are transported from the Naraiha Air Force Base to Buyanto Oha Airport by air to join other companies there for dispatch to the fire scene by air.

- 2) When the fire scene is near Fire Station No.10:

Companies gathered at Fire Station No.10: all personnel and equipment are transported to the fire scene by micro-buses and trucks respectively.

Companies gathered at Fire Station No.64: personnel are transported from the Nariaha Air Force Base to Buyanto Oha Airport by air and then to the fire scene by micro-buses to receive the equipment at the fire headquarters at the site.

3) When the fire scene is near Fire Station No.64:

Companies gathered at Fire Station No.10: all personnel and equipment are transported from Buyanto Oha Airport to the Naraiha Air Force Base by air to join the other companies there for dispatch to the fire scene.

Companies gathered at Fire Station No.64: join those companies gathered at Fire Station No.10 at the Naraiha Air Force Base.

APPENDIX 6-4 EXAMINATION OF LABORATORY EQUIPMENT

Examination of Measuring and Analytical Equipment for Laboratory

There are mainly four types of measuring and analytical equipment to be used at a laboratory specialising in the investigation of the causes of fires. An enquiry to the Tokyo Fire Department regarding the records of use and running cost of such equipment or its equivalent found that this equipment is used to judge the cause of a fire for approximately 100 cases of some 6,000 fires a year.

The cost of consumables to be used with the equipment varies depending on the frequency of use, purpose of use, change of the source voltage, technical level of the user and other factors. In the case of UBFS, there is no practice of judging the cause of a fire using the relevant equipment.

It is, therefore, assumed that the number of fires of which the cause should be judged in this manner by UBFS represents the same proportion as that at the Tokyo Fire Department (100/6,000, i.e. 1/60). Based on this assumption, the expected number is approximately 20 a year, i.e. 1/60 of the some 1,100 fires recorded in Ulaanbaatar in 2000, and the frequency of use of each equipment is determined based on the comparable figure at the Tokyo Fire Department to estimate the equipment running cost at UBFS. Each equipment consists of a main unit (for measuring), a computer (for analysis) and a printer (for record output).

1. Differential Thermal Analyser

Purpose	: Measurement of the heat and melting point of a substance
Concrete example	: Confirmation and identification of the ignition point of a fiber and plastic, etc. using items collected at a fire scene or their equivalent
Effects	: Analysis of the circumstances of the occurrence of a fire, verification of the factors for the spreading of the fire and application of the analysis results for future guidance on fire prevention
Assumed Frequency of Use	: Approximately once for each case to be investigated, totalling some 20 times a year

Running cost:

Cell with lid or pan with lid	approx. ¥400,000 -
Ink cartridge	approx. ¥20,000 -
N ₂ gas for cooling	approx. ¥100,000 -



2. Gas Chromatography

Purpose : Analysis and identification of liquids (petrol, thinner and kerosene, etc.), mixed gas and petroleum products

Concrete example : Analysis of the liquids and gases collected at a fire scene to identify the original substances

Effects : Provision of evidence for the police; promotion of the proper control of hazardous substances among the public for fire prevention

Assumed frequency of use : Approximately four times for each case to be investigated, totalling some 80 times a year.

Running cost:

Column	approx. ¥1,500,000 -
Carrier gas: He	approx. ¥100,000 -
Ion source	approx. ¥250,000 -
Standard samples	approx. ¥150,000 -
Filament	approx. ¥100,000 -
Ink cartridge	approx. ¥20,000 -
Machine oil for pump	approx. ¥250,000 -



3. Infrared Spectrophotometer

Purpose : Analysis of the constituents of a fiber, plastic, liquid and solid materials by means of IR absorption and transmission

Concrete example : Analysis of the fibers of clothing collected to identify the causes of a fire caused by an electrostatic explosion, etc.

Effects : Identification of the causes of fires to produce statistical data to promote fire prevention citing the analysis results and to draw the attention of people handling hazardous substances

Assumed frequency of use : Approximately twice for each case to be investigated, totalling some 40 times a year

Running cost:

Br powder	approx. ¥50,000 -
Silica gel	approx. ¥40,000 -
Ink cartridge	approx. ¥20,000 -
Sample cell	approx. ¥200,000 -
Light source	approx. ¥100,000 -



4. X-Ray Diffractometer

Purpose : Analysis of the presence and quantity of metallic elements

Concrete example : Detailed analysis of traces of a short-circuit of electrical wiring to the level of elements to judge whether the damage to electrical wiring was caused by electric leakage or heat after the occurrence of a fire

Effects : Identification of the causes of fires to produce statistical data to publicise fire prevention citing the analysis results

Assumed frequency of use : Approximately twice for each case to be investigated, totalling some 40 times a year

Running cost:

X-ray tube	approx. ¥1,100,000 -
Standard samples	approx. ¥200,000 -
Glass plate	approx. ¥500,000 -
Ink cartridge	approx. ¥20,000 -



**THE PROJECT FOR IMPROVEMENT OF FIRE FIGHTING
EQUIPMENT AND MAINTENANCE WORKSHOP
IN MONGOLIA**

– PROPOSAL FOR SOFT COMPONENT SERVICES –

FEBRUARY, 2002

FIRE PROTECTION EQUIPMENT AND SAFETY CENTER OF JAPAN

I. BASIC MATTERS

1. Project name

The Project for Improvement of Fire fighting Equipment and Maintenance Workshop in Mongolia

2. E/N period

March 29 2002 through March 28 2003

3. Form of implementation

Engineering support

6. Local personnel

Available/assistant (2 persons, as interpreters)

Contract N/A

7. Period of implementation

Domestic operation the end of January, 2003 through the middle of February, 2003

On-site operation the middle of February, 2003 through the end of February, 2003

7. Period of operation completion

Same period as delivery of equipment

8. Payment

advance payment

II. OPERATIONAL PLAN

1. Background

(1) Mongolia is a country in the process of transition to a market economy and urbanisation and modernisation are rapidly taking place, particularly in and around Ulaanbaatar. Therefore, Mongolia is facing the following fire and disaster prevention related problems to be settled.

- 1) Following the population concentration in urban areas and the expansion of densely populated areas, the number of fires and the amount of damage caused by fires show an increasing trend and the risk for the extensive spread of fires is also increasing.
- 2) Changes of lifestyle and the industrial structure have diversified the causes of fires and the risk of the spread of fires.
- 3) Special types of fires (involving high-rise buildings, large-scale buildings, densely populated areas and/or hazardous substances) are emerging, making the situation of fires more complicated and more diverse than before.
- 4) Such infrastructure components as roads, traffic and fire water supply sources are not well developed, making fire fighting activities difficult.

(2) Under these circumstances, the existing condition and problems concerning maintenance, operational system and handling skills of equipment upon implementation of fire fighting equipment provision through a Japan's grant aid are as set forth below.

1) General matters

Main equipments to be provided by this project include renewal of fire fighting vehicles (out of 40 existing vehicles), the entire radio communication system, maintenance equipment for the vehicles and others.

While these equipments are being replaced as renewal of the current equipment in formality, technical cooperation comparable to the introduction of new equipment in terms of content is necessary because the reality of disasters in Mongolia is changing dramatically and the concept of fire fighting vehicles and radio communication system having changed considerably after an elapse of 20 to 30 years for the former and more than 25 years for the latter.

2) Equipment maintenance

- i) The existing equipment maintenance system consists of maintenance of fire vehicles at a maintenance shop or fire stations and maintenance of other types of equipment at fire stations.
- ii) Many of the facilities, equipments and tools for maintenance are superannuated while shortage exists for repair parts owing to their unavailability.
- iii) While many vehicles and equipments break down frequently because of superannuation, the extent of repair is limited due to the reason mentioned in Paragraph ii). In addition, maintenance is not performed on radio communication system because of its superannuation.
- iv) Only the repair of breakdown is performed and scheduled inspection and preventive maintenance are hardly implemented. The manual for this purpose also does not exist.
- v) Some of the maintenance personnel have completed courses in maintenance. Judging from the maintenance results, certain technical capabilities appear to exist for the existing equipment.

3) Operating system and handling skills

Establishment of operating system for the forces as well as improvement of fire fighting tactics and equipment handling skills are essential in dispatching the fire company and personnel promptly and adequately according to the condition of fires and other disasters in the event they occur.

- i) UBFS lacks such an organized and systematic operating system, partly because of the deterioration of the communication system. Promptness is compromised under the present condition as senior personnel is making decisions and taking command based on limited information from fixed-line telephone.
- ii) Fire fighting tactics have been established for ordinary fires involving wooden houses, etc. but not for tactical and special fires involving high-rise buildings or hazardous substances owing to shortage of data, experience and equipment.
- iii) As for handling of equipment, UBFS possesses the "basic" skills including pump tankers and special vehicles such as ladder trucks and chemical trucks but not skills for special fires, a long distance water relay method, etc.

(3) The need for introduction of soft component

In view of the above, the need for introduction of soft component and the matters to be solved are as shown below.

1) Maintenance of fire fighting equipment

- i) to establish the maintenance system including facilities, equipment, personnel and expenses for performing proper maintenance
- ii) to determine the type, timing and content of inspection and maintenance, and implement it in a systematic and consistent manner for effective implementation of inspection and maintenance
- iii) to prepare the Inspection and Maintenance Manual for improvement and integration of inspection and maintenance skills while implementing the training

2) Equipment operation

- i) to offer guidance on the functions and operating method of radio communication system while using this effectively to prepare the plans for dispatching and employing the fire company according to the location, type and scale of disasters
- ii) to perform technology transfer of fire fighting tactics that suit the situation for special and difficult disasters such as fires at high-rise buildings and fires involving hazardous substances
- iii) to offer guidance for operation and handling skills of fire fighting equipment to be provided in this project according to the type and situation of disasters

(4) Based on the foregoing, the soft component introduced upon implementation of this project will be planned as follows.

- 1) Maintenance of fire fighting equipment and communication facilities (equipment management)
- 2) Operation skills of fire fighting equipment and communication facilities (equipment operation)

2. Goals

The goals attained through introduction of soft component are as follows.

(1) Equipment management

Fire fighting equipment is maintained properly and functions are fully demonstrated in disaster-fighting activities.

(2) Equipment operation

- Fire company (vehicles), equipment and personnel are utilised in optimal manner to suit the type and scale of disaster.
- Proper fire fighting activities are performed.

High-priority goals are as set forth below.

"Proper implementation of fire fighting activities in Ulaanbaatar and reduction of damages caused by fires and other disasters."

3. Results (Direct Effects)

The implementation of the proposed soft component services is expected to achieve the following direct effects.

(1) Equipment maintenance

- i) Maintenance of fire fighting equipment will be performed in a systematic manner.

Under the present situation, systematic inspection and maintenance is not performed as the personnel are occupied with repairing the equipment that has broken down. For this reason, inspection and maintenance manual with emphasis on preventive maintenance will be prepared and implemented in addition to strengthening of the inspection and maintenance system. Moreover, implementation record will be reflected in the equipment management plan.

- ii) Inspection and maintenance manual will be prepared in an effort to improve the technical level.

As inspection and maintenance guidelines have not been standardized and technical management measures have not been established at present, inspection and maintenance manual will be prepared for each equipment and improvement of skills will be sought based on this manual.

- iii) Breakdown rate of fire fighting equipment will be reduced along with its maintenance cost. The life of equipment will also be prolonged in the long run.

About half of the existing vehicles break down frequently and are scheduled for scrapping while the remaining vehicles are superannuated. Repair work will be reduced considerably after half of the front line vehicles are renewed through this project. Using this opportunity to implement systematic inspection and maintenance will result in proper maintenance activities.

(2) Equipment operation

- i) Fire company, equipment and personnel will be dispatched in an optimum manner in response to the situation of a fire, etc. (e.g. type, scale and level of risk).

Since the present radio communication system is out of order and is not functioning, it cannot be used properly by the fire company. The plans for dispatch and operation of fire company will be prepared and introduced to coincide with the improvement of the system through implementation of this project. As a result, input of adequate fire company will become possible through prompt and accurate information and command activities for improvement in areas such as number of vehicles dispatched to the disaster, their arrival time and time required for their activities.

- ii) Fire fighting tactics suited to the disaster activities will be established and improve the ability to deal with special or difficult disasters.

Fire fighting tactics and equipment operating method will be improved as a result of fire fighting tactics manual being prepared and utilised for special fires such as fires involving high-rise buildings, hazardous substances and densely-populated areas as well as urban fires.

- iii) Equipment handling skills of fire-fighters will be improved to efficiently conduct fire fighting activities.

Equipment handling will be improved as a result of fire fighting equipment handling manual being prepared and education/training being implemented based on this manual.

4. Activities (Details of Services)

(1) Equipment management

1) Implementing method, etc.

- Staff and duration : one trainer×half a month
- Timing : immediately after equipment delivery
- Place : FFD and UBFS
- Subject persons : those responsible for equipment maintenance (control)

2) Training Schedule and Contents

Day No.	Contents
1 (Saturday)	Travel day
2 (Sunday)	Meeting; advance preparation; confirmation of equipment and reference materials
3 (Monday)	Lecture: "Equipment Maintenance and Operation System" and "Management Organization, Skill Management and Funding for and Use of Maintenance Budget"
4 (Tuesday)	Lecture: "Procurement and Management of Maintenance Facilities, Equipment and Tools" and "Procurement and Storage of Spare Parts, Raw Materials and Consumables"
5 (Wednesday)	Lecture: "Training and Technology Control, Method for Verifying Technical Level and Desirable Way to Conduct Training"
6 (Thursday)	Lecture: "Preparation and Implementation Methods for Inspection and Maintenance Programme" and "Guidelines for Preparation of Programme for Each Type of Vehicle or Equipment"
7 (Friday)	Lecture: "Guidelines for Preparation and Implementation of Programme for Each Type of Equipment and Inspection" and "Types and Contents of Inspection and Maintenance Manuals and Use of Manuals"
8 (Saturday)	Preparation of equipment, etc.
9 (Sunday)	Day off
10 (Monday)	Practical training on inspection and maintenance: pumper tanker, water tank truck and chemical truck
11 (Tuesday)	Practical training on inspection and maintenance: ladder truck and floodlight car
12 (Wednesday)	Practical training on inspection and maintenance: communication system (HQ set)
13 (Thursday)	Practical training on inspection and maintenance: communication system (station, mobile and portable sets)
14 (Friday)	Practical training on inspection and maintenance: items carried by fire vehicles, accessories and maintenance equipment, etc. General practice and evaluation
15 (Saturday)	Travel day

(2) Equipment operation

1) Implementation Method, etc.

- Staff and duration : one trainer×half a month
- Timing : immediately after equipment delivery
- Place : FFD and fire stations of UBFS
- Subject persons : senior FFD personnel, company chiefs and those working at the command centre

2) Training Schedule and Contents

Day No.	Contents
1 (Saturday)	Travel day
2 (Sunday)	Meeting, advance preparation and confirmation of equipment and reference materials
3 (Monday)	Lecture: "Function and Operating Method of Fire Communication System": HQ communication and command system, radio communication and wire communication
4 (Tuesday)	Practical training: "Operating Method of Fire Communication System": rules for command transmission and reception (communication items and examples of technical terms)
5 (Wednesday)	Lecture: "Deployment of Fire Companies (I)": disaster response and command systems and communication
6 (Thursday)	Lecture: "Deployment of Fire Companies (II)": preparation and utilisation of company dispatch plan and company deployment plan to deal with ordinary fires and large-scale fires, etc.
7 (Friday)	Lecture: "Fire fighting Tactics (I)": fire fighting tactics to deal with different types of fires
8 (Saturday)	Preparation of equipment
9 (Sunday)	Day off
10 (Monday)	Lecture: "Fire fighting Tactics (II)": fire fighting tactics to deal with different types of disasters
11 (Tuesday)	Practical training: "Operation and Handling of Fire fighting Equipment (I)": rules for use of fire vehicles and equipment (collaborative actions between pumper tankers and water tank trucks, etc.)
12 (Wednesday)	Practical training: "Operation and Handling of Fire fighting Equipment (II)": measures to deal with special types of fires (involving fire-resistant buildings, densely populated areas and oil, etc.)
13 (Thursday)	Lecture: "Skill Management and Training Guidelines": training programme, curriculum and safety control
14 (Friday)	General training and evaluation
15 (Saturday)	Travel day

5. Contents of Services and Anticipated Outputs

The indicators for improvement of the fire service and the results of the soft component services are described below.

(1) Equipment maintenance

1) Indicators

- i) Implementing status by type and equipment of inspection and maintenance
- ii) Operating rate of equipment (failure rate)
- iii) Number of equipment management trainings held and number of persons attended

2) Outputs

- i) Fire fighting equipment inspection and maintenance programme
- ii) Fire fighting equipment inspection and maintenance standards and manuals

(2) Equipment operation

1) Indicators

- i) Number of vehicles dispatched to fires and other disasters
- ii) Arrival time of fire vehicles, and time required to extinguish fire and complete rescue activities
- iii) Number of fire fighting training sessions held and number of persons trained

2) Outputs

- i) Fire company dispatch and operation plan
- ii) Fire fighting tactics manual
- ii) Fire fighting equipment handling manual

6. Attached Document

PDM for Soft Component Services

Project Design Matrix (PDM)

Attachment Project Title: Project for Improvement of Fire fighting Equipment and Maintenance Workshop in Mongolia
(Soft Component Services)

Project Outline	Indicator	Means of Obtaining Indicator	External Conditions
Higher Target Reduction of the damage due to fire and other disasters through proper implementation of fire fighting activities in Ulaanbaatar	- Reduction of the damage due to fires, etc. - Strengthening of the fire fighting system	- Fire statistics - Reference materials available at the FFD	Continued strengthening of the fire fighting and disaster prevention system, etc. in Mongolia
Project Target [Equipment management] Proper maintenance of fire fighting equipment and full demonstration of its functions in disaster activities. [Equipment operation] Optimal operation of the fire company according to the condition of disaster and implementation of proper fire fighting activities	- Increased dispatch of fire vehicles to deal with fires, etc. - Reduction of the amount of damage caused by fires, etc.	- Fire statistics - Disaster control activity records of the FFD	Continued strengthening of the fire fighting system in Ulaanbaatar
Outputs [Equipment Maintenance] i) Systematic maintenance of the fire fighting equipment ii) Improved operating system for fire company iii) Reduced failure rate and maintenance cost of the fire fighting equipment [Equipment Operation] i) Effective deployment of fire company and personnel according to the condition of disaster (type, scale, level of risk) ii) Establishment of fire fighting tactics suited to the condition of disaster and improvement of capacity for coping with special disaster iii) Improvement of activity skills of fire fighting personnel	i) Comparison of inspection and maintenance programme and implementation results ii) Number of equipment management trainings held and number of persons attended iii) Failure rate and maintenance cost of fire fighting equipment i) Status of vehicles dispatched to disasters etc. ii) Arrival time of fire vehicles and time required to extinguish fire and complete rescue activities iii) Number of fire fighting training sessions held and number of persons trained	- Fire statistics - Equipment maintenance records of the FFD - Training records of the FFD [Outputs] - Fire fighting equipment inspection and maintenance programme - Fire fighting facility standard and manuals - Fire company dispatch and operation plan - Fire fighting activity tactics manual - Fire fighting equipment handling manual	Preservation of the present level of the equipment maintenance system at UBFS

Project Outline	Indicator	Means of Obtaining Indicator	External Conditions
Activities [Equipment Maintenance] - Improvement of the equipment maintenance system - Preparation of an inspection and maintenance programme - Preparation of inspection and maintenance manuals - Implementation of guidance on inspection and maintenance skills [Equipment Operation] - Preparation of a fire company operation plan using the communication system - Preparation of a fire fighting activity tactics manual according to types etc. of fire - Preparation of equipment operation and handling manuals - Implementation of skill improvement training	Inputs <u>Japanese Side</u> Soft Component Staff - Equipment maintenance: one trainer×0.5 months - Equipment operation: one trainer×0.5 months Preparation of reference materials - Textbooks for manuals (5 types) XXX yen <u>Mongolian Side</u> - Personnel cost - Training management cost		Smooth implementation of the Project
			Precondition No opposition from the citizens of Ulaanbaatar against the implementation of the Project